Lisa Robinson

WA Bee Atlas Collection and Identification Report

1 Your 2023 Collections

Lisa Robinson caught 4 bees across 3 counties from June 11, 2023 to September 02, 2023, representing 3 unique taxa, including 1 unique species.

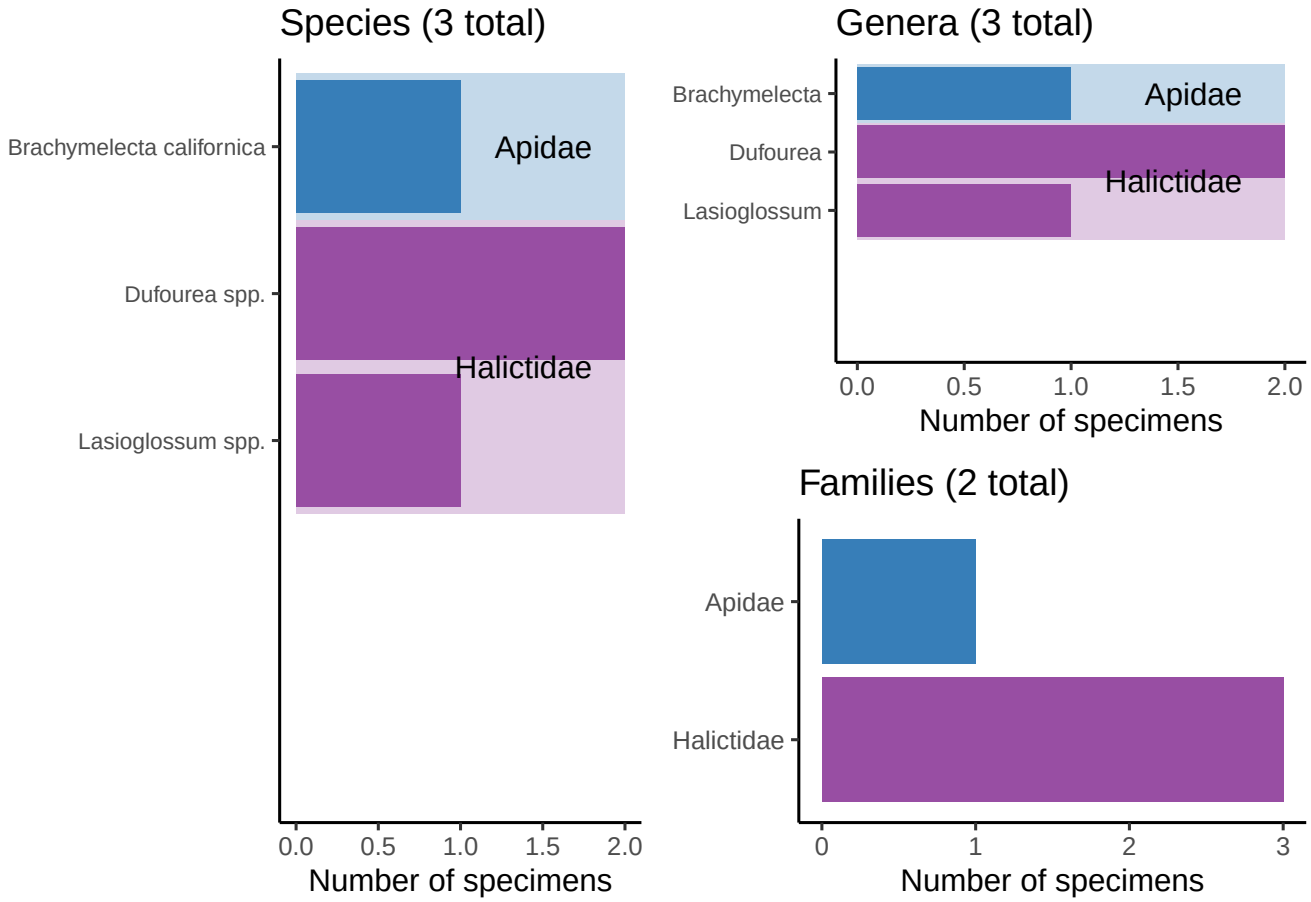

Figure 1: Bees caught by Lisa Robinson, broken down by species, genus, and family.

2 All Your Collections

Lisa Robinson caught 4 bees across 3 counties from June 11, 2023 to September 02, 2023, representing 3 unique taxa, including 1 unique species.

