|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Supplement 2. Plant taxa in the diets of Mojave desert tortoises (N = 173 unique taxa, i.e., not duplicated among categories, and not including “general only” for well represented groups), arranged in four categories: A. Native diet plant taxa comprising > 1% of diets in bite count studies (Jennings 1993, 2015; Esque 1994; DeFalco 1995); B. Native species comprising < 1% of bites; C. Native diet plant taxa observed during studies using observations other than bite counts; and D. Non-native species observed during bite counts. See footnote for more details. | | | | | |
| A. Native species that comprise ≥ 1% of total number of all bite counts (N = 17 studies) | | | | | |
| Habita | Speciesb | # Sites**c** | # Bites | % Useall**d** | % Usenatives |
| AF | *Cryptantha micrantha* | 4 | 14,564 | 6.9 | 13.3 |
| AF | *Stephanomeria exigua* | 3 | 12,083 | 5.7 | 11.0 |
| AF | *Acmispon brachycarpus* | 2 | 10,512 | 4.9 | 9.6 |
| AF | *Plantago ovata* | 5 | 7,070 | 3.3 | 6.4 |
| AF | *Descurainia pinnata* | 4 | 5,654 | 2.7 | 5.1 |
| AF | *Acmispon oroboides* | 2 | 4,316 | 2.0 | 3.9 |
| PG | *Stipa hymenoides* | 5 | 3,971 | 1.9 | 3.6 |
| PF | *Mirabilis laevis* | 1 | 3,820 | 1.8 | 3.5 |
| PF | *Euphorbia albomarginata* | 4 | 3,801 | 1.8 | 3.5 |
| AF | *Lepidium lasiocarpum* | 3 | 3,241 | 1.5 | 2.9 |
| PF | *Astragalus layneae* | 2 | 2,902 | 1.4 | 2.6 |
| AF | *Cryptantha nevadensis* | 3 | 2,568 | 1.2 | 2.3 |
| PG | *Hilaria rigida* | 6 | 2,515 | 1.2 | 2.3 |
| Shr | *Krameria erecta* | 3 | 2,371 | 1.1 | 2.2 |
| AG | *Festuca octoflora* | 5 | 2,226 | 1.0 | 2.0 |
| PF | *Androstephium breviflorum* | 1 | 2,188 | 1.0 | 2.0 |
| PF | *Muhlenbergia porteri* | 2 | 2,136 | 1.0 | 1.9 |
|  |  |  |  |  |  |
| B. Native species that comprise < 1% of bite counts | | | | | |
| Habit | Species | # Sites | # Bites | % Useall | % Usenatives |
| AF | *Aliciella leptomeria* | 2 | 2,016 | 0.9 | 1.8 |
| AF | *Lygodesmia exigua* | 1 | 1,977 | 0.9 | 1.8 |
| AF | *Plantago patagonica* | 3 | 1,969 | 0.9 | 1.8 |
| AF | *Dithyrea wislizenii* | 1 | 1,796 | 0.8 | 1.6 |
| AF | *Astragalus didymocarpus* | 2 | 1,623 | 0.8 | 1.5 |
| AF | *Eremothera boothii* | 4 | 1,450 | 0.7 | 1.3 |
| AF | *Euphorbia parryi* | 2 | 1,386 | 0.7 | 1.3 |
| AF | *Eriophyllum wallacei* | 3 | 1,333 | 0.6 | 1.2 |
| AF | *Amsinckia tessellata* | 5 | 1,068 | 0.5 | 1.0 |
| AF | *Streptanthella longirostris* | 2 | 1,051 | 0.5 | 1.0 |
| AF | *Chorizanthe brevicornu* | 2 | 962 | 0.5 | 0.9 |
| AF | *Eriastrum eremicum* | 2 | 889 | 0.4 | 0.8 |
