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Appendix 1

Table A1. List of 140 plant species in the data set of this study.

Species	Family	References
Acacia auriculiformis	Fabaceae	Montagu and Woo 1992. Functional Plant Biology. 26: 135-145
Acacia confuse	Fabaceae	Liang et al. 1997. Photosynthesis Research. 51: 149-159
Acer saccharum	Sapindaceae	Ni and Pallardy 1992. Plant Physiology. 99: 1502-1508
Actinidia deliciosa	Actinidiaceae	Gucci et al. 1996. Annals of Botany. 77: 605-613
		Montanaro et al. 2007. Photosynthetica. 45: 533-540
Agave deserti	Asparagaceae	North and Nobel 1998. Plant Cell and Environment. 21: 705-713
Anadenanthera colubrina	Fabaceae	Oliveira et al. 2014. Plant Physiology and Biochemistry. 82: 66-75
Andropogon gerardii	Poaceae	Heckathorn et al. 1997. Physiologia Plantarum. 101: 173-182
Aptenia cordifolia	Aizoaceae	Herppich and Peckmann 1997. Journal of Plant Physiology. 150: 467-474
Arachis hypogaea	Fabaceae	Lauriano et al. 2004. Photosynthetica. 42: 37-41
Argyranthemum coronopifolium	Asteraceae	Herralde et al. 1998. Plant Science 139: 9-17
Bauhinia forficate	Fagaceae	Sanches and Silva 2013. Hoehnea. 40: 181-190
Beta maritima	Chenopodiaceae	Galmes et al. 2007. Plant and Soil. 290: 139-155
		Galmes et al. 2007. New Phytologist. 175: 81-93
Betula platyphylla	Betulaceae	Ogasa et al. 2013. Tree Physiology. 33: 335-344
Brassica carinata	Brassicaceae	Husen et al. 2014. Brazilian Journal of Botany. 37: 217-227
Broussonetia papyrifera	Moraceae	Liu et al. 2010. Physiologia Plantarum. 139: 39-54
Cajanus cajan	Fabaceae	Nandwal et al. 1996. Journal of Arid Environments. 33: 367-377
Callistemon citrinus	Myrtaceae	Toscano et al. 2014. Scientia Horticulturae. 178: 145-153

Callitris columellaris	Cupressaceae	Brodribb et al. 2010. New Phytologist. 188: 533-542
Callitris gracilis	Cupressaceae	Brodribb et al. 2010. New Phytologist. 188: 533-542
Callitris preissii	Cupressaceae	Brodribb et al. 2010. New Phytologist. 188: 533-542
Callitris rhomboidea	Cupressaceae	Brodribb et al. 2010. New Phytologist. 188: 533-542
Camellia sasanqua	Theaceae	Scoffoni et al. 2012. Journal of Experimental Botany. 63: 643-658
Capsicum annuum	Solanaceae	Campos et al. 2014. Environmental and Experimental Botany. 98: 56-64
Carpinus tschonoskii	Betulaceae	Ogasa et al. 2013. Tree Physiology. 33: 335-344
Cerasus jamasakura	Rosaceae	Ogasa et al. 2013. Tree Physiology. 33: 335-344
Ceratonia silique	Fabaceae	Osorio et al. 2011. Photosynthetica. 49: 3-12
Cercocarpus betuloides	Rosaceae	Scoffoni et al. 2012. Journal of Experimental Botany. 63: 643-658
Chamomilla recutita	Asteraceae	Baczek-Kwinta et al. 2010. Biologia. 65: 837-842
Chrysanthemum	Asteraceae	Sun et al. 2013. Scientia Horticulturae. 161: 249-258
Cinnamomum bodinieri	Lauraceae	Liu et al. 2010. Physiologia Plantarum. 139: 39-54
Cistus albidus	Cistaceae	Galle et al. 2011. Journal of Experimental Botany. 62: 5207-5216
		Galmes et al. 2007. New Phytologist. 175: 81-93
		Galmes et al. 2007. Plant and Soil. 290: 139-155
		Sanchez-Blance et al. 2002. Plant Science. 162: 107-113
Cistus monspeliensis	Cistaceae	Sanchez-Blance et al. 2002. Plant Science. 162: 107-113
Citrus sinensis	Rutaceae	Perez-Perez et al. 2007. Annals of Botany. 100: 335-345
Cocos nucifera	Arecaceae	Gomes et al. 2008. Environmental and Experimental Botany. 62: 195-204
Coffea Arabica	Rubiaceae	Cai et al. 2005. Photosynthetica. 43: 187-193
Coffea liberica	Rubiaceae	Cai et al. 2005. Photosynthetica. 43: 187-193
Comarostaphylis diversifolia	Ericaceae	Scoffoni et al. 2012. Journal of Experimental Botany. 63: 643-658
Diplotaxis ibicensis	Brassicaceae	Galmes et al. 2007. New Phytologist. 175: 81-93
Eucalyptus globulus	Myrtaceae	Correia et al. 2014. Physiologia Plantarum. 150: 580-592
Eucalyptus pauciflora	Myrtaceae	Martorell et al. 2014. Plant Cell and Environment. 37: 617-626
Eucalyptus saligna	Myrtaceae	Lewis et al. 2013. Tree Physiology. 33: 475-488
Eucalyptus sideroxylon	Myrtaceae	Lewis et al. 2013. Tree Physiology. 33: 475-488
Fagus sylvatica	Fagaceae	Galle and Feller 2007. Physiologia Plantarum. 131: 412-421
		Sanchez-Gomez et al. 2013. Environmental and Experimental Botany. 87: 110-119
		Tognetti et al. 1995. Trees. 9: 348-354