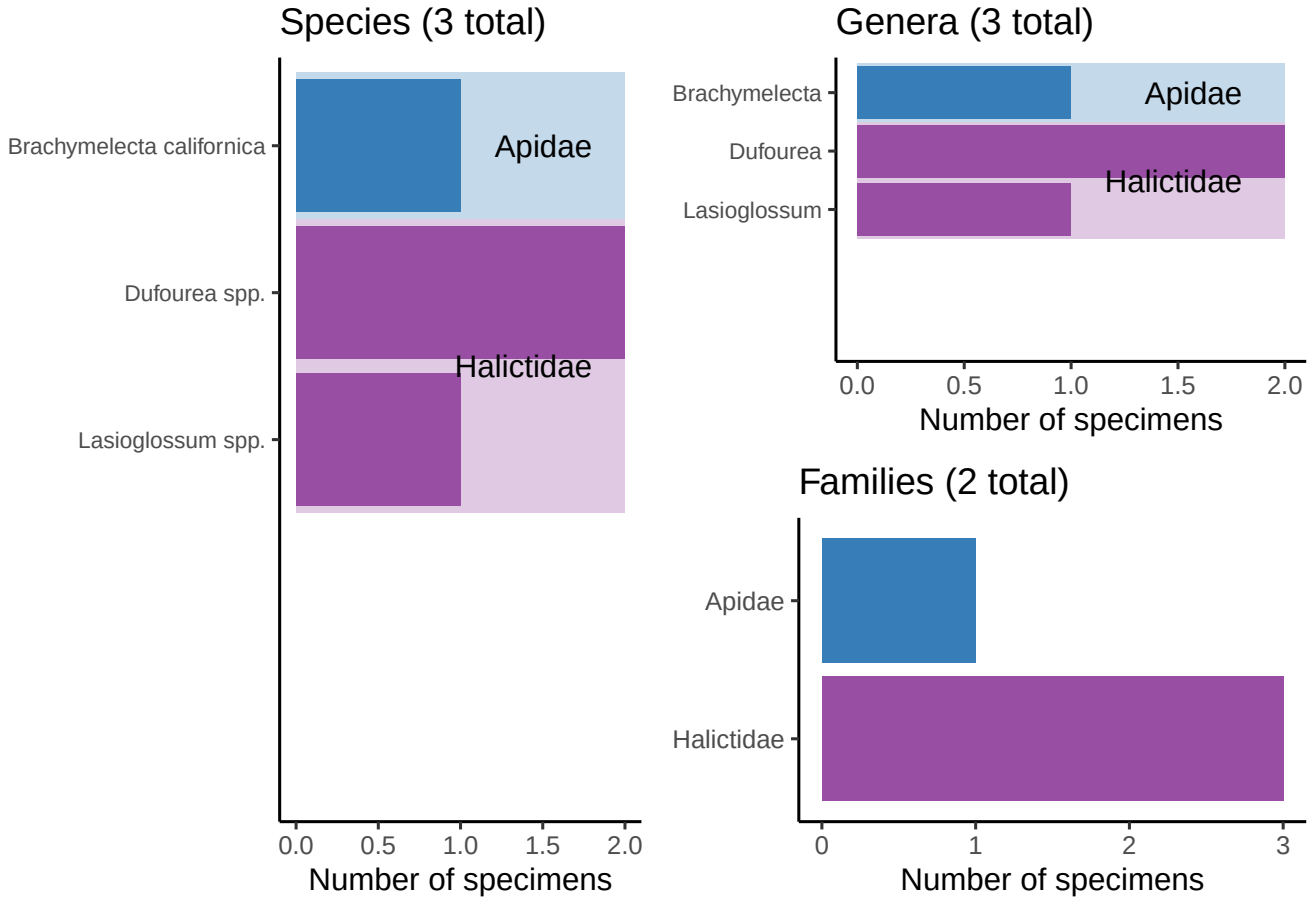

Figure 2: Bees caught by Lisa Robinson, broken down by species, genus, and family.

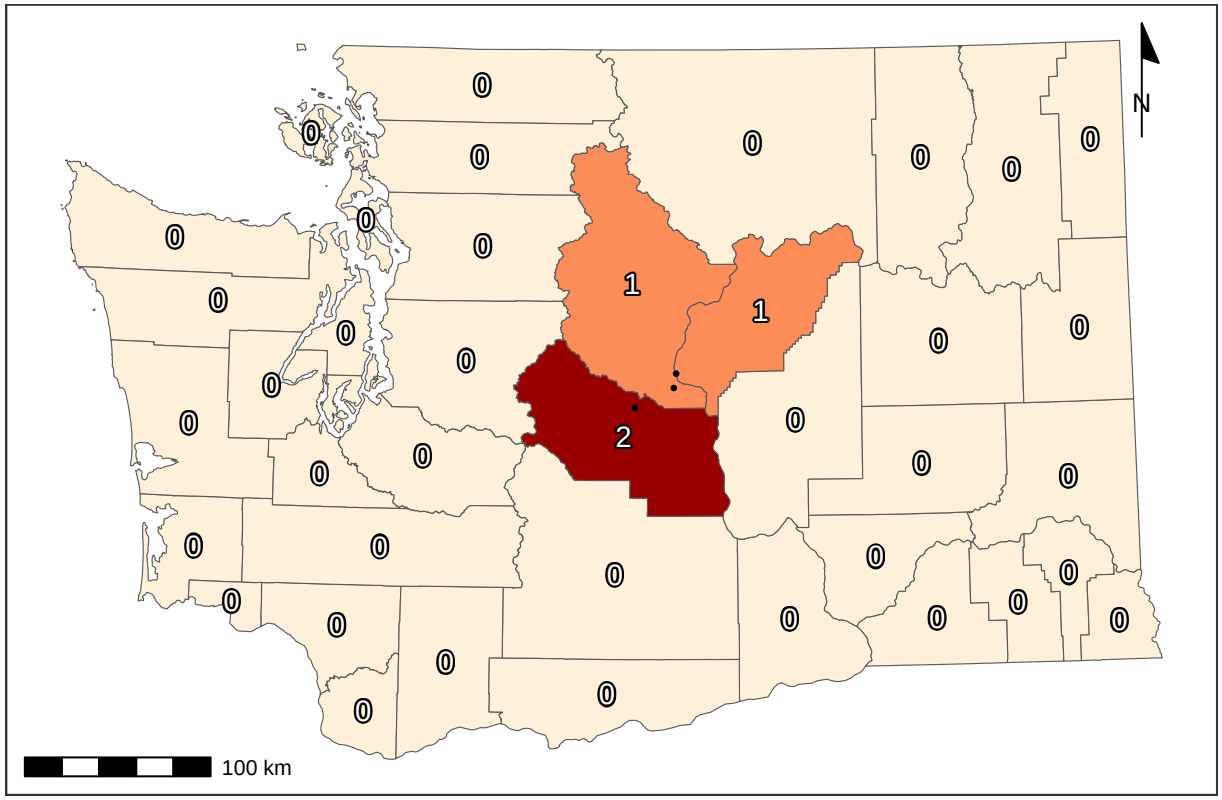

Figure 3: Bee catch locations for Lisa Robinson (within WA), along with total catches per county.

