SUPPLEMENTARY MATERIAL

African Entomology, 2024

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

NP Ngubane-Ndhlovu, I Dhanani, F Roets, DL Saccaggi

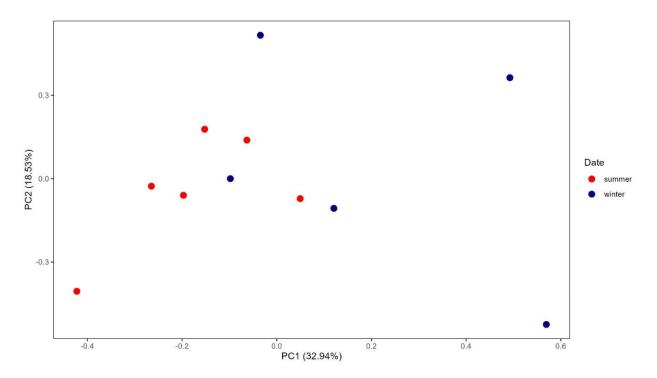


Figure S1. Illustration of principal component analysis depicting the initial two principal components, derived from the analysis of 28 morphological characters of 11 *A. vaccinii* females sampled across both summer and winter seasons.

	Female	Female	Female	Fem	Female	Female	Female	Female	Female	Female	Female		
	1	2	3	ale 4	5	6	7	8	9	10	11		
	2015 March	2015 March	2015 March	2015 Mar ch	2015 March	2015 March	2015 July	2015 July	2015 July	2015 July	2015 July	Minimum	Maximum
			Summer col	llection				W	inter colled	ction			
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 v (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 sc	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 d (first ventral seta)	22	21	22	21	21	22	22	22	24	22	24	21	24
seta d length	48	32	30	47	42	30	36	47	52	32	52	30	52
distance between setae d	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 e	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	Female	Female	Fem	Female	Female	Female	Female	Female	Female	Female		
	1	2	3	ale 4	5	6	7	8	9	10	11		
	2015 March	2015 March	2015 March	2015 Mar ch	2015 March	2015 March	2015 July	2015 July	2015 July	2015 July	2015 July	Minimum	Maximum
		9	Summer co	llection				W					
position setae <i>f</i> from rear (incl <i>f</i> annulus)	6	6	5	6	5	5	5	6	6	6	6	5	6
nu annuli betw f & h (not incl. <i>f</i> annulus)	6	7	6	6	7	7	6	7	7	6	6	6	7
nu annuli between <i>e</i> and <i>f</i>	22	19	21	21	20	21	20	21	23	22	19	19	23
seta <i>f</i> length	14	11	12	11	13	12	11	12	13	13	17	11	17
distance between setae <i>f</i>	15	16	16	17	15	15	16	16	17	18	17	15	18
seta $h2$ (caudal seta) length	57	55	58	58	46	59	46	59	55	57	54	46	59
seta <i>h1</i> (accessory seta) length	< 0.5	<0.5	<0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
number of dorsal annuli lateral to shield	2	2	2	5	3	3	3	4	3	2	2	2	5
number of dorsal annuli (start beneath the shield)	63	69	75	59	64	77	71	68	85	72	86	59	86
total number of dorsal annuli	65	71	77	65	67	76	74	72	88	74	88	65	88
total number of ventral annuli	61	61	67	64	63	65	61	57	70	70	72	57	72
COXAL AREA													
coxal seta 1a (2nd coxal seta) length	20	22	17	23	17	21	25	21	24	20	21	17	25
coxal setae 1a distance apart	13	14	12	13	13	16	13	12	13	13	14	12	16
coxal seta 1b (1st coxal seta) length	6	6	5	6	5	6	6	5	7	5	5	5	7
coxal setae 1b distance apart	9	10	7	8	9	9	8	8	8	8	8	7	10
coxal seta 2a (3rd coxal seta) length	33	29	23	29	25	23	31	36	28	24	24	23	36
coxal setae 2a distance apart	23	24	22	23	24	25	22	22	24	23	25	22	25
distance setae 1a to 2a	7	7	7	7	7	7	6	7	8	8	8	6	8
No. of complete annuli in coxi-genital region	0	0	0	0	0	0	0	0	0	0	0	0	0
No. of half annuli in coxi-genital region	3	3	3	2	3	3	0	2	2	2	3	0	3
total number of annuli in coxi-genital region	3	3	3	2	3	3	0	2	2	2	3	0	3
LEGS I							-						
length (from base of trochanter)	21	21	23	21	21	22	20	23	25	23	20	20	25
trochanter length (dorsal)	4	5	4	5	5	5	4	4	5	4	4	4	5
femur length (ventral)	5	4	5	5	5	7	5	5	5	5	3	3	7
genu length (dorsal/ventral)	3	3	3	3	3	3	3	3	3	3	3	3	3

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	Female	Female	Female	Fem	Female	Female	Female	Female	Female	Female	Female		
	1	2	3	ale 4	5	6	7	8	9	10	11		l
	2015 March		2015 March	2015 Mar ch	2015 March	2015 March	2015 July	2015 July	2015 July	2015 July	2015 July	Minimum	Maximum
		5	Summer col	llection				W					
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
em (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 u'(mesal seta) length	2	2	1	2	2	3	1	2	2	2	2	1	3
seta ft'(dorsal tarsal seta) length	14	16	15	16	15	14	14	18	18	15	12	12	18
seta ft" (lateral tarsal seta) length	6	6	8	5	7	9	5	7	7	6	5	5	9
seta l" (genual seta) length	18	17	17	20	19	19	18	20	23	17	20	17	23
LEGS II				1									
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
em (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 ft'(dorsal tarsal seta) length	18	17	14	20	18	18	15	19	19	16	17	14	20
seta ft" (lateral tarsal seta) length	6	6	9	4	5	4	6	6	6	6	4	4	9
seta l'' (genual seta) length	19	21	19	20	20	19	19	20	20	21	20	19	21
seta bv (femoral seta) length	4	5	4	5	4	6	4	6	6	5	5	4	6
EXTERNAL GENITALIA				1									
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 3a (genital seta) length	8	8	7	7	10	10	9	13	11	10	8	7	13
distance between setae 3a	15	18	16	15	16	15	15	15	13	15	17	13	18

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		5	Summer co	llection				W	inter colle	ction			
annuli between <i>3a</i> and <i>c2</i>	3	3	4	3	3	4	3	3	3	3	3	3	4

	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 d 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 e length	-0,07	0,32	-0,15	-0,16
position setae f (third ventral setae)	0,27	-0,14	-0,01	-0,19
seta f length	0,23	-0,19	-0,08	0,10
seta $h2$ (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 1a (2nd coxal seta) length	0,13	0,19	0,27	-0,03
coxal seta 2a (3rd coxal seta) length	-0,04	0,34	0,11	0,04
coxal setae 2a distance apart	0,20	-0,17	0,04	0,28
leg I seta ft' (dorsal tarsal seta) length	-0,04	0,35	-0,14	-0,15
leg I seta ft" (lateral tarsal seta) length	-0,04	0,01	-0,43	0,08
leg I seta l'' (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 ft' (dorsal tarsal seta) length	0,10	0,29	0,00	0,36
leg II seta ft" (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 3a (genital seta) length	0,10	0,27	-0,06	-0,17
distance between setae 3a	-0,11	-0,26	0,12	0,18

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