		Tognetti et al. 1995. Trees. 9: 348-354
		Urli et al. 2013. Tree Physiology. 33: 672-683
		Zang et al. 2014. Tree Physiology. 34: 29-38
Ferocactus acanthodes	Cactaceae	North and Nobel 1992. New Phytologist. 120: 9-19
Fragaria	Rosaceae	Ghaderi and Siosemardeh 2011. Horticulture, Environment, and Biotechnology. 52: 6-12
Haberlea rhodopensis	Gesneriaceae	Georgieva et al. 2007. Planta. 225: 955-964
Handroanthus impetiginosus	Bignoniaceae	Dombroski et al. 2014. Scientia Forestalis. 42: 155-163
Hedera canariensis	Araliacaeae	Scoffoni et al. 2012. Journal of Experimental Botany. 63: 643-658
Helianthus annuus	Asteraceae	Scoffoni et al. 2012. Journal of Experimental Botany. 63: 643-658
Heteromeles arbutifolia	Rosaceae	Scoffoni et al. 2012. Journal of Experimental Botany. 63: 643-658
Hevea brasiliensis	Euphorbiaceae	Chen et al. 2010. Tree Physiology. 30: 876-885
Hypericum balearicum	Guttiferae	Galmes et al. 2007. New Phytologist. 175: 81-93
		Galmes et al. 2007. Plant and Soil. 290: 139-155
Jatropha curcas	Euphorbiaceae	Pompelli et al. 2010. Biomass and Bioenergy. 34: 1207-1215
		Sapeta et al. 2013. Environmental and Experimental Botany. 85: 76-84
Juglans nigra	Juglandaceae	Loewenstein and Pallardy 2002. New Phytologist. 156: 351-361
		Ni and Pallardy 1992. Plant Physiology. 99: 1502-1508
Lactuca sativa	Asteraceae	Aroca et al. 2008. Journal of Experimental Botany. 59: 2029-2041
Lantana camara	Verbenaceae	Scoffoni et al. 2012. Journal of Experimental Botany. 63: 643-658
Laurus nobilis	Lauraceae	Toscano et al. 2014. Scientia Horticulturae. 178: 145-153
Lavatera maritima	Malvaceae	Galmes et al. 2007. New Phytologist. 175: 81-93
		Galmes et al. 2007. Plant and Soil. 290: 139-155
Leucaena leucocephala	Fabaceae	liang et al. 1997. Photosynthesis Research. 51: 149-159
Limonium gibertii	Plumbaginaceae	Galmes et al. 2007. Plant and Soil. 290: 139-155
		Galmes et al. 2007. New Phytologist. 175: 81-93
Limonium magallufianum	Plumbaginaceae	Galmes et al. 2007. New Phytologist. 175: 81-93
		Galmes et al. 2007. Plant and Soil. 290: 139-155
Liquidambar styraciflua	Altingiaceae	Fang et al. 1996. Tree Physiology. 16: 441-446
Lycopersicon esculentum	Solanaceae	Dell'Amico et al. 2002. The Journal of Agricultural Science. 138: 387-393
Magnolia grandiflora	Magnoliaceae	Scoffoni et al. 2012. Journal of Experimental Botany. 63: 643-658
Malus domestica	Rosaceae	Fernandez et al. 1997. Journal of the American Society for Horticultural Science. 122: 841-848