3 Total Catches

Volunteers from the WA Bee Atlas project caught 14 bees across 6 counties from April 29, 2023 to September 02, 2023, representing 1 unique species and 5 unique genera. The **Nimble Net Kudos** (most specimens collected) goes to Michael O'Loughlin, Lisa Robinson, and Richard Williams, who caught a total of 5, 4, and 4 specimens. The *positive* kind of **Darwin Award** (most species collected) goes to Lisa Robinson, David Jennings, and Michael O'Loughlin, who caught a total of 3, 1, and 1 unique species. Well done!

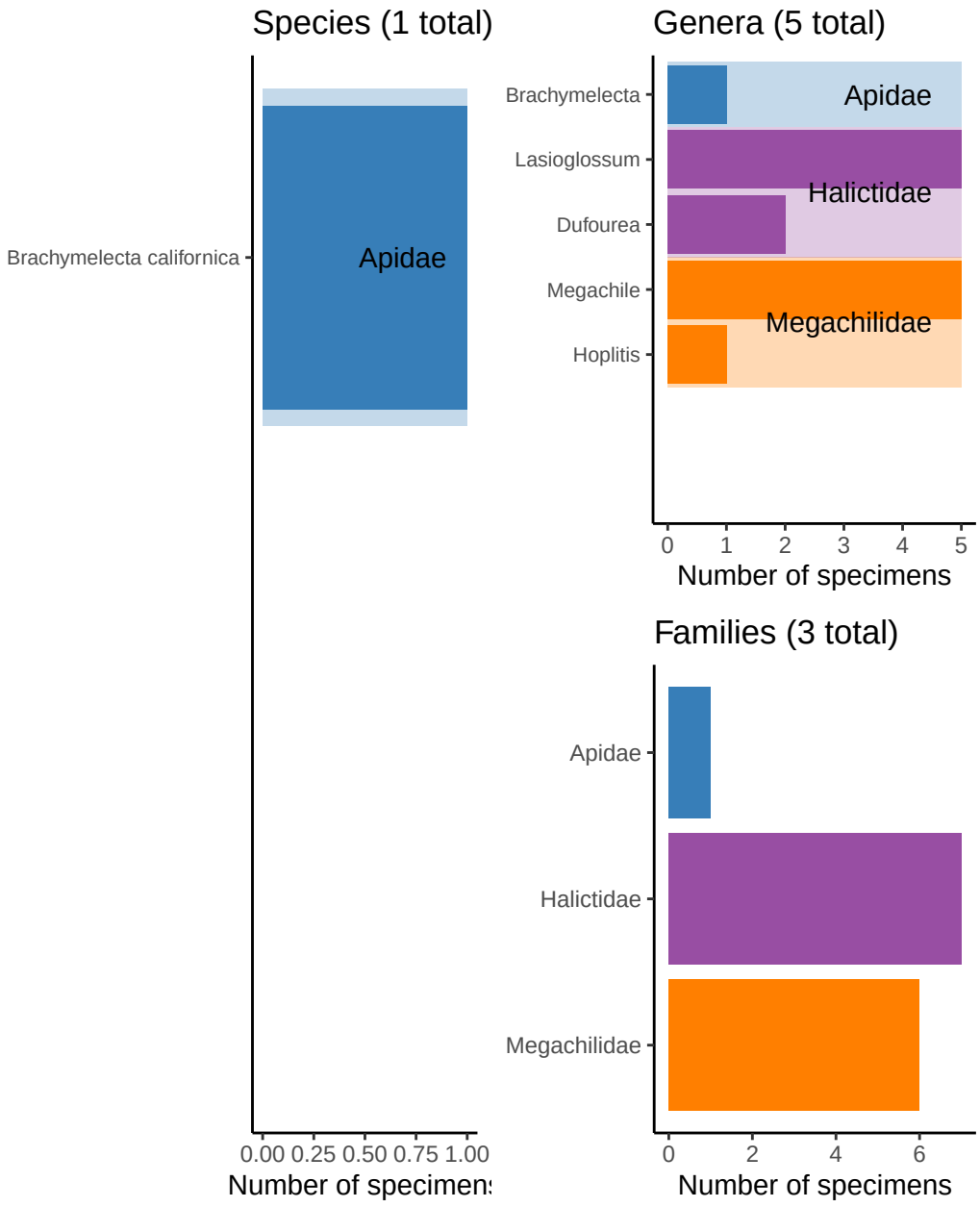

Figure 4: Bees caught by all volunteers, broken down by species, genus, and family.