| AF | *Gilia scopulorum* | 1 | 840 | 0.4 | 0.8 |
| AF | *Eriogonum thomasii* | 2 | 835 | 0.4 | 0.8 |
| PF | *Calochortus bruneaunis* | 1 | 814 | 0.4 | 0.7 |
| AF | *Lesquerella tenella* | 1 | 771 | 0.4 | 0.7 |
| AF | *Lupinus concinnus* | 1 | 746 | 0.4 | 0.7 |
| AF | *Phacelia tanacetifolia* | 2 | 710 | 0.3 | 0.6 |
| AF | *Abronia fragrans* | 1 | 698 | 0.3 | 0.6 |
| PF | *Dichelostemma capitatum* | 1 | 669 | 0.3 | 0.6 |
| PF | *Oenothera coccinea* | 2 | 599 | 0.3 | 0.5 |
| AF | *Cryptantha virginensis* | 1 | 593 | 0.3 | 0.5 |
| AF | *Phacelia ivesiana* | 2 | 587 | 0.3 | 0.5 |
| PG | *Dasyochloa pulchella* | 2 | 581 | 0.3 | 0.5 |
| AF | *Mentzelia* spp. | 2 | 576 | 0.3 | 0.5 |
| SS | *Opuntia basilaris*f | 3 | 567 | 0.3 | 0.5 |
| AF | *Cryptantha circumscissa* | 2 | 561 | 0.3 | 0.5 |
| PG | *Aristida purpurea* | 2 | 489 | 0.2 | 0.4 |
| PF | *Oenothera pallida* | 1 | 462 | 0.2 | 0.4 |
| AF | *Cryptantha pterocarya* | 3 | 453 | 0.2 | 0.4 |
| PF/Shr | *Sphaeralcea ambigua*f | 4 | 437 | 0.2 | 0.4 |
| Shr | *Coleogyne ramosissima* | 1 | 412 | 0.2 | 0.4 |
| AF | *Stylocline micropoides* | 3 | 412 | 0.2 | 0.4 |
| AF | *Oenothera primiveris* | 2 | 372 | 0.2 | 0.3 |
| AF | *Gilia minor* | 1 | 342 | 0.2 | 0.3 |
| SS | *Echinocereus engelmannii* | 1 | 339 | 0.2 | 0.3 |
| AF | *Centrostegia thurberi* | 1 | 291 | 0.1 | 0.3 |
| PF | *Delphinium nuttallianum* | 1 | 275 | 0.1 | 0.3 |
| AF | *Tetrapteron palmeri* | 1 | 266 | 0.1 | 0.2 |
| SS | *Opuntia erinacea* | 1 | 248 | 0.1 | 0.2 |
| AF | *Draba cuneifolia* | 1 | 231 | 0.1 | 0.2 |
| AF | *Phacelia bicolor* | 1 | 220 | 0.1 | 0.2 |
| AF | *Malacothrix coulteri* | 1 | 217 | 0.1 | 0.2 |
| AF | *Lupinus odoratus* | 1 | 211 | 0.1 | 0.2 |
| Shr | *Ephedra nevadensis* | 2 | 179 | 0.1 | 0.2 |
| AF | *Pectocarya recurvata* | 2 | 176 | 0.1 | 0.2 |
| AF/PF | *Astragalus* sp. | 1 | 157 | 0.1 | 0.1 |
| PF | *Helianthus anomalus* | 1 | 147 | 0.1 | 0.1 |
| PF | *Stephanomeria parryi* | 1 | 131 | 0.1 | 0.1 |
| AF | *Malacothrix glabrata* | 3 | 125 | 0.1 | 0.1 |
| AF | *Linanthus dichotomus* | 2 | 123 | 0.1 | 0.1 |
| AF | *Chaenactis fremontii* | 2 | 119 | 0.1 | 0.1 |
| AF | *Glyptopleura setulosa* | 2 | 117 | 0.1 | 0.1 |
| AF | *Langloisia schottii* | 2 | 112 | 0.1 | 0.1 |
| AF | *Astragalus nuttallianus* | 1 | 104 | < 0.1 | 0.1 |
| AF | *Phacelia crenulata* | 1 | 97 | < 0.1 | 0.1 |
| PF | *Mirabilis multiflora* | 1 | 96 | < 0.1 | 0.1 |
| AF | *Pectorcarya* spp. | 2 | 88 | < 0.1 | 0.1 |
| AF | *Cryptantha angustifolia* | 3 | 87 | < 0.1 | 0.1 |
| AF | *Linanthus* sp. | 1 | 82 | < 0.1 | 0.1 |
| PF | *Baileya multiradiata* | 1 | 75 | < 0.1 | 0.1 |
