Richard Karban

List of Publications by Year
in descending order

150 papers	11,497 citations	38738 50 h-index	39667 94 g-index
155 all docs	155 docs citations	155 times ranked	7051 citing authors

#	Article	IF	Citations
1	Explaining evolution of plant communication by airborne signals. Trends in Ecology and Evolution, 2010, 25, 137-144.	8.7	475
2	The ecology and evolution of induced resistance against herbivores. Functional Ecology, 2011, 25, 339-347.	3.6	379
3	Communication between plants: induced resistance in wild tobacco plants following clipping of neighboring sagebrush. Oecologia, 2000, 125, 66-71.	2.0	376
4	Exogenous jasmonates simulate insect wounding in tomato plants (Lycopersicon esculentum) in the laboratory and field. Journal of Chemical Ecology, 1996, 22, 1767-1781.	1.8	325
5	The ecosystem and evolutionary contexts of allelopathy. Trends in Ecology and Evolution, 2011, 26, 655-662.	8.7	313
6	Herbivore Offense. Annual Review of Ecology, Evolution, and Systematics, 2002, 33, 641-664.	6.7	291
7	DAMAGE-INDUCED RESISTANCE IN SAGEBRUSH: VOLATILES ARE KEY TO INTRA- AND INTERPLANT COMMUNICATION. Ecology, 2006, 87, 922-930.	3.2	270
8	Jasmonate-mediated induced plant resistance affects a community of herbivores. Ecological Entomology, 2001, 26, 312-324.	2.2	252
9	Breakdown of an Ant-Plant Mutualism Follows the Loss of Large Herbivores from an African Savanna. Science, 2008, 319, 192-195.	12.6	251
10	Plant behaviour and communication. Ecology Letters, 2008, 11, 727-739.	6.4	249
11	Volatile communication between plants that affects herbivory: a metaâ€analysis. Ecology Letters, 2014, 17, 44-52.	6.4	243
12	Induced plant responses and information content about risk of herbivory. Trends in Ecology and Evolution, 1999, 14, 443-447.	8.7	226
13	Damage to sagebrush attracts predators but this does not reduce herbivory. Entomologia Experimentalis Et Applicata, 2007, 125, 71-80.	1.4	193
14	Cross-talk between jasmonate and salicylate plant defense pathways: effects on several plant parasites. Oecologia, 2002, 131, 227-235.	2.0	191
15	Variability in plant nutrients reduces insect herbivore performance. Nature, 2016, 539, 425-427.	27.8	186
16	THE BENEFITS OF INDUCED DEFENSES AGAINST HERBIVORES. Ecology, 1997, 78, 1351-1355.	3.2	184
17	Selfâ€recognition affects plant communication and defense. Ecology Letters, 2009, 12, 502-506.	6.4	178
18	Defended Fortresses or Moving Targets? Another Model of Inducible Defenses Inspired by Military Metaphors. American Naturalist, 1994, 144, 813-832.	2.1	169