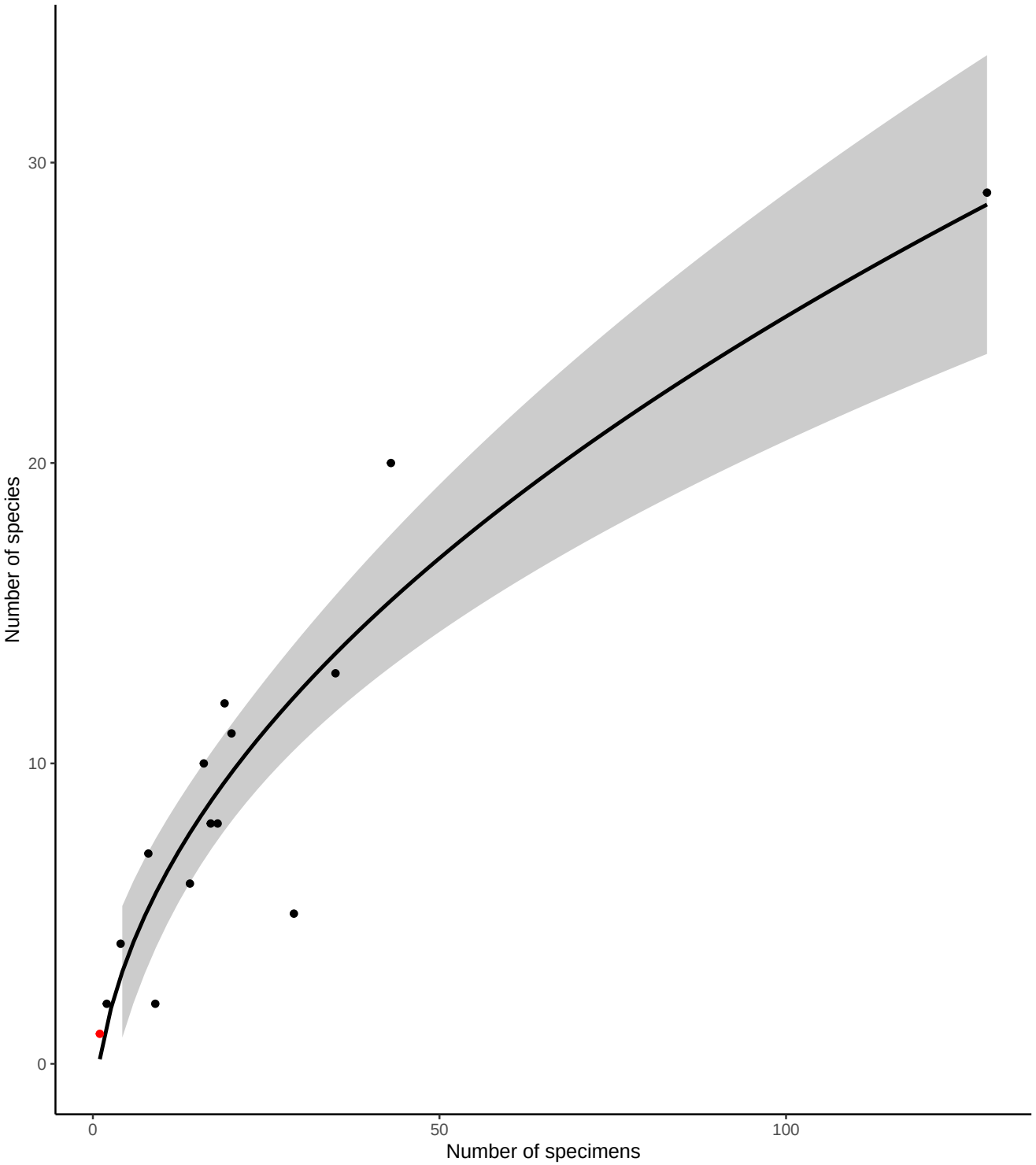

Figure 5: Number of bee specimens and unique bee species caught by all volunteers, with your effort shown in red. This graph should give you an idea of how many specimens you would need to catch to begin seeing rarer bee species.

