

Appendix 3. List of discrete characters encoded from indels recorded on Tropomyosin alignments

Appendix 3-1. On the whole dataset, 12 different regions with indels variable intraspecifically have been identified based on all Tropomyosin gene copies obtained from individuals belonging to *D. gallinae* (named using the first letters of alphabet, followed in some cases by a number). Additionally, insertions/deletions which were not potentially discriminant between populations of *D. gallinae* were named using ID (In/Del) followed by a number.

Character name	Presence of intraspecific variation according to presence/absence of the considered insert	Position of insert (based on alignment ISOL-TRO1)	Character state	Code	Character state	species of <i>Dermanyssus</i> concerned	Comments
ID1		37	c	1	<i>D. carpathicus</i>		
			absent	0	<i>all others</i>		
ID2		106-108	ttc	2	<i>D. gallinae</i>		
			gtc	1	<i>D. apodis</i>		
			absent	0	<i>D. carpathicus, D. hirundinis, D. longipes</i>		
A	x	130-132	gtg	1	<i>D. gallinae</i>		
			absent	0	<i>D. gallinae, D. apodis, D. carpathicus, D. hirundinis, D. longipes</i>		
ID3	x	170	g	1	<i>D. longipes (population ENVL08)</i>		
			absent	0	<i>D. gallinae, D. apodis, D. carpathicus, D. hirundinis, D. longipes</i>		
B1	x	179-184	ttgtct	1	<i>D. gallinae</i>		
			g	0	<i>D. gallinae, D. apodis, D. hirundinis, D. longipes</i>		
			tag	2	<i>D. carpathicus</i>		

Appendix 3-1. Cont.

Character name	Presence of intraspecific variation according to presence/absence of the considered insert	Position of insert (based on alignment ISOL-TRO1)	Character state	Code	Character state	species of <i>Dermanyssus</i> concerned	Comments
B2	x	195-199	ctttg	1	<i>D. gallinae</i> , <i>D. apodis</i>		
			ttttt	2	<i>D. gallinae</i>		
			cttta	3	<i>D. gallinae</i>		
			tttcg	4	<i>D. carpathicus</i> , <i>D. hirundinis</i> , <i>D. longipes</i>		
			ttttg	5	<i>D. gallinae</i>		
			absent	0	<i>D. gallinae</i>		
ID4	x	220-223	aaag	1	<i>D. hirundinis</i> , <i>D. longipes</i> (+ 1 <i>D. gallinae</i> individual 8018)		
			aaaa	2	<i>D. carpathicus</i>		
			gaag	3	<i>D. gallinae</i> , <i>D. apodis</i>		
			absent	0	<i>D. longipes</i> (population ENVL08)		
ID5		228-229	tt	1	<i>D. carpathicus</i>		
			absent	0	<i>D. gallinae</i> , <i>D. apodis</i> , <i>D. hirundinis</i> , <i>D. longipes</i>		
ID6-C1 complex	x	230-254	absent	0	<i>D. longipes</i> (population ENVL08)		
			c/tggtttgaaccgaa/ gtttgaatt	2	<i>D. carpathicus</i> , <i>D. hirundinis</i> , <i>D. longipes</i>		
			tggtttgaaccgaaaa agttag	3	<i>D. apodis</i>		numerous nucleotide mutations
			tggc/tg/ttgaaccg gaaaat/ag/ttga	3	<i>D. gallinae</i>		
			tggcgtgaa	1	<i>D. gallinae</i>		

Appendix 3-1. Cont.

Character name	Presence of intraspecific variation according to presence/absence of the considered insert	Position of insert (based on alignment ISOL-TRO1)	Character state	Code	Character state	species of <i>Dermanyssus</i> concerned	Comments
ID7-C2 complex	x	258-267	a/ctttttaaaa	2	<i>D. gallinae</i>		
			atTTTTTTta	2	<i>D. gallinae</i>		
			absent	0	<i>D. gallinae</i>		
			atgtttaaaa	2	<i>D. apodis</i>		
			gttttttaa	2	<i>D. longipes</i> (population ENVL08)		
			gttttttaa	1	<i>D. longipes</i> (population ENVL08)		
			gttttttaaaa	2	<i>D. hirundinis</i> , <i>D. longipes</i>		
			gttttaaatt	2	<i>D. carpathicus</i>		
ID8	x	273	c	1	<i>D. carpathicus</i>		
			absent	0	<i>D. gallinae</i> , <i>D. apodis</i> , <i>D. carpathicus</i> , <i>D. hirundinis</i> , <i>D. longipes</i>		
ID9		286-288	cta	2	<i>D. gallinae</i> , <i>D. apodis</i>		
			cca	1	<i>D. gallinae</i>		
			absent	0	<i>D. carpathicus</i> , <i>D. hirundinis</i> , <i>D. longipes</i>		
ID10		297-299	ttc	1	<i>D. hirundinis</i>		
			absent	0	<i>D. gallinae</i> , <i>D. apodis</i> , <i>D. carpathicus</i> , <i>D. longipes</i>		
D	x	318-322	tagta	1	<i>D. gallinae</i> , <i>D. apodis</i> , <i>D. carpathicus</i> , <i>D. hirundinis</i> , <i>D. longipes</i>		
			absent	0	<i>D. gallinae</i>		
E	x	347-353	cgctcga	1	<i>D. gallinae</i> , <i>D. apodis</i> , <i>D. hirundinis</i> , <i>D. longipes</i>		
			tgctcga	2	<i>D. carpathicus</i>		
			absent	0	<i>D. gallinae</i>		

Appendix 3-1. Cont.

Character name	Presence of intraspecific variation according to presence/absence of the considered insert	Position of insert (based