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19	Kin recognition affects plant communication and defence. Proceedings of the Royal Society B: Biological Sciences, 2013, 280, 20123062.	2.6	153
20	Effects of Herbivores on Growth and Reproduction of their Perennial Host, Erigeron Glaucus. Ecology, 1993, 74, 39-46.	3.2	150
21	Fine-scale adaptation of herbivorous thrips to individual host plants. Nature, 1989, 340, 60-61.	27.8	149
22	Herbivore damage to sagebrush induces resistance in wild tobacco: evidence for eavesdropping between plants. Oikos, 2003, 100, 325-332.	2.7	132
23	Domatia mediate plantarthropod mutualism. Nature, 1997, 387, 562-563.	27.8	119
24	DIRECT AND INDIRECT EFFECTS OF ALKALOIDS ON PLANT FITNESS VIA HERBIVORY AND POLLINATION. Ecology, 2001, 82, 2032-2044.	3.2	119
25	Increased Reproductive Success at High Densities and Predator Satiation For Periodical Cicadas. Ecology, 1982, 63, 321-328.	3.2	115
26	THE FITNESS CONSEQUENCES OF INTERSPECIFIC EAVESDROPPING BETWEEN PLANTS. Ecology, 2002, 83, 1209-1213.	3.2	110
27	Abundance of phytoseiid mites on Vitis species: effects of leaf hairs, domatia, prey abundance and plant phylogeny. Experimental and Applied Acarology, 1995, 19, 189-197.	1.6	99
28	Interspecific Competition Between Folivorous Insects on Erigeron Glaucus. Ecology, 1986, 67, 1063-1072.	3.2	98
29	Consequences of variation in flowering phenology for seed head herbivory and reproductive success in Erigeron glaucus (Compositae). Oecologia, 1992, 89, 588-595.	2.0	96
30	Effects of an early-season folivorous moth on the success of a later-season species, mediated by a change in the quality of the shared host, Lupinus arboreus Sims. Oecologia, 1986, 69, 354-359.	2.0	95
31	How leaf domatia and induced plant resistance affect herbivores, natural enemies and plant performance. Oikos, 2000, 89, 70-80.	2.7	94
32	Deciphering the language of plant communication: volatile chemotypes of sagebrush. New Phytologist, 2014, 204, 380-385.	7.3	88
33	Costs and Benefits of Induced Resistance and Plant Density for a Native Shrub, Gossypium Thurberi. Ecology, 1993, 74, 9-19.	3.2	87
34	TACHINID PARASITOIDS AFFECT HOST PLANT CHOICE BY CATERPILLARS TO INCREASE CATERPILLAR SURVIVAL. Ecology, 1997, 78, 603-611.	3.2	87
35	Predicting novel herbivoreâ€"plant interactions. Oikos, 2013, 122, 1554-1564.	2.7	81
36	Communication between sagebrush and wild tobacco in the field. Biochemical Systematics and Ecology, 2001, 29, 995-1005.	1.3	79

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37	Acquired immunity to herbivory and allelopathy caused by airborne plant emissions. Phytochemistry, 2010, 71, 1642-1649.	2.9	78
38	Neighbourhood affects a plant's risk of herbivory and subsequent success. Ecological Entomology, 1997, 22, 433-439.	2.2	70
39	Evolution of Prolonged Development: A Life Table Analysis for Periodical Cicadas. American Naturalist, 1997, 150, 446-461.	2.1	69
40	PLANT PHASE CHANGE AND RESISTANCE TO HERBIVORY. Ecology, 1999, 80, 510-517.	3.2	69
41	Periodical cicada nymphs impose periodical oak tree wood accumulation. Nature, 1980, 287, 326-327.	27.8	66
42	Community Organization of Erigeron Glaucus Folivores: Effects of Competition, Predation, and Host Plant. Ecology, 1989, 70, 1028-1039.	3.2	65
43	Specificity of constitutive and induced resistance: pigment glands influence mites and caterpillars on cotton plants. Entomologia Experimentalis Et Applicata, 2000, 96, 39-49.	1.4	64
44	Jasmonic Acid Induced Resistance in Grapevines to a Root and Leaf Feeder. Journal of Economic Entomology, 2000, 93, 840-845.	1.8	64
45	A Phylogenetic Reconstruction of Constitutive and Induced Resistance inGossypium. American Naturalist, 1997, 149, 1139-1146.	2.1	63
46	Induced Resistance and Susceptibility to Herbivory: Plant Memory and Altered Plant Development. Ecology, 1995, 76, 1220-1225.	3.2	61
47	Plant age, communication, and resistance to herbivores: young sagebrush plants are better emitters and receivers. Oecologia, 2006, 149, 214-220.	2.0	59
48	Crowding and a Plant's Ability to Defend Itself Against Herbivores and Diseases. American Naturalist, 1989, 134, 749-760.	2.1	57
49	RELAXATION OF INDUCED INDIRECT DEFENSES OF ACACIAS FOLLOWING EXCLUSION OF MAMMALIAN HERBIVORES. Ecology, 2004, 85, 609-614.	3.2	56
50	Physiological tolerance, climate change, and a northward range shift in the spittlebug, Philaenus spumarius. Ecological Entomology, 2004, 29, 251-254.	2.2	55
51	THE SPECIFICITY OF EAVESDROPPING ON SAGEBRUSH BY OTHER PLANTS. Ecology, 2004, 85, 1846-1852.	3.2	54
52	The ecology and evolution of induced responses to herbivory and how plants perceive risk. Ecological Entomology, 2020, 45, 1-9.	2.2	53
53	Interplant volatile signaling in willows: revisiting the original talking trees. Oecologia, 2013, 172, 869-875.	2.0	52
54	Insect herbivores selectively suppress the <scp>HPL</scp> branch of the oxylipin pathway in host plants. Plant Journal, 2013, 73, 653-662.	5.7	52