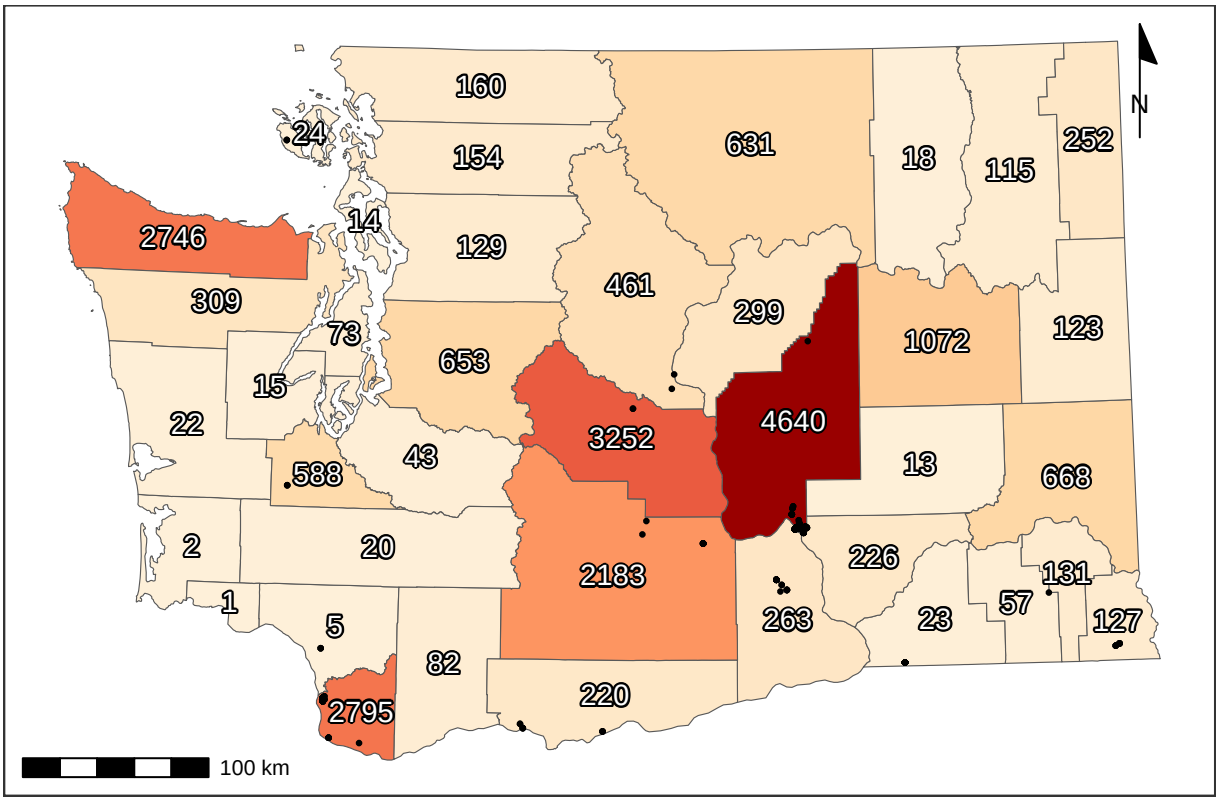

Figure 6: Total specimens caught per county, along with catch location of each specimen (black dots). For genus- and species-specific information for each county, see Tables 3 and 4.

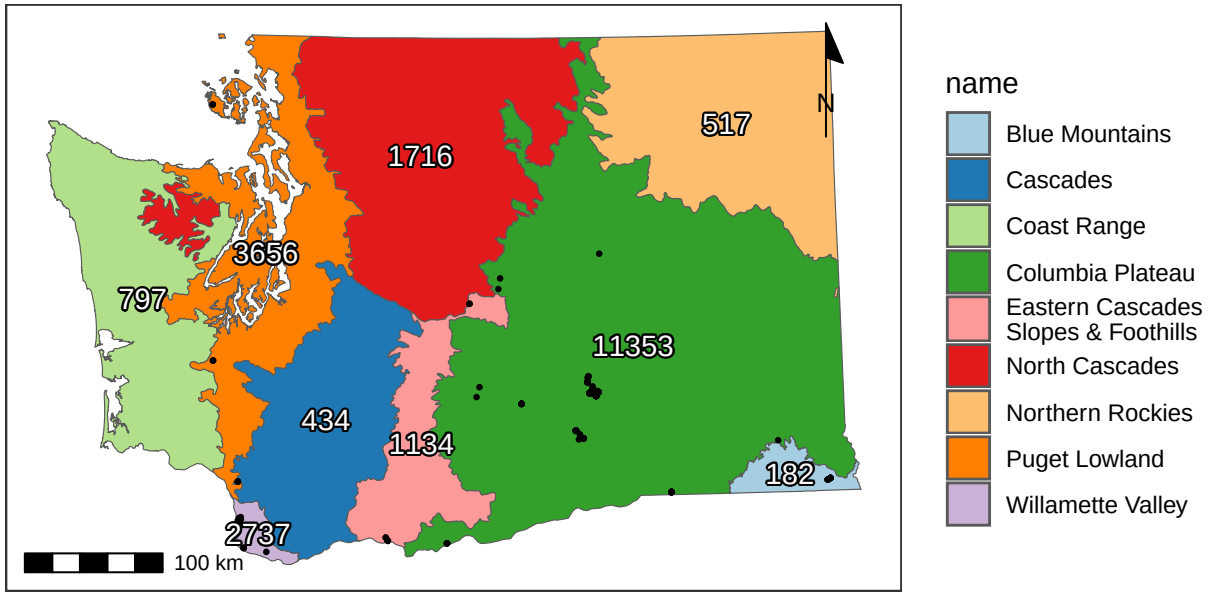

Figure 7: Total catches per ecoregion (Level III), along with catch location of each specimen (black dots).

4 Flight Phenology

Table 1: Number of bee specimens collected from each plant genus. Plants with few records are great targets for future sampling.

Genus	Count	Genus	Count	Genus	Count	Genus	Count	Genus	Count	Genus	Count	Genus	Count
Chrysothamnus	42	*Amsinckia*	19	*Eriogonum*	9	*Centaurium*	7	*Astragalus*	3	*Acmispon*	2	*Apocynum*	1
Dieteria	38	*Ericameria*	19	*Euthamia*	9	*Linum*	7	*Cleomella*	3	*Calochortus*	2	*Bellardia*	1
Holodiscus	31	*Rubus*	19	*Helenium*	9	*Erigeron*	6	*Daucus*	3	*Centaurea*	2	*Convolvulus*	1
Hypochaeris	29	*Hypericum*	15	*Leucanthemum*	9	*Balsamorhiza*	5	*Dipsacus*	3	*Lythrum*	1	*Coreopsis*	1
Cirsium	25	*Jacobaea*	14	*Rosa*	9	*Melilotus*	5	*Lupinus*	3	*Mentha*	1	*Delphinium*	1
Spiraea	25	*Lathyrus*	14	*Penstemon*	8	*Crepis*	4	*Gaillardia*	2	*Nestotus*	1	*Erythranthe*	1
Medicago	23	*Symphoricarpos*	12	*Vicia*	7	*Oenothera*	3	*Lycium*	2	*Pediocactus*	1	*Grindelia*	1
Phacelia	23	*Achillea*	10			*Prunella*	3			*Sedum*	1	*Lactuca*	1

5 Plant genera

Volunteers collected specimens from a total of 54 unique flower genera, with most volunteers sampling from 4.5 flower genera (median value). The **Flower Power Kudos** (most sampled flower genera) goes to Anne Bulger, Erin Dunbar, and Karla Salp, who collected bees from a total of 19, 12, and 10 genera of flowers. Well done!