Mangifera indica	Anacardiaceae	Damour et al. 2009. Tree Physiology. 29: 675-684
		Elsheery and Cao 2008. Acta Physiologiae Plantarum. 30: 769-777
Medicago laciniata	Fabaceae	Yousfi et al. 2012. Botany. 90: 79-91
Medicago sativa	Fabaceae	Antolin and Sanchez-Dlaz, 1993. Journal of Experimental Botany. 44: 1341-1349
		Erice et al. 2011. Environmental and Experimental Botany. 72: 123-130
		Li et al. 2011. Australian Journal of Crop Science. 5: 1521-1532
Medicago truncatula	Fabaceae	Yousfi et al. 2012. Botany. 90: 79-91
Morus alba	Moraceae	Thimmanaik et al. 2002. Photosynthetica. 40: 233-236
Nicotiana sylvestris	Solanaceae	Galle et al. 2010. Journal of Experimental Botany. 61: 765-775
Olea europaea	Oleaceae	Angelopoulos et al. 1996. Journal of Experimental Botany. 47: 1093-1100
		Perez-Martin et al. 2010. XXVIII International Horticultural Congress on Science and Horticulture for People (IHC2010): International Symposium on 922. PP: 99-105
		Sun et al. 2014. PloS One. 9:
Olea oleaster	Oleaceae	Lo Gullo et al. 1998. New Phytologist. 140: 25-31
Opuntia acanthocarpa	Cactaceae	Martre et al. 2001. Plant Physiology. 126: 352-362
Opuntia ficus-indica	Cactaceae	North and Nobel 1992. New Phytologist. 120: 9-19
Oryza sativa	Poaceae	Tsuda et al. 1998. Japanese Journal of Tropical Agriculture. 42: 182-184
Panicum virgatum	Poaceae	Meyer et al. 2014. BMC Genomics. 15: 527
Peganum harmala	Nitrariaceae	Abbott et al. 2008. Weed Science. 56: 52-57
Pennisetum centrasiaticum	Poaceae	Luo et al. 2014. Acta Physiologiae Plantarum. 36: 381-388
Persea Americana	Lauraceae	Neuhaus et al. 2007. The Journal of Horticultural Science and Biotechnology. 82: 679-689
Phaseolus vulgaris	Fabaceae	Miyashita et al. 2005. Environmental and Experimental Botany. 53: 205-214
		Pospisilova 2003. Photosynthetica. 41: 49-56
		Trujillo et al. 2013. Journal of Plant interactions. 8: 360-369
		Zlatev 2013. Emirates Journal of Food and Agriculture. 25:
Phlomis italic	Labiatae	Galmes et al. 2007. New Phytologist. 175: 81-93
		Galmes et al. 2007. Plant and Soil. 290: 139-155
Picea mariana	Pinaceae	Balducci et al. 2013. Tree Physiology. 33: 1006-1017
		Blake and Li 2003. Physiologia Plantarum. 117: 532-539
Pinus banksiana	Pinaceae	Blake and Li 2003. Physiologia Plantarum. 117: 532-539
Pinus ponderosa	Pinaceae	Fernandez et al. 2014. Trees. 28: 745-756