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55	Error management in plant allocation to herbivore defense. Trends in Ecology and Evolution, 2015, 30, 441-445.	8.7	51
56	Flight and dispersal of periodical cicadas. Oecologia, 1981, 49, 385-390.	2.0	50
57	Induced defense in Nicotiana attenuata (Solanaceae) fruit and flowers. Oecologia, 2006, 146, 566-571.	2.0	50
58	Experimental clipping of sagebrush inhibits seed germination of neighbours. Ecology Letters, 2007, 10, 791-797.	6.4	50
59	Heteroblasty in<i>Eucalyptus globulus</i>(Myricales: Myricaceae) Affects Ovipositonal and Settling Preferences of<i>Ctenarytaina eucalypti</i>and<i>C. spatulata</i>(Homoptera: Psyllidae). Environmental Entomology, 2001, 30, 1144-1149.	1.4	49
60	Host-Plant-Mediated Interactions between a Generalist Folivore and its Tachinid Parasitoid. Journal of Animal Ecology, 1993, 62, 465.	2.8	48
61	Mechanisms of interspecific competition that result in successful control of Pacific mites following inoculations of Willamette mites on grapevines. Oecologia, 1995, 103, 157-161.	2.0	48
62	Resistance against spider mites in cotton induced by mechanical abrasion. Entomologia Experimentalis Et Applicata, 1985, 37, 137-141.	1.4	47
63	Induced Resistance and Plant Density of a Native Shrub, Gossypium Thurberi, Affect Its Herbivores. Ecology, 1993, 74, 1-8.	3.2	45
64	Deciduous leaf drop reduces insect herbivory. Oecologia, 2007, 153, 81-88.	2.0	45
65	Induced resistance to herbivores and the information content of early season attack. Oecologia, 1996, 107, 379-385.	2.0	43
66	Plant Communication. Annual Review of Ecology, Evolution, and Systematics, 2021, 52, 1-24.	8.3	43
67	Patchiness, Density, and Aggregative Behavior in Sympatric Allochronic Populations of 17-Year Cicadas. Ecology, 1981, 62, 1525-1535.	3.2	41
68	NEGATIVE EFFECTS OF VERTEBRATE HERBIVORES ON INVERTEBRATES IN A COASTAL DUNE COMMUNITY. Ecology, 2008, 89, 1972-1980.	3.2	41
69	Diet mixing enhances the performance of a generalist caterpillar, <i>Platyprepia virginalis</i>. Ecological Entomology, 2010, 35, 92-99.	2.2	41
70	Caterpillar Basking Behavior and Nonlethal Parasitism by Tachinid Flies. Journal of Insect Behavior, 1998, 11, 713-723.	0.7	39
71	Opposite Density Effects of Nymphal and Adult Mortality for Periodical Cicadas. Ecology, 1984, 65, 1656-1661.	3.2	37
72	Geographic dialects in volatile communication between sagebrush individuals. Ecology, 2016, 97, 2917-2924.	3.2	36