The flower genera that had the most specimens caught on them were *Chrysothamnus*, *Dieteria*, and *Holodiscus*, which yielded a total of 42, 38, and 31 specimens. The flower genera that were popular with the most species of bees were *Hypochaeris*, *Holodiscus*, and *Spiraea*, hosting a total of 16, 14, and 14 unique bee species. See Tables 1 and 2 for more details.

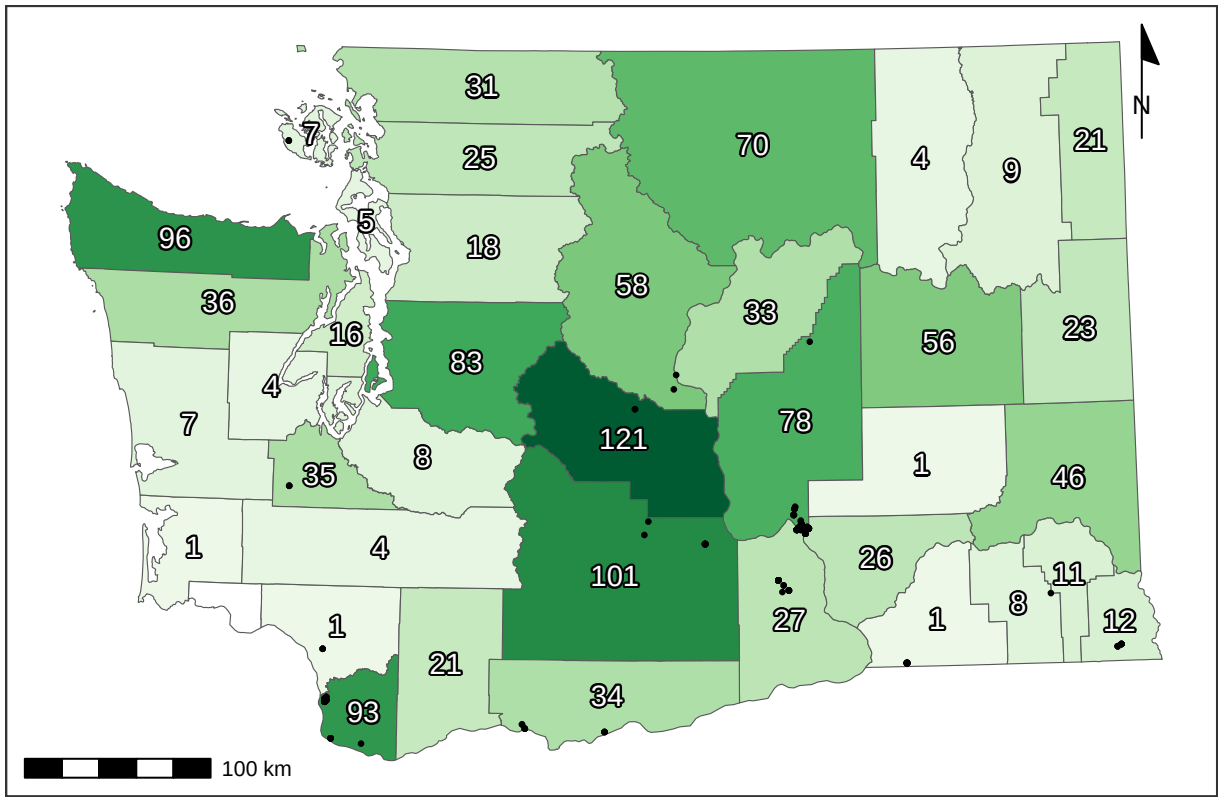

Figure 8: Recorded number of flower genera per county.

Table 2: Number of bee species collected from each plant genus

Genus	Count	Genus	Count	Genus	Count	Genus	Count	Genus	Count	Genus	Count	Genus	Count
Hypochaeris	16	*Chrysothamnus*	8	*Helenium*	5	*Astragalus*	3	*Acmispon*	2	*Gaillardia*	1	*Apocynum*	1
Holodiscus	14	*Amsinckia*	7	*Lathyrus*	5	*Crepis*	3	*Balsamorhiza*	2	*Grindelia*	1	*Bellardia*	1
Spiraea	14	*Euthamia*	7	*Penstemon*	5	*Erigeron*	3	*Centaurea*	2	*Lactuca*	1	*Calochortus*	1
Cirsium	12	*Hypericum*	7	*Symphoricarpos*	5	*Eriogonum*	3	*Daucus*	2	*Lythrum*	1	*Cleomella*	1
Dieteria	10	*Achillea*	6	*Centaurium*	4	*Lupinus*	3	*Dipsacus*	2	*Medicago*	1	*Convolvulus*	1
Phacelia	9	*Jacobaea*	6	*Linum*	4	*Lycium*	2	*Pediocactus*	1	*Melilotus*	1	*Coreopsis*	1
Ericameria	8	*Leucanthemum*	6	*Rosa*	4	*Oenothera*	2	*Sedum*	1	*Mentha*	1	*Delphinium*	1
Rubus	8	*Vicia*	6			*Prunella*	2			*Nestotus*	1	*Erythranthe*	1

6 County records

Table 3: Number of bee specimens from each county, by genus. You may want to focus your sampling in under-sampled counties.

