

SUPPLEMENTARY MATERIAL

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Revised description of the blueberry bud mite, *Acalitus vaccinii* (Acari: Trombidiformes: Eriophyidae), and a key to all Eriophyoidea on *Vaccinium*

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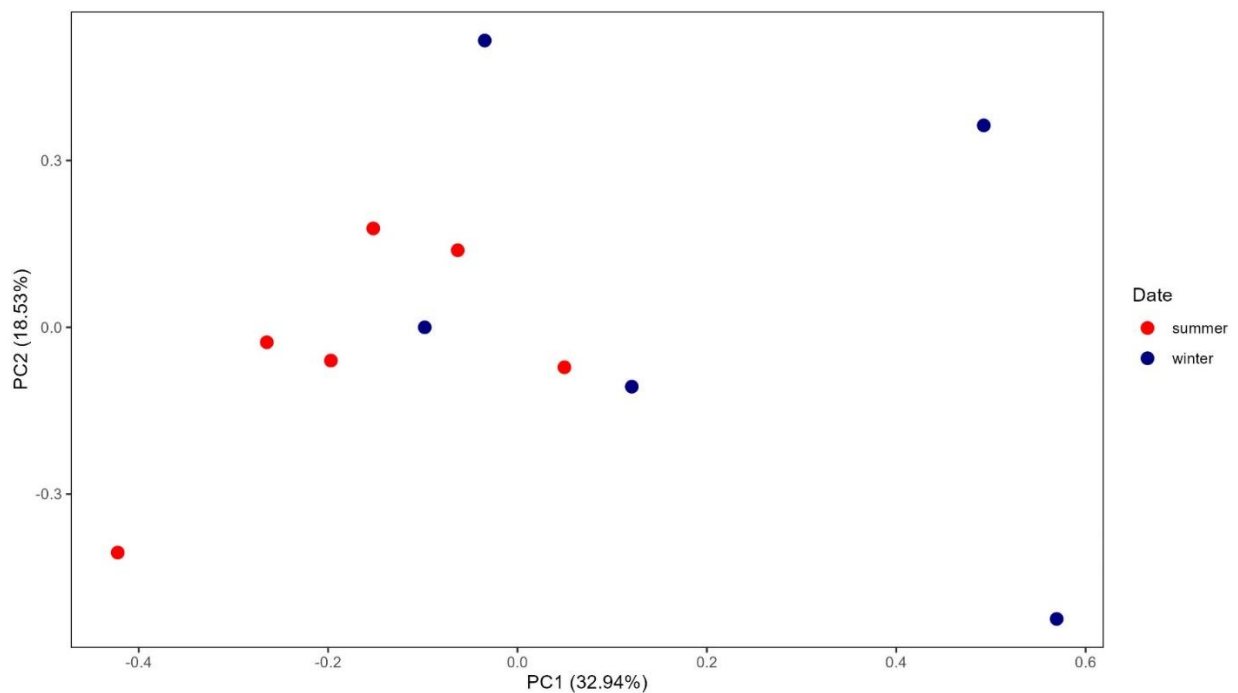


Figure S1. Illustration of principal component analysis depicting the initial two principal components, derived from the analysis of 28 morphological characters of 11 *A. vaccinii* females sampled across both summer and winter seasons.

Table S1: Measurements and counts of morphological characters of *Acalitus vaccinii* females used in the study. Measurements are in μm . Characters which were used for principal component analysis are highlighted.

