

Electronic appendix to:
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Relationship between seed size and related functional traits in North Saharan *Acacia* woodlands

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Appendix – Studied species in the North Saharan *Acacia* woodlands of south-western Morocco: scientific name (including authorship) and studied traits.

Families names according to APG IV (Angiosperm Phylogeny Group 2016). Species names according to Euro+Med PlantBase (2006–2018). Life forms: Pher, perennial herbs; Ssh, semi-shrubs; Sh, shrubs; Tr, trees. Pha, phanerophyte; Cha, chamaephyte; Hem, hemi-cryptophyte; (s), presence of spines; (e), evergreen; (a), these diaspores often fall close to the parent plant, but may also be secondarily transported by vertebrates; (b), these diaspores often fall close to the parent plant, but may also be secondarily transported rolled along ground surface by wind (chamaechory). Spatial dispersal: RD, restricted spatial dispersal; DDA, developed spatial dispersal, by abiotic vectors; DDB, developed spatial dispersal by biotic vectors. Mechanisms to prevent dispersal (antitelechoric mechanisms): A, synaptospermy; B, myxospermy. C, basicarpy; D, bradyspory; E, trypanocarpy; F, hygrochasy. Vegetation types: DARW, dense *Acacia tortilis* subsp. *raddiana* woodland; MARW, medium-dense *Acacia tortilis* subsp. *raddiana* woodland; OARW, open *Acacia tortilis* subsp. *raddiana* woodland; ZLW, *Ziziphus lotus* woodland.

| Family | Species name | Vegetation type | Life form | Dispersal mode | Spatial dispersal | Diaspore type | Leaf size (mm) and classes | Seed size (mg) | Fruit size (mg) | Plant height (cm) | Prevent dispersal | Flowering time |
|--------------|---|-----------------|-------------|------------------|-------------------|--------------------|------------------------------|----------------|-----------------|-------------------|-------------------|----------------|
| Apocynaceae | <i>Pergularia tomentosa</i> L. | DARW | Ssh-Cha | anemo-meteochory | DDA | achene with pappus | 459.84±68.51 nano-microphyll | 17.42±0.94 | 969.16±380 | 0.94±0.23 | A | Mar/Jun |
| Asteraceae | <i>Anvillea garcinii</i> subsp. <i>radiata</i> (Coss. & Durieu) Anderb. | ZLW | Ssh-Cha (s) | ombro-hydrochory | RD | achene | 17.56±5.14 nanophyll | | 0.38±0.007 | 0.28±0.07 | B, D | Mar/May |
| | | OARW | Ssh-Cha (s) | ombro-hydrochory | RD | achene | 33.20±9.58 nanophyll | | 0.34±0.063 | 0.18±0.035 | B, D | Mar/May |
| | | DARW | Ssh-Cha (s) | ombro-hydrochory | RD | achene | 80.805±13.03 nanophyll | | 0.61±0.13 | 0.27±0.01 | B, D | Mar/May |
| | <i>Brocchia cinerea</i> (Delile) Vis. | DARW | Pher-Hem | semachory | RD | achene | 12.12±2.25 leptophyll | | 0.05±0.001 | 0.16±0.06 | B, D | Feb/May |
| | | OARW | Pher-Hem | semachory | RD | achene | 12.12±2.25 leptophyll | | 0.06±0.0004 | 0.20±0.070 | B, D | Feb/May |
| | <i>Carthamus fruticosus</i> Maire | ZLW | Ssh-Cha (s) | anemo-meteochory | LDA | achene with pappus | 23.11±4.64 nanophyll | | 10.86±2.33 | 0.23±0.05 | A, D | May/Aug |
| | <i>Launaea arborescens</i> (Batt.) Murb. | ZLW | Ssh-Cha (s) | anemo-meteochory | LDA | achene with pappus | 35.69±8.90 nanophyll | | 0.56±0.0057 | 0.30±0.06 | A | Mar/Jun |
| Brassicaceae | <i>Farsetia aegyptia</i> Turra | ZLW | Ssh-Cha | anemo-meteochory | DDA | seed with wings | 64.16±9.76 nanophyll | 3.96±1.87 | | 0.35±0.11 | | Nov/Jun |
| | | DARW | Ssh-Cha | anemo-meteochory | DDA | seed with wings | 64.16±13.01 nanophyll | 2.01±0.48 | 10.25±2.20 | 0.67±0.15 | D | Nov/Jun |
| | <i>Farsetia occidentalis</i> B.L.Burt | MARW | Ssh-Cha | anemo-meteochory | DDA | seed with wings | 42.12±7.37 nanophyll | 0.64±3.42 | 18.16±4.43 | 0.59±0.105 | D | Nov/Jun |