	Asotin	Benton	Chelan	Clark	Columbia	Cowlitz	Douglas	Franklin	Grant	Kittitas	Klickitat	San Juan	Thurston	Walla Walla	Yakima	TOTAL
Agapostemon	0	0	0	3	0	0	0	1	0	0	0	0	0	0	0	4
Andrena	0	1	0	27	0	0	0	0	0	0	0	0	0	0	2	30
Anthidium	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Anthophora	1	9	0	0	0	0	0	6	4	0	0	0	0	0	0	20
Apis	0	0	0	27	0	0	0	8	0	0	0	0	0	0	0	35
Ashmeadiella	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Bombus	0	0	0	26	0	0	0	2	0	0	1	0	0	0	0	29
Brachymelecta	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Ceratina	1	0	0	35	0	0	0	0	0	0	0	0	0	0	0	36
Coelioxys	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
Colletes	0	0	0	0	0	0	0	1	8	0	0	0	0	0	0	9
Dufourea	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2
Eucera	0	6	0	1	0	0	0	3	0	0	0	0	0	0	0	10
Halictus	0	1	0	44	0	0	0	0	1	0	1	0	0	0	0	47
Heriades	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	4
Hoplitis	1	0	0	4	1	0	0	4	0	0	0	0	0	0	0	10
Hylaeus	1	0	0	6	0	0	0	0	0	0	0	2	0	0	0	9
Lasioglossum	1	0	1	45	0	0	0	2	0	0	6	1	0	0	2	58
Megachile	0	1	0	8	0	0	0	12	13	0	0	0	0	0	0	34
Melissodes	0	0	0	10	0	0	0	18	39	0	0	0	0	0	0	67
Nomada	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	4
Nomia	0	0	0	0	0	0	0	0	0	0	0	0	0	23	0	23
Osmia	2	4	0	11	0	3	0	10	6	0	2	0	3	0	3	44
Perdita	0	0	0	0	0	0	0	2	25	0	0	0	0	0	0	27
Protosmia	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Stelis	0	0	0	0	0	0	0	0	1	0	0	0	0	0	6	7
TOTAL	10	25	1	253	1	3	1	69	100	2	10	3	3	23	13	517

Table 4: Number of bee specimens from each county, by species

	Asotin	Benton	Clark	Douglas	Franklin	Grant	Klickitat	San Juan	Walla Walla	Yakima	TOTAL
Agapostemon femoratus	0	0	0	0	1	0	0	0	0	0	1
Agapostemon virescens	0	0	3	0	0	0	0	0	0	0	3
Andrena candida	0	0	2	0	0	0	0	0	0	0	2
Andrena fuscicauda	0	0	1	0	0	0	0	0	0	0	1
Andrena hippotes	0	0	2	0	0	0	0	0	0	0	2
Andrena mariae	0	0	1	0	0	0	0	0	0	0	1
Andrena nivalis	0	0	7	0	0	0	0	0	0	0	7
Andrena prunorum	0	0	3	0	0	0	0	0	0	1	4
Andrena scurra	0	1	0	0	0	0	0	0	0	0	1
Anthophora albata	0	0	0	0	0	2	0	0	0	0	2
Anthophora crotchii	0	6	0	0	0	0	0	0	0	0	6
Anthophora curta	0	0	0	0	0	2	0	0	0	0	2
Anthophora edwardsii	0	1	0	0	0	0	0	0	0	0	1
Anthophora urbana	0	0	0	0	6	0	0	0	0	0	6
Anthophora ursina	0	2	0	0	0	0	0	0	0	0	2
Apis mellifera	0	0	27	0	8	0	0	0	0	0	35
Ashmeadiella foxiella	3	0	0	0	0	0	0	0	0	0	3
Bombus caliginosus	0	0	2	0	0	0	0	0	0	0	2
Bombus fervidus	0	0	3	0	0	0	0	0	0	0	3
Bombus griseocollis	0	0	0	0	2	0	0	0	0	0	2
Bombus mixtus	0	0	6	0	0	0	1	0	0	0	7
Bombus vosnesenskii	0	0	15	0	0	0	0	0	0	0	15
Brachymelecta californica	0	0	0	1	0	0	0	0	0	0	1
Ceratina acantha	0	0	34	0	0	0	0	0	0	0	34
Ceratina hurdi	1	0	0	0	0	0	0	0	0	0	1
Ceratina micheneri	0	0	1	0	0	0	0	0	0	0	1
Coelioxys grindeliae	0	0	0	0	0	2	0	0	0	0	2
Colletes fulgidus	0	0	0	0	0	1	0	0	0	0	1
Eucera amsinckiae	0	5	0	0	0	0	0	0	0	0	5
Eucera edwardsii	0	0	0	0	1	0	0	0	0	0	1
Eucera frater	0	0	1	0	0	0	0	0	0	0	1
Eucera fulvitarsis	0	1	0	0	2	0	0	0	0	0	3
Halictus confusus	0	0	5	0	0	0	0	0	0	0	5
Halictus farinosus	0	1	0	0	0	0	0	0	0	0	1
Halictus ligatus	0	0	1	0	0	0	0	0	0	0	1
Halictus rubicundus	0	0	23	0	0	0	0	0	0	0	23
Halictus tripartitus	0	0	15	0	0	1	0	0	0	0	16
Heriades carinata	0	0	4	0	0	0	0	0	0	0	4
Hoplitis emarginata	1	0	0	0	0	0	0	0	0	0	1
Hoplitis grinnelli	0	0	0	0	4	0	0	0	0	0	4
Hoplitis producta	0	0	4	0	0	0	0	0	0	0	4
Lasioglossum allonotus	0	0	1	0	0	0	0	0	0	0	1
Lasioglossum cressonii	0	0	4	0	0	0	0	0	0	1	5
Lasioglossum incompletum	0	0	4	0	0	0	0	0	0	0	4
Lasioglossum kincaidii	0	0	2	0	0	0	0	0	0	0	2
Lasioglossum laevissimum	0	0	3	0	0	0	0	0	0	0	3
Lasioglossum nevadense	0	0	0	0	0	0	0	0	0	1	1
Lasioglossum occultum	0	0	2	0	0	0	0	0	0	0	2
Lasioglossum olympiae	0	0	2	0	0	0	0	0	0	0	2
Lasioglossum pacatum	0	0	1	0	0	0	0	1	0	0	2
Lasioglossum pacificum	0	0	3	0	0	0	0	0	0	0	3
Lasioglossum sisymbrii	1	0	4	0	0	0	1	0	0	0	6
Lasioglossum titusi	0	0	11	0	0	0	0	0	0	0	11
Lasioglossum villosulum	0	0	3	0	0	0	0	0	0	0	3
Megachile angelarum	0	0	3	0	0	0	0	0	0	0	3
Megachile montivaga	0	0	0	0	1	0	0	0	0	0	1
Megachile nevadensis	0	0	0	0	5	5	0	0	0	0	10
Megachile onobrychidis	0	0	0	0	3	6	0	0	0	0	9
Megachile parallela	0	0	0	0	0	2	0	0	0	0	2
Megachile perihirta	0	0	0	0	1	0	0	0	0	0	1
Megachile rotundata	0	0	0	0	1	0	0	0	0	0	1
Megachile subnigra	0	1	0	0	0	0	0	0	0	0	1
Melissodes bimatris	0	0	0	0	5	13	0	0	0	0	18
Melissodes lupinus	0	0	2	0	0	0	0	0	0	0	2
Melissodes metenuus	0	0	5	0	0	0	0	0	0	0	5
Melissodes rivalis	0	0	3	0	0	0	0	0	0	0	3
Melissodes semilupinus	0	0	0	0	3	11	0	0	0	0	14
Nomia melanderi	0	0	0	0	0	0	0	0	23	0	23
Osmia bucephala	0	0	3	0	0	0	0	0	0	0	3
Osmia coloradensis	0	0	0	0	0	0	0	0	0	1	1
Osmia integra	0	0	0	0	1	0	0	0	0	0	1