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73	Arctiid larvae survive attack by a tachinid parasitoid and produce viable offspring. Ecological Entomology, 1990, 15, 361-362.	2.2	35
74	Sexual Selection, Body Size and Sex-related Mortality in the Cicada Magicicada cassini. American Midland Naturalist, 1983, 109, 324.	0.4	34
75	Indirect effects of the mosquitofish Gambusia affinis on the mosquito Culex tarsalis. Limnology and Oceanography, 1990, 35, 767-771.	3.1	31
76	Induced resistance against spider mites in cotton: Field verification. Entomologia Experimentalis Et Applicata, 1986, 42, 239-242.	1.4	30
77	Genotypic Variation in Constitutive and Induced Resistance in Grapes against Spider Mite (Acari:) Tj ETQq1 1 0.784314 rgBT /Overlock	1.4	30
78	An Air Transfer Experiment Confirms the Role of Volatile Cues in Communication between Plants. American Naturalist, 2010, 176, 381-384.	2.1	30
79	Behavioural response of spider mites (Tetranychus urticae) to induced resistance of cotton plants. Ecological Entomology, 1986, 11, 181-188.	2.2	29
80	Are Defenses of Wild Radish Populations Well Matched with Variability and Predictablity of Herbivory?. Evolutionary Ecology, 2004, 18, 283-301.	1.2	29
81	Associational resistance for muleâ€™s ears with sagebrush neighbors. Plant Ecology, 2007, 191, 295-303.	1.6	29
82	Host Characteristics, Sampling Intensity, and Species Richness of Lepidoptera Larvae on Broad-Leaved Tress in Southern Ontario. Ecology, 1983, 64, 636-641.	3.2	26
83	Induced Resistance in Wild Tobacco with Clipped Sagebrush Neighbors: The Role of Herbivore Behavior. , 2001, 14, 147-156.		26
84	Jasmonic Acid: A Vaccine Against Leafminers (Diptera: Agromyzidae) in Celery. Environmental Entomology, 2003, 32, 1196-1202.	1.4	26
85	Seasonality of herbivory and communication between individuals of sagebrush. Arthropod-Plant Interactions, 2008, 2, 87-92.	1.1	26
86	Predation and associational refuge drive ontogenetic niche shifts in an arctiid caterpillar. Ecology, 2015, 96, 80-89.	3.2	25
87	Induced resistance in rice against insects. Bulletin of Entomological Research, 2007, 97, 327-335.	1.0	24
88	Population dynamics of an Arctiid caterpillarâ€“tachinid parasitoid system using stateâ€space models. Journal of Animal Ecology, 2010, 79, 650-661.	2.8	24
89	Longâ€term demographic consequences of eavesdropping for sagebrush. Journal of Ecology, 2012, 100, 932-938.	4.0	24
90	Nonâ€trophic effects of litter reduce ant predation and determine caterpillar survival and distribution. Oikos, 2013, 122, 1362-1370.	2.7	23

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91	Prolonged Development in Cicadas. Proceedings in Life Sciences, 1986, , 222-235.	0.5	23
92	Advances in the Evolution and Ecology of 13- and 17-Year Periodical Cicadas. Annual Review of Entomology, 2022, 67, 457-482.	11.8	23
93	A comparison of plants and animals in their responses to risk of consumption. Current Opinion in Plant Biology, 2016, 32, 1-8.	7.1	22
94	As temperature increases, predator attack rate is more important to survival than a smaller window of prey vulnerability. Ecology, 2018, 99, 1584-1590.	3.2	22
95	A judgment and decisionâ€making model for plant behavior. Ecology, 2018, 99, 1909-1919.	3.2	22
96	Complex Consequences of Herbivory and Interplant Cues in Three Annual Plants. PLoS ONE, 2012, 7, e38105.	2.5	22
97	Precipitation affects plant communication and defense. Ecology, 2017, 98, 1693-1699.	3.2	21
98	Effects of local density on fecundity and mating speed for periodical cicadas. Oecologia, 1981, 51, 260-264.	2.0	20
99	Leaf drop affects herbivory in oaks. Oecologia, 2013, 173, 925-932.	2.0	20
100	Chewing sandpaper: grit, plant apparency, and plant defense in sandâ€entrapping plants. Ecology, 2016, 97, 826-833.	3.2	20
101	Wet years have more caterpillars: interacting roles of plant litter and predation by ants. Ecology, 2017, 98, 2370-2378.	3.2	20
102	Neighbors affect resistance to herbivory â€" a new mechanism. New Phytologist, 2010, 186, 564-566.	7.3	19
103	Facilitation of tiger moths by outbreaking tussock moths that share the same host plants. Journal of Animal Ecology, 2012, 81, 1095-1102.	2.8	19
104	Vascular Systemic Induced Resistance For Artemisia cana and Volatile Communication for Artemisia douglasiana. American Midland Naturalist, 2008, 159, 468-477.	0.4	17
105	The importance of host plant limitation for caterpillars of an arctiid moth (Platyprepia virginalis) varies spatially. Ecology, 2012, 93, 2216-2226.	3.2	17
106	Longâ€Term Habitat Selection and Chronic Root Herbivory: Explaining the Relationship between Periodical Cicada Density and Tree Growth. American Naturalist, 2009, 173, 105-112.	2.1	16
107	Plant communication â€" why should plants emit volatile cues?. Journal of Plant Interactions, 2011, 6, 81-84.	2.1	16
108	LEAF DROP IN EVERGREENCEANOTHUS VELUTINUSAS A MEANS OF REDUCING HERBIVORY. Ecology, 2008, 89, 2446-2452.	3.2	15