| AF | *Tropidocarpum gracile* | 1 | 75 | < 0.1 | 0.1 |
| AF | *Baileya pleniradiata* | 1 | 70 | < 0.1 | 0.1 |
| AF | *Euphorbia micromera* | 1 | 70 | < 0.1 | 0.1 |
| PG | *Sporobolus flexuosus* | 1 | 70 | < 0.1 | 0.1 |
| AF | *Cryptantha* sp. | 4 | 61 | < 0.1 | 0.1 |
| Shr | *Artemisia filifolia* | 1 | 55 | < 0.1 | 0.1 |
| PF/Shr | *Stephanomeria pauciflora* | 2 | 53 | < 0.1 | < 0.1 |
| AF | *Langloisia setosissima* | 2 | 50 | < 0.1 | < 0.1 |
| Shr | *Eriogonum fasciculatum* | 1 | 47 | < 0.1 | < 0.1 |
| PG | *Elymus elymoides* | 1 | 44 | < 0.1 | < 0.1 |
| AF | *Plantago* sp. | 2 | 44 | < 0.1 | < 0.1 |
| PF/Shr | *Sphaeralcea* sp. | 2 | 39 | < 0.1 | < 0.1 |
| PG | *Tridens muticus* | 2 | 33 | < 0.1 | < 0.1 |
| AF | *Eriogonum maculatum* | 1 | 30 | < 0.1 | < 0.1 |
| Shr | *Gutierrezia* sp. | 1 | 30 | < 0.1 | < 0.1 |
| AF | *Chylismia brevipes* | 2 | 28 | < 0.1 | < 0.1 |
| PF | *Allium fimbriatum* | 1 | 25 | < 0.1 | < 0.1 |
| AF | *Chorizanthe rigida* | 2 | 25 | < 0.1 | < 0.1 |
| AF | *Oxytheca perfoliata* | 1 | 25 | < 0.1 | < 0.1 |
| PF | *Croton califirnicus* | 1 | 23 | < 0.1 | < 0.1 |
| Shr | *Ambrosia salsola* | 3 | 22 | < 0.1 | < 0.1 |
| SS | *Opuntia* sp. | 1 | 21 | < 0.1 | < 0.1 |
| PF | *Eriogonum inflatum* | 3 | 19 | < 0.1 | < 0.1 |
| AF | *Gilia* sp. | 3 | 18 | < 0.1 | < 0.1 |
| AF | *Rafinesquia neomexicana* | 2 | 15 | < 0.1 | < 0.1 |
| AF | *Pholistoma membranaceum* | 1 | 14 | < 0.1 | < 0.1 |
| PF/AF | *Baileya* sp. | 2 | 13 | < 0.1 | < 0.1 |
| AF | *Eriastrum diffusum* | 1 | 12 | < 0.1 | < 0.1 |
| AF | *Eriogonum gracillimum* | 1 | 12 | < 0.1 | < 0.1 |
| AF | *Eriogonum pusillum* | 1 | 12 | < 0.1 | *< 0.1* |
| Shr | *Ambrosia dumosa* | 2 | 10 | < 0.1 | *< 0.1* |
| AF | *Thysanocarpus curvipes* | 1 | 9 | < 0.1 | < 0.1 |
| AF | *Caulanthus inflatus* | 1 | 8 | < 0.1 | < 0.1 |
| PF | *Heterotheca villosa* | 1 | 8 | < 0.1 | < 0.1 |
| AF | *Calycoseris parryi* | 1 | 7 | < 0.1 | < 0.1 |
| AF | *Silene antirrhina* | 1 | 7 | < 0.1 | < 0.1 |
| AF | *Neoholmgrenia andina* | 1 | 6 | < 0.1 | < 0.1 |
| AF | *Astragalus acutirostris* | 1 | 5 | < 0.1 | < 0.1 |
| PF | *Hymenoxys filifolia* | 1 | 5 | < 0.1 | < 0.1 |
| Shr | *Krascheninnikovia lanata* | 1 | 4 | < 0.1 | < 0.1 |
| AF | *Linanthus parryae* | 1 | 4 | < 0.1 | < 0.1 |
| LS | *Yucca utahensis* | 1 | 4 | < 0.1 | < 0.1 |
| PF | *Lomatium mohavense* | 2 | 2 | < 0.1 | < 0.1 |
| AF | *Chaenactis carphoclinia* | 1 | 1 | <0.1 | <0.1 |
|  |  |  |  |  |  |
| **Habit** | **Species** | # Sites | **#** Bites | % Useall | % Usenatives |
| AF | *Acleisanthes nevadensis* | 1 | n/a | n/a | n/a |