Table 4: Number of bee specimens from each county, by species *(continued)*

	Asotin	Benton	Clark	Douglas	Franklin	Grant	Klickitat	San Juan	Walla Walla	Yakima	TOTAL
Osmia texana	0	0	3	0	0	0	0	0	0	0	3
Protosmia rubifloris	0	0	1	0	0	0	0	0	0	0	1
TOTAL	6	18	220	1	44	45	2	1	23	4	364

Table 5: Your determination accuracy in 2023.

Taxon
No specimens identified

7 Taxonomic Accuracy, 2023

In 2023, you identified 0 of your 4 specimens to genus level and 0 to species level (see Table 5). In total, volunteers from the WA Bee Atlas project identified 64.3 % (9) of the 14 bee specimens to the level of genus, with an average accuracy of 100%. Volunteers also identified 0% (0) of the specimens to species level, and had an average accuracy of NaN% (see Table 6). Nicely done!

Table 6: Determination accuracy for all volunteers in 2023.

Taxon	Specimens ID-ed	Correct ID	% Correct
Family			
Halictidae	4	4	100
Megachilidae	5	5	100
TOTAL	9	9	100
Genus			
Lasioglossum	4	4	100
Megachile	5	5	100
TOTAL	9	9	100
Species			
TOTAL	0	0	NaN

Table 7: Your determination accuracy.

Taxon
No specimens identified

8 Taxonomic Accuracy, All Years

Over your time in the Atlas you identified 0 of your 4 specimens to genus level and 0 to species level (see Table 7). In total, volunteers from the WA Bee Atlas project identified 26.3 % (136) of the 517 bee specimens to the level of genus, with an average accuracy of 88.2%. Volunteers also identified 2.7% (14) of the specimens to species level, and had an average accuracy of 28.6% (see Table 8). Nicely done!

Table 8: Determination accuracy for all volunteers.

Taxon	Specimens ID-ed	Correct ID	% Correct
Family			
Andrenidae	21	16	76.2
Apidae	52	52	100.0
Colletidae	6	3	50.0
Halictidae	12	10	83.3
Megachilidae	48	46	95.8
TOTAL	139	127	91.4
Genus			
Agapostemon	1	1	100.0
Andrena	5	0	0.0
Anthidium	1	1	100.0
Anthophora	6	6	100.0
Ceratina	7	7	100.0
Coelioxys	2	2	100.0
Colletes	4	3	75.0
Eucera	1	1	100.0
Halictus	2	0	0.0
Hoplitis	4	4	100.0
Hylaeus	2	0	0.0
Lasioglossum	9	8	88.9
Megachile	23	23	100.0
Melissodes	36	33	91.7
Osmia	17	15	88.2
Perdita	16	16	100.0
TOTAL	136	120	88.2
Species			
Agapostemon femoratus	1	1	100.0
Andrena washingtoni	1	0	0.0
Ceratina pacifica	5	0	0.0
Lasioglossum olympiae	2	0	0.0
Megachile montivaga	2	0	0.0
Megachile onobrychidis	2	2	100.0
Osmia integra	1	1	100.0
TOTAL	14	4	28.6