	Female 1	Female 2	Female 3	Female 4	Female 5	Female 6	Female 7	Female 8	Female 9	Female 10	Female 11	Minimum	Maximum
	2015 March	2015 March	2015 March	2015 March	2015 March	2015 March	2015 July	2015 July	2015 July	2015 July	2015 July		
	Summer collection						Winter collection						
BODY SIZE													
body length (pedipalpi included)	207	206	167	175	167	221	203	223	248	229	261	167	261
idiosomal length (gnathosoma excluded)	189	186	150	154	150	200	182	201	224	208	233	150	233
body width	63	54	48	55	51	54	54	56	62	60	57	48	63
GNATHOSOMA													
length (dorsal)	20	19	17	19	21	21	22	19	22	21	23	17	23
seta <i>ep</i> (basal seta) length	5	4	4	6	4	5	4	4	4	5	4	4	6
seta <i>v</i> (apico-ventral seta) length	2	2	2	2	2	2	2	2	2	2	2	2	2
chelicerae length	18	18	18	20	20	20	20	21	23	20	25	18	25
PRODORSAL SHIELD													
length	27	24	24	25	25	26	23	27	28	26	26	23	28
width	42	45	31	45	44	45	46	47	50	46	47	31	50
seta <i>sc</i> length	22	23	21	23	20	24	22	22	22	22	24	20	24
distance between setae <i>sc</i>	23	23	23	24	22	25	23	24	25	25	25	22	25
OPISTHOSOMA													
nu annuli before <i>c2</i> (incl anullus with <i>c2</i>)	11	11	10	11	11	11	11	10	10	10	11	10	11
length seta <i>c2</i>	33	33	33	28	28	27	24	27	28	21	24	21	33
distance between setae <i>c2</i>	57	52	46	49	47	51	48	52	51	37	47	37	57
nu annuli between <i>c2</i> and <i>d</i>	11	11	12	11	11	11	10	11	12	11	12	10	12
position seta <i>d</i> (first ventral seta)	22	21	22	21	21	22	22	22	24	22	24	21	24
seta <i>d</i> length	48	32	30	47	42	30	36	47	52	32	52	30	52
distance between setae <i>d</i>	43	41	37	37	35	37	37	41	38	35	49	35	49
position setae <i>e</i> (second ventral setae)	36	35	36	35	35	36	37	37	40	37	39	35	40
nu annuli between <i>d</i> and <i>e</i>	14	13	14	14	13	15	12	13	16	15	15	12	16
seta <i>e</i> length	43	43	38	38	38	42	39	45	46	45	33	33	46
distance between setae <i>e</i>	26	26	28	25	24	24	24	26	27	28	31	24	31
position setae <i>f</i> (third ventral setae)	55	56	55	52	56	56	56	51	65	59	64	51	65

Table S1: Measurements and counts of morphological characters of *Acalitus vaccinii* females used in the study. Measurements are in μm . Characters which were used for principal component analysis are highlighted.

	Female 1	Female 2	Female 3	Female 4	Female 5	Female 6	Female 7	Female 8	Female 9	Female 10	Female 11	Minimum	Maximum
	2015 March	2015 March	2015 March	2015 March	2015 March	2015 March	2015 July	2015 July	2015 July	2015 July	2015 July		
	Summer collection						Winter collection						
tibia length (dorsally)	3	4	3	4	4	4	3	4	4	4	5	3	5
tarsus length (excluding extremities) ventrally	5	4	6	6	5	5	4	5	6	5	5	4	6
<i>em</i> (tarsal empodium) length	5	5	5	4	5	5	6	5	5	5	5	4	6
solenidion ω (tarsal solenidion) length	6	5	7	6	5	5	5	6	6	6	6	5	7
seta <i>u'</i> (mesal seta) length	2	2	1	2	2	3	1	2	2	2	2	1	3
seta <i>ft'</i> (dorsal tarsal seta) length	14	16	15	16	15	14	14	18	18	15	12	12	18
seta <i>ft''</i> (lateral tarsal seta) length	6	6	8	5	7	9	5	7	7	6	5	5	9
seta <i>l''</i> (genual seta) length	18	17	17	20	19	19	18	20	23	17	20	17	23
LEGS II													
length (from base of trochanter)	21	20	21	20	19	21	19	20	21	21	20	19	21
trochanter length (dorsal)	4	4	3	3	3	3	3	4	5	4	4	3	5
femur length (ventral)	4	5	5	6	4	5	4	5	5	3	3	3	6
genu length (dorsal/ventral)	3	3	3	2	3	3	3	3	3	4	3	2	4
tibia length (dorsally)	3	3	3	3	3	3	3	4	4	6	6	3	6
tarsus length (excluding extremities) ventrally	5	5	5	5	4	4	4	5	5	4	4	4	5
<i>em</i> (tarsal empodium) length	5	4	5	4	5	6	5	4	6	5	5	4	6
solenidion ω (tarsal solenidion) length	7	7	6	7	7	8	8	8	8		8	6	8
seta <i>u'</i> (mesal seta) length	2	2	2	2	3	3	2	3	3	2	2	2	3
seta <i>ft'</i> (dorsal tarsal seta) length	18	17	14	20	18	18	15	19	19	16	17	14	20
seta <i>ft''</i> (lateral tarsal seta) length	6	6	9	4	5	4	6	6	6	6	4	4	9
seta <i>l''</i> (genual seta) length	19	21	19	20	20	19	19	20	20	21	20	19	21
seta <i>bv</i> (femoral seta) length	4	5	4	5	4	6	4	6	6	5	5	4	6
EXTERNAL GENITALIA													
genital cover flap width	20	21	19	21	20	20	19	20	18	21	20	18	21
genital cover flap length	14	11	14	13	11	14	11	13	12	13	14	11	14
seta <i>3a</i> (genital seta) length	8	8	7	7	10	10	9	13	11	10	8	7	13
distance between setae <i>3a</i>	15	18	16	15	16	15	15	15	13	15	17	13	18