Pinus radiate	Pinaceae	Mena-Petite et al. 2000. Journal of Plant Physiology. 156: 84-92
Pinus sylvestris	Pinaceae	Bansal et al. 2013. Tree Physiology. 33: 451-463
		Poyatos et al. 2013. New Phytologist. 200: 388-401
Pistacia lentiscus	Anacardiaceae	Galmes et al. 2007. Plant and Soil. 290: 139-155
		Galmes et al. 2007. New Phytologist. 175: 81-93
Pittosporum tobira	Pittosporaceae	Toscano et al. 2014. Scientia Horticulturae. 178: 145-153
Platanus racemose	Platanaceae	Scoffoni et al. 2012. Journal of Experimental Botany. 63: 643-658
Platycarya longipes	Juglandaceae	Liu et al. 2010. Physiologia Plantarum. 139: 39-54
Platycladus orientalis	Cupressaceae	Jin et al. 2011. Journal of Beijing Forestry University. 33: 135-141
Poa pratensis	Poaceae	Hu et al. 2012. Crop Science. 52: 2332-2340
		Xu et al. 2013. Environmental and Experimental Botany. 89: 28-35
Populus deltoids	Salicaceae	Loewenstein and Pallardy 2002. New Phytologist. 156: 351-361
Populus nigra	Salicaceae	Fortunati et al. 2008. The Plant Journal. 55: 687-697
Populus tremula	Salicaceae	Urli et al. 2013. Tree Physiology. 33: 672-683
Populus tremuloides	Salicaceae	Krishnan et al. 2006. Agricultural and Forest Meteorology. 139: 208-223
		Siemens and Zwiazek 2003. Plant Science. 165: 113-120
Populus trichocarpa	Salicaceae	Johnson et al. 2002. Physiologia Plantarum. 115: 93-100
Prosopis velutina	Fabaceae	Resco et al. 2009. New Phytologist. 181: 672-682
Prunus armeniaca	Rosaceae	Torrecillas et al. 1999. The Journal of Agricultural Science. 132: 445-452
Prunus dulcis	Rosaceae	Rouhi et al. 2007. Environmental and Experimental Botany. 59: 117-129
Prunus lycioides	Rosaceae	Rouhi et al. 2007. Environmental and Experimental Botany. 59: 117-129
Pseudotsuga menziesii	Pinaceae	Anekonda et al. 2002. Canadian Journal of Forest Research. 32: 1701-1716
Pteroceltis tatarinowii	Cannabaceae	Liu et al. 2010. Physiologia Plantarum. 139: 39-54
Pyracantha fortuneana	Rosaceae	Liu et al. 2010. Physiologia Plantarum. 139: 39-54
Quercus agrifolia	Fagaceae	Scoffoni et al. 2012. Journal of Experimental Botany. 63: 643-658
Quercus alba	Fagaceae	Loewenstein and Pallardy 2002. New Phytologist. 156: 351-361
		Ni and Pallardy 1992. Plant Physiology. 99: 1502-1508
Quercus cerris	Fagaceae	Tognetti et al. 2007. Tree Physiology. 27: 1741-1751
Quercus ilex	Fagaceae	Galle et al. 2011. Journal of Experimental Botany. 62: 5207-5216
		Tognetti et al. 1998. New Phytologist. 139: 437-447
		Urli et al. 2013. Tree Physiology. 33: 672-683