| AF | *Acmispon oroboides* | 1 | n/a | n/a | n/a |
| AF | *Acmispon strigosus* | 1 | n/a | n/a | n/a |
| AF | *Allionia villosa* | 1 | n/a | n/a | n/a |
| AF | *Amsinckia intermedia* | 1 | n/a | n/a | n/a |
| PF | *Astragalus lentiginosus* | 1 | n/a | n/a | n/a |
| AF | *Boraginaceae* | 1 | n/a | n/a | n/a |
| AG | *Bouteloua barbata* | 2 | n/a | n/a | n/a |
| AG/PG | *Bouteloua* sp*.* | 1 | n/a | n/a | n/a |
| PG | *Bouteloua trifida* | 1 | n/a | n/a | n/a |
| SS | Cactaceae | 2 | n/a | n/a | n/a |
| AF | *Camissonia strigulosa* | 1 | n/a | n/a | n/a |
| AF | *Camissonia kernensis* | 1 | n/a | n/a | n/a |
| Shr | *Encelia frutescens* | 1 | n/a | n/a | n/a |
| AF | *Eriastrum wilcoxii* | 1 | n/a | n/a | n/a |
| AF | *Eriophyllum pringlei* | 1 | n/a | n/a | n/a |
| AF/Shr | *Lepidium* sp. | 1 | n/a | n/a | n/a |
| AF | *Leptosiphon* (*=Linanthus*) *aureus* | 1 | n/a | n/a | n/a |
| AF | *Loeseliastrum matthewsii* | 1 | n/a | n/a | n/a |
| AF | *Mentzelia albicaulis* | 2 | n/a | n/a | n/a |
| SS | *Cylindopuntia* (*=Opuntia*) *echinocarpa* | 1 | n/a | n/a | n/a |
| SS | *Cylindopuntia* (*=Opuntia*) *ramosissima* | 2 | n/a | n/a | n/a |
| AF | *Abronia* sp. | 1 | n/a | n/a | n/a |
| AF/PF | *Abutilon* spp. | 1 | n/a | n/a | n/a |
| PF | *Allionia incarnata* | 1 | n/a | n/a | n/a |
| PF | *Allionia sp.* | 1 | n/a | n/a | n/a |
| AF | *Chylismia* (*=Camissonia*) *claviformis* | 2 | n/a | n/a | n/a |
| AF | *Camissonia* sp. | 2 | n/a | n/a | n/a |
| Sedg | *Carex* sp. | 2 | n/a | n/a | n/a |
| AF | *Chaenactis* sp. | 1 | n/a | n/a | n/a |
| Shr | *Chrysothamnus nauseosus* | 1 | n/a | n/a | n/a |
| AF/PF/Shr | *Asteraceae* (*=Compositae*)sp. | 1 | n/a | n/a | n/a |
| AF | *Leptosyne* (*=Coreopsis) bigelovii* | 1 | n/a | n/a | n/a |
| PF | *Cymopterus* sp. | 1 | n/a | n/a | n/a |
| PF | *Delphinium* sp. | 1 | n/a | n/a | n/a |
| SS | *Echinocactus polycephalus* | 1 | n/a | n/a | n/a |
| SS | *Echinocactus* sp | 1 | n/a | n/a | n/a |
| Shr | *Ephedra* sp. | 2 | n/a | n/a | n/a |
| PF | *Erigeron* sp. | 1 | n/a | n/a | n/a |
| PF | *Eriogonum* sp*.* | 3 | n/a | n/a | n/a |
| AF | *Erodium* sp*.* | 1 | n/a | n/a | n/a |
| AF | *Eschscholtzia glyptosperma* | 1 | n/a | n/a | n/a |
| AF | *Gilia latiflora* | 1 | n/a | n/a | n/a |
| AF | *Gilia ochroleuca* | 1 | n/a | n/a | n/a |
| Shr | *Grayia spinosa* | 1 | n/a | n/a | n/a |
| AF | *Hydrophyllaceae* | 1 | n/a | n/a | n/a |
| Shr | *Krameria* sp. | 1 | n/a | n/a | n/a |
| Shr | *Larrea tridentata* | 2 | n/a | n/a | n/a |
| PF | Fabaceae | 1 | n/a | n/a | n/a |
| AF | *Lepidium flavum* | 1 | n/a | n/a | n/a |