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	Female 1	Female 2	Female 3	Female 4	Female 5	Female 6	Female 7	Female 8	Female 9	Female 10	Female 11	Minimum	Maximum
	2015 March	2015 March	2015 March	2015 March	2015 March	2015 March	2015 July	2015 July	2015 July	2015 July	2015 July		
	Summer collection						Winter collection						
annuli between <i>3a</i> and <i>c2</i>	3	3	4	3	3	4	3	3	3	3	3	3	4

Table S2: Summary of the results of Principal Component Analysis showing only the first four components

	PC1	PC2	PC3	PC4
Standard deviation	3,04	2,28	1,85	1,63
Proportion of variance	0,33	0,19	0,12	0,09
Cumulative Proportion	0,33	0,51	0,64	0,73
loadings	PC1	PC2	PC3	PC4
idiosomal length (gnathosoma excluded)	0,29	0,03	-0,04	-0,02
body width	0,21	0,19	-0,04	0,04
gnathosoma length	0,26	-0,04	0,25	-0,06
prodorsal shield length	0,21	0,21	-0,28	0,11
prodorsal shield width	0,22	0,21	0,25	0,06
seta <i>sc</i> length	0,15	-0,06	0,05	0,35
length seta <i>c2</i>	-0,18	0,03	-0,20	0,13
position seta <i>d</i> (first ventral seta)	0,29	-0,06	-0,13	-0,15
seta <i>d</i> length	0,19	0,16	0,03	0,14
position setae <i>e</i> (second ventral setae)	0,29	0,02	-0,07	-0,24
seta <i>e</i> length	-0,07	0,32	-0,15	-0,16
position setae <i>f</i> (third ventral setae)	0,27	-0,14	-0,01	-0,19
seta <i>f</i> length	0,23	-0,19	-0,08	0,10
seta <i>h2</i> (caudal seta) length	0,01	0,07	-0,40	0,25
total number of dorsal annuli	0,25	-0,13	-0,11	-0,22
total number of ventral annuli	0,20	-0,24	-0,14	-0,11
coxal seta <i>1a</i> (2nd coxal seta) length	0,13	0,19	0,27	-0,03
coxal seta <i>2a</i> (3rd coxal seta) length	-0,04	0,34	0,11	0,04
coxal setae <i>2a</i> distance apart	0,20	-0,17	0,04	0,28
leg I seta <i>ft'</i> (dorsal tarsal seta) length	-0,04	0,35	-0,14	-0,15
leg I seta <i>ft''</i> (lateral tarsal seta) length	-0,04	0,01	-0,43	0,08
leg I seta <i>l''</i> (genual seta) length	0,22	0,21	-0,03	0,03
leg II tibia length (dorsally)	0,23	-0,12	-0,04	-0,08
leg II seta <i>ft'</i> (dorsal tarsal seta) length	0,10	0,29	0,00	0,36
leg II seta <i>ft''</i> (lateral tarsal seta) length	-0,15	-0,03	-0,25	-0,41
genital cover flap length	0,07	-0,12	-0,37	0,25
seta <i>3a</i> (genital seta) length	0,10	0,27	-0,06	-0,17
distance between setae <i>3a</i>	-0,11	-0,26	0,12	0,18