		Vaz et al. 2010. Tree Physiology. 30: 946-956
Quercus petraea	Fagaceae	Urli et al. 2013. Tree Physiology. 33: 672-683
Quercus pubescens	Fagaceae	Galle et al. 2007. New Phytologist. 174: 799-810
		Tognetti et al. 1998. New Phytologist. 139: 437-447
		Tognetti et al. 2007. Tree Physiology. 27: 1741-1751
Quercus robur	Fagaceae	Urli et al. 2013. Tree Physiology. 33: 672-683
Quercus rubra	Fagaceae	Jacobs et al. 2009. Annals of Forest Science. 66: 1-12
Quercus stellate	Fagaceae	Ni and Pallardy 1992. Plant Physiology. 99: 1502-1508
Quercus suber	Fagaceae	Vaz et al. 2010. Tree Physiology. 30: 946-956
Quercus variabilis	Fagaceae	Jin et al. 2011. Journal of Beijing Forestry University. 33: 135-141
Quercus velutina	Fagaceae	Loewenstein and Pallardy 2002. New Phytologist. 156: 351-361
Ricinus communis	Euphorbiaceae	Shi et al. 2014. Journal of Plant Interactions. 9: 783-790
Robinia pseudoacacia	Fabaceae	Jin et al. 2011. Journal of Beijing Forestry University. 33: 135-141
Rosa cymosa	Rosaceae	Liu et al. 2010. Physiologia Plantarum. 139: 39-54
Saccharum	Poaceae	Medeiros et al. 2013. Theoretical and Experimental Plant Physiology. 25: 213-222
Salix babylonica	Salicaceae	Ogasa et al. 2013. Tree Physiology. 33: 335-344
Salix cheilophila	Salicaceae	Ogasa et al. 2013. Tree Physiology. 33: 335-344
Salix integra	Salicaceae	Ogasa et al. 2013. Tree Physiology. 33: 335-344
Salix nigra	Salicaceae	Loewenstein and Pallardy 2002. New Phytologist. 156: 351-361
Salix psammophila	Salicaceae	Ogasa et al. 2013. Tree Physiology. 33: 335-344
Salix sagitta	Salicaceae	Johnson et al. 2002. Physiologia Plantarum. 115: 93-100
Schizachyrium scoparium	Poaceae	Heckathorn et al. 1997. Physiologia Plantarum. 101: 173-182
Solanum tuberosum	Solanaceae	Schapendonk et al. 1989. Potato Research. 32: 17-32
Sorghum	Poaceae	Li et al. 2011. Australian Journal of Crop Science. 5: 1521-1532
Spartina pectinate	Poaceae	Heckathorn et al. 1997. Physiologia Plantarum. 101: 173-182
Tamarix ramosissima	Tamaricaceae	Ayup et al. 2012. South African Journal of Botany. 78: 75-82
Thunbergia erecta	Acanthaceae	Toscano et al. 2014. Scientia Horticulturae. 178: 145-153
Triticum aestivum	Poaceae	Linke et al. 2008. Periodicum Biologorum. 110: 219-229
		Trillo et al. 2005. Plant and Soil. 277: 277-284
		Vassileva et al. 2011. Journal of Plant Research. 124: 147-154
Triticum durum	Poaceae	Linke et al. 2008. Periodicum Biologorum. 110: 219-229

Viburnum tinus	Adoxaceae	Toscano et al. 2014. Scientia Horticulturae. 178: 145-153
Vigna radiate	Fabaceae	Sengupta et al. 2013. Journal of Photochemistry and Photobiology B: Biology. 127: 170-181
Vigna unguiculata	Fabaceae	Anyia and Herzog 2004. Journal of Agronomy and Crop Science. 190: 151-159
		Subramaniam and Maheswari 1992. Journal of Agronomy and Crop Science. 168: 85-90
Vitis vinifera	Vitaceae	Lovisolo and Schubert 2006. New Phytologist. 172: 469-478
		Palliotti et al. 2014. Functional Plant Biology. 41: 634-647
		Pou et al. 2008. Physiologia Plantarum 134: 313-323; 2012. Plant and Soil. 359: 335-349; 2013. Plant Cell and environment. 36: 828-843
		Santesteban et al. 2009. Scientia Horticulturae. 121: 434-439
Zea mays	Poaceae	Hura et al. 2006. Acta Physiologiae Plantarum. 28: 433-443
		Ruiz-Lozano et al. 2009. Plant Molecular Biology. 70: 565-579