| Family | Species name | Vegetation type | Life form | Dispersal mode | Spatial dispersal | Diaspore type | Leaf size (mm) and classes | Seed size (mg) | Fruit size (mg) | Plant height (cm) | Prevent dispersal | Flowering time |
|----------------|---|-----------------|--------------|------------------------|-------------------|---------------------|----------------------------------|----------------|-----------------|-------------------|-------------------|----------------|
| Brassicaceae | <i>Moricandia arvensis</i> (L.) DC. | OARW | Pher-Hem | Semachory | RD | Seed | 790.25±404.67 Nano-microphyll | 0.74±1.12 | 37.54±9.17 | 0.62±0.178 | B | Mar/Jun |
| | <i>Zilla spinosa</i> subsp. <i>macroptera</i> (Coss.) Maire & Weiller | OARW | Sh-Pha | barochory ^b | DDA | siliqua with wings | 99.58±40.057 nanophyll | 5.38±1.76 | 72.47±8.4 | 0.69±0.20 | A, D, E | Feb/Jun |
| | | MARW | Sh-Pha (s) | barochory ^b | DDA | siliqua with wings | | 4.11±0.79 | 48.82±9.35 | 0.68±0.160 | A, D | Feb/Jun |
| | | DARW | Sh-Pha (s) | barochory ^b | DDA | siliqua with wings | 226.91±76.98 nanophyll | 6.58±0.64 | 57.07±8.7 | 0.76±0.11 | A, D, E | Feb/Jun |
| Capparaceae | <i>Cleome africana</i> Botsch. | OARW | Pher-Hem | semachory | RD | seed with trichomes | 80.51±22.01 nanophyll | 5.65±6.47 | 66.36±18.08 | 0.35±0.247 | B, D | Mar/Jun |
| | | MARW | Pher-Hem | semachory | RD | seed with trichomes | 32.54±10.58 nanophyll | 2.83±0.36 | 30.00±6.3 | 0.35±0.02 | B, D | Mar/Jun |
| Convolvulaceae | <i>Convolvulus trautianus</i> Schweinf. & Muschl. | ZLW | Ssh-Cha (s) | semachory | RD | seed | 23.58±7.74 nanophyll | 5.55±1.31 | 30.73±7.21 | 0.39±0.12 | | Apr/May |
| | | MARW | Ssh-Cha (s) | semachory | RD | seed | 26.46±3.91 nanophyll | 5.62±0.51 | 15.62±7.8 | 0.34±0.108 | | Apr/May |
| Euphorbiaceae | <i>Euphorbia calyptata</i> Coss. & Kralik | MARW | Pher-Hem | ballistic | RD | seed | 54.00±11.91 nanophyll | 5.63±2.88 | 28.40±0.88 | 0.30±0.05 | | Apr/Jun |
| Fabaceae | <i>Acacia tortilis</i> subsp. <i>raddiana</i> (Savi) Brenan | MARW | Tree-Pha (s) | barochory ^a | DDB | pod | 2.65±0.75 sub-leptophyll (e) | 91.19±12 | 901.39±258.2 | 4.00 | | Aug/Sep |
| | | DARW | Tree-Pha (s) | barochory ^a | DDB | pod | 3.41±0.58 sub-leptophyll (e) | 58.51±22.7 | 965.17±268.80 | 9.00 | B, C | Aug/Sep |
| | <i>Retama raetam</i> (Forssk.) Webb | OARW | Sh-Pha | barochory ^b | DDA | pod | 83.76±14.38 nanophyll | 64.74±12 | 124.6±41.5 | 1.48±0.29 | D | Feb/Apr |
| Lamiaceae | <i>Lavandula coronopifolia</i> Poir. | ZLW | Ssh-Cha | semachory | RD | nutlet | 47.85±20.05 nanophyll | | 0.49±0.1 | 0.29±0.13 | D | May/Jul |
| | <i>Salvia aegyptiaca</i> L. | ZLW | Ssh-Cha | semachory | RD | nutlet | 9.41±2.11 sub-leptophyll | | 0.72±0.081 | 0.28±0.05 | B | Mar/Jun |
| | <i>Sideritis ochroleuca</i> Noë ex Willk. | ZLW | Ssh-Cha | semachory | RD | nutlet | 13.55±3.57 leptophyll | | 0.23±0.0043 | 0.50±0.14 | | Jun/Aug |