| AF | *Lotus* sp. | 2 | n/a | n/a | n/a |
| AF/PF | *Lupinus* sp*.* | 1 | n/a | n/a | n/a |
| Shr | *Lycium* sp*.* | 1 | n/a | n/a | n/a |
| AF | *Malacothrix sonchoides* | 1 | n/a | n/a | n/a |
| AF | *Malacothrix* sp. | 1 | n/a | n/a | n/a |
| AF | *Eremalche exilis* | 1 | n/a | n/a | n/a |
| AF | *Mentzelia affinis* | 1 | n/a | n/a | n/a |
| PF | *Mirabilis multiflora* | 1 | n/a | n/a | n/a |
| PF | *Mirabilis* sp. | 1 | n/a | n/a | n/a |
| AF | *Monoptilon bellioides* | 3 | n/a | n/a | n/a |
| AF | *Nama demissa* | 1 | n/a | n/a | n/a |
| AF | *Oenothera deltoides* | 2 | n/a | n/a | n/a |
| AF | *Phacelia* sp. | 1 | n/a | n/a | n/a |
| Shr | *Psilostrophe cooperi* | 1 | n/a | n/a | n/a |
| AF | *Rafinesquia* sp. | 1 | n/a | n/a | n/a |
| PG | *Sporobolus cryptandrus* | 1 | n/a | n/a | n/a |
| Shr | *Tetradymia* sp. | 1 | n/a | n/a | n/a |
| PF | *Tiquilia plicata* | 1 | n/a | n/a | n/a |
| LS | *Yucca* sp. | 1 | n/a | n/a | n/a |
|  |  |  |  |  |  |
| D. Non-native species prevalent in bite counts across sites. | | | | | |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Habit | Species | # Sites | # Bites | % Useall | % Usenatives |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| AH | *Erodium cicutarium* | 8 | 30,139 | 14.2 | n/a |
| AG | *Bromus madritensis* | 9 | 27,238 | 12.8 | n/a |
| AG | *Schismus barbatus* | 5 | 22,517 | 10.6 | n/a |
| AG | *Bromus tectorum* | 2 | 7,037 | 3.3 | n/a |
| AG | *Bromus* sp. | 3 | 341 | 0.2 | n/a |
| AH | *Salsola iberica* **e** | 1 | 86 | 0.0 | n/a |
| AG | *Schismus* sp*.* **e** | 2 | 0 | 0.0 | n/a |
| aPlant growth form is abbreviated: annual forb (AF), annual grass (AG), perennial forb (PF), perennial grass (PG), shrub (Shr), sedge (Sedg), leaf succulent yuccas (LS), and stem succulent cactus (SS).  bSpecies names follow Jepson Flora Project (2016), and old nomenclature, as cited in studies, is included parenthetically.  cThe number of sites where species were documented includes those observed during bite counts and other foraging observations, and detected in fecal analysis (see Table 1, n = 9).  d % Use all refers to the percentage of bites including all plant species observed; % Use natives to only native species. Unidentified species comprised 1,780 bites, or approximately 0.9% Use all and 1.6% Use natives.  **e** This entry for *Salsola iberica* and *Schismus*sp. represents data not included in bite counts  f Species that were not prevalent in bites but are important for reasons described in Supplement 1. | | | | | |

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