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109	Transient habitats limit development time for periodical cicadas. Ecology, 2014, 95, 3-8.	3.2	15
110	Caterpillars escape predation in habitat and thermal refuges. Ecological Entomology, 2015, 40, 725-731.	2.2	15
111	Volatile communication among sagebrush branches affects herbivory: timing of active cues. Arthropod-Plant Interactions, 2009, 3, 99-104.	1.1	13
112	Testing predictions of movement behaviour in a hilltopping moth. Animal Behaviour, 2017, 133, 161-168.	1.9	13
113	Mucilage binding to ground protects seeds of many plants from harvester ants: A functional investigation. Functional Ecology, 2021, 35, 2448-2460.	3.6	12
114	Effects of genetic structure of Lupinus arboreus and previous herbivory on Platyprepia virginalis caterpillars. Oecologia, 1999, 120, 268-273.	2.0	11
115	Entrapped sand as a plant defence: effects on herbivore performance and preference. Ecological Entomology, 2018, 43, 154-161.	2.2	11
116	Decline of meadow spittlebugs, a previously abundant insect, along the California coast. Ecology, 2018, 99, 2614-2616.	3.2	11
117	Proportional fitness loss and the timing of defensive investment: a cohesive framework across animals and plants. Oecologia, 2020, 193, 273-283.	2.0	11
118	Jasmonic Acid: A Vaccine Against Leafminers (Diptera: Agromyzidae) in Celery. Environmental Entomology, 2003, 32, 1196-1202.	1.4	11
119	Identity recognition and plant behavior. Plant Signaling and Behavior, 2010, 5, 854-855.	2.4	9
120	Do plantâ€"plant signals mediate herbivory consistently in multiple taxa and ecological contexts?. Journal of Plant Interactions, 2013, 8, 203-206.	2.1	9
121	Effects of trichomes on the behavior and distribution of <i><scp>P</scp>latyprepia virginalis</i> caterpillars. Entomologia Experimentalis Et Applicata, 2014, 151, 144-151.	1.4	9
122	Airborne signals of communication in sagebrush: a pharmacological approach. Plant Signaling and Behavior, 2015, 10, e1095416.	2.4	9
123	Induction of the sticky plant defense syndrome in wild tobacco. Ecology, 2019, 100, e02746.	3.2	9
124	Altered precipitation dynamics lead to a shift in herbivore dynamical regime. Ecology Letters, 2021, 24, 1400-1407.	6.4	9
125	Seasonal variation of responses to herbivory and volatile communication in sagebrush (Artemisia) Tj ETQq1 1 0.784314 rgBT /Overlock	2.4	8
126	Plant communication increases heterogeneity in plant phenotypes and herbivore movement. Functional Ecology, 2017, 31, 990-991.	3.6	8