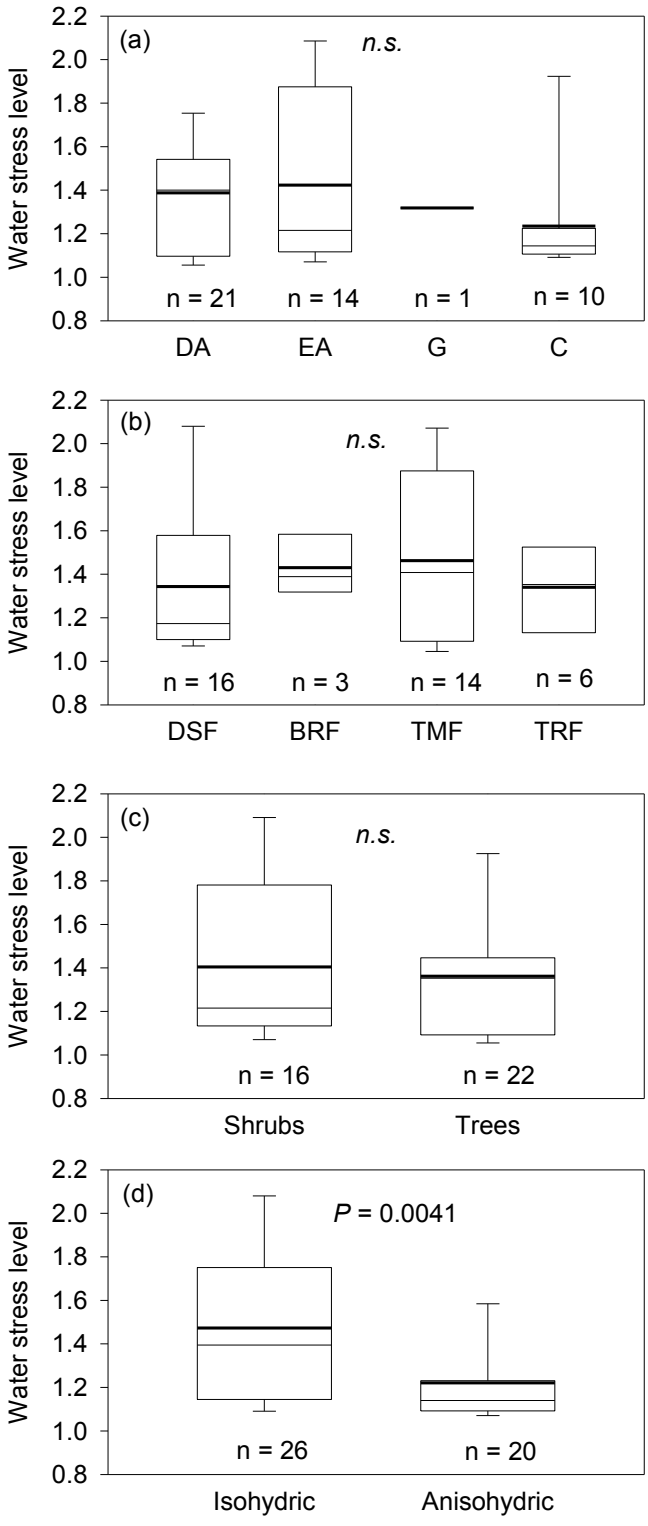

Figure A1. Comparisons in water stress level among plants from (a) four functional types, deciduous angiosperms (DA), evergreen angiosperms (EA), gymnosperms (G) and crops (C), (b) among plants from four major biomes, dry sclerophyll forest (DSF), boreal forest (BRF), temperate forest (TMF) and tropical/subtropical forest (TRF), (c) between shrubs and trees, and (d) between isohydric and anisohydric plants. Boxplots show data ranges with boxed first and third quartiles, median (light line) and means (heavy line). Numbers of species for each group are indicated. Significant differences were analyzed using Steel-Dwass' test for (a) and (b), and using Welch's test for (c) and (d).

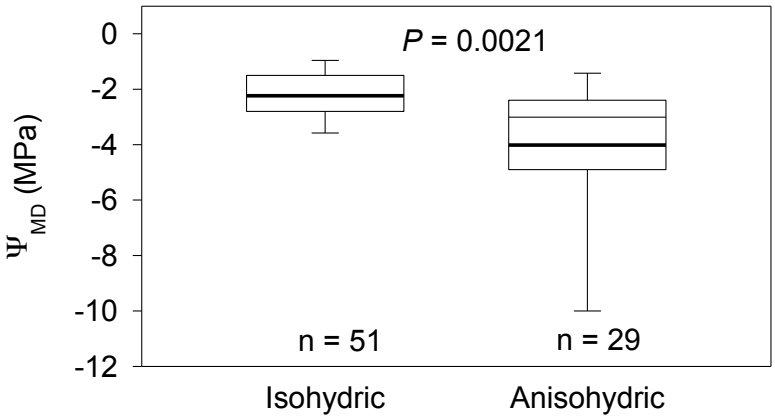

Figure A2. Midday leaf water potential (Ψ_{MD}) in isohydric and anisohydric plants under water-stressed conditions. Boxplots show data ranges with boxed first and third quartiles, median (light line) and means (heavy line). Numbers of species for each group are indicated. Significant differences were analyzed using Welch's test.