| Family | Species name | Vegetation type | Life form | Dispersal mode | Spatial dispersal | Diaspore type | Leaf size (mm) and classes | Seed size (mg) | Fruit size (mg) | Plant height (cm) | Prevent dispersal | Flowering time |
|------------------|---|-----------------|--------------|------------------------|-------------------|---------------|-------------------------------|----------------|-----------------|-------------------|-------------------|----------------|
| Resedaceae | <i>Caylusea hexagyna</i> (Forssk.) M.L.Green | OARW | Pher-Hem | semachory | RD | seed | 53.35±15.51 nanophyll | 0.12±0.002 | 2.82±0.44 | 0.50±0.08 | | Mar/May |
| | | DARW | Pher-Hem | semachory | RD | seed | 51.36±16.23 nanophyll | 0.211±0.03 | 1.90±0.0035 | 1.03±1.91 | | Mar/May |
| | <i>Reseda villosa</i> Coss. | ZLW | Pher-Hem | semachory | RD | seed | 71.07±23.98 nanophyll | 0.43±0.043 | 32.79±9.48 | 0.28±0.05 | | Apr/May |
| | | DARW | Pher-Hem | semachory | RD | seed | 620.57±101.21 nano-microphyll | 0.55±0.11 | 35.98±29.06 | 0.38±0.03 | | Apr/May |
| | | OARW | Pher-Hem | semachory | RD | seed | 108.19±11.2 nano-Microphyll | 0.28±0.006 | | 0.34±0.001 | | Apr/May |
| Rhamnaceae | <i>Ziziphus lotus</i> (L.) Lam. | ZLW | Sh-Pha (s) | barochory ^a | LDB | fruit drupe | 186.67±40.34 nanophyll (e) | | 50.22±9.75 | 1.95±0.49 | D | May/Jul |
| | | DARW | Sh-Pha (s) | barochory ^a | DDB | fruit drupe | 90.91±16.00 nanophyll (e) | | 198.40±41.49 | 1.08±0.31 | D | May/Jul |
| Scrophulariaceae | <i>Linaria aegyptiaca</i> (L.) Dumort. | OARW | Pher-Hem (s) | semachory | RD | seed | 14.26±1.56 nanophyll | 0.30±0.0071 | 3.13±1.19 | 0.15±0.02 | | Jan/May |
| | | MARW | Pher-Hem | semachory | RD | seed | 25.15±5.51 nanophyll | 0.11±0.001 | 3.82±1.22 | 0.20±0.04 | | Jan/May |
| | | DARW | Pher-Hem (s) | semachory | RD | seed | 21.87±3.81 nanophyll | 0.18±0.019 | 4.24±0.82 | 0.24±0.001 | | Jan/May |
| | <i>Scrophularia ramosissima</i> Loisel. | ZLW | Ssh-Cha | semachory | RD | seed | 34.23±15.42 nanophyll | 0.23±0.001 | 12.97±1.41 | 0.86±1.70 | | Jan/May |
| Solanaceae | <i>Withania adpressa</i> (Coss.) Batt. | DARW | Sh-Pha | barochory ^a | DDB | fruit berry | 838.19±249.36 nano-microphyll | | 70.86±39.4 | 1.50±0.41 | A | Jan/May |
| Zygophyllaceae | <i>Fagonia glutinosa</i> Delile | OARW | Pher-Hem (s) | semachory | RD | seed | 17.96±4.67 leptophyll | 1.67±0.21 | 13.96±2.77 | 0.09±0.001 | B | Mar/May |
| | | MARW | Pher-Hem (s) | semachory | RD | seed | 15.03±2.69 leptophyll | 1.91±0.32 | 16.32±3.3 | 0.10±0.01 | B | Mar/May |
| | <i>Fagonia zilloides</i> Humbert | OARW | Pher-Hem (s) | semachory | RD | seed | | 6.10±9.55 | 25.17±4.136 | 0.08±0.002 | B | Mar/May |
| | <i>Tetraena gaetula</i> (Emb. & Maire) Beier & Thulin | DARW | Ssh-Cha | barochory | RD | fruit capsule | | 0.71±0.0058 | 63.44±10.48 | 0.26±0.136 | A, B, D, E, F | Feb/May |