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127	Tradeoff between resistance induced by volatile communication and over-topping vertical growth. Plant Signaling and Behavior, 2017, 12, e1309491.	2.4	8
128	Effect of genetic relatedness on volatile communication of sagebrush (<i>Artemisia tridentata</i>). Journal of Plant Interactions, 2011, 6, 193-193.	2.1	7
129	Clonal growth of sagebrush (<i>Artemisia tridentata</i>) (Asteraceae) and its relationship to volatile communication. Plant Species Biology, 2012, 27, 69-76.	1.0	7
130	CHEMOTYPIC Variation in Volatiles and Herbivory for Sagebrush. Journal of Chemical Ecology, 2016, 42, 829-840.	1.8	7
131	Feeding and damageâ€induced volatile cues make beetles disperse and produce a more even distribution of damage for sagebrush. Journal of Animal Ecology, 2020, 89, 2056-2062.	2.8	7
132	Effects of a multi-year drought on a drought-adapted shrub, Artemisia tridentata. Plant Ecology, 2017, 218, 547-554.	1.6	6
133	The effects of pulsed fertilization and chronic herbivory by periodical cicadas on tree growth. Ecology, 2019, 100, e02705.	3.2	6
134	Chewing and other cues induce grass spines that protect meristems. Arthropod-Plant Interactions, 2019, 13, 541-550.	1.1	6
135	Assessing plant-to-plant communication and induced resistance in sagebrush using the sagebrush specialist Trirhabda pilosa. Arthropod-Plant Interactions, 2020, 14, 327-332.	1.1	6
136	Risk of herbivory negatively correlates with the diversity of volatile emissions involved in plant communication. Proceedings of the Royal Society B: Biological Sciences, 2021, 288, 20211790.	2.6	6
137	Plant age, seasonality, and plant communication in sagebrush. Journal of Plant Interactions, 2011, 6, 85-88.	2.1	5
138	Prolonged exposure is required for communication in sagebrush. Arthropod-Plant Interactions, 2012, 6, 197-202.	1.1	5
139	Precipitation-dependent sourceâ€“sink dynamics in a spatially-structured population of an outbreaking caterpillar. Landscape Ecology, 2019, 34, 1131-1143.	4.2	5
140	Why cicadas (Hemiptera: Cicadidae) develop so slowly. Biological Journal of the Linnean Society, 2022, 135, 291-298.	1.6	5
141	Individualâ€level differences in generalist caterpillar responses to a plantâ€“plant cue. Ecological Entomology, 2015, 40, 612-619.	2.2	4
142	Loss of branches due to winter storms could favor deciduousness in oaks. American Journal of Botany, 2021, 108, 2309-2314.	1.7	4
143	Unidirectional grass hairs usher insects away from meristems. Oecologia, 2019, 189, 711-718.	2.0	3
144	Effects of experimental watering but not warming on herbivory vary across a gradient of precipitation. Ecology and Evolution, 2021, 11, 2299-2306.	1.9	3

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145	Spatial and temporal refugia for an insect population declining due to climate change. Ecosphere, 2021, 12, e03820.	2.2	3
146	PlantÂinduced defenses that promote cannibalism reduce herbivory as effectively as highly pathogenic herbivore pathogens. Oecologia, 2022, 199, 397-405.	2.0	3
147	Lack of susceptibility of soil-inhabiting Platyprepia virginalis caterpillars, a native arctiid, to entomopathogenic nematodes in nature. Entomologia Experimentalis Et Applicata, 2011, 140, 28-34.	1.4	2
148	Hilltopping influences spatial dynamics in a patchy population of tiger moths. Proceedings of the Royal Society B: Biological Sciences, 2022, 289, .	2.6	2
149	Consistent individual variation in plant communication: do plants have personalities?. Oecologia, 2022, , 1.	2.0	1
150	Unidirectional trichomes in rice and prickles in <i>Andropogon virginicus</i> protect meristems from herbivory. Entomologia Experimentalis Et Applicata, 2022, 170, 934-940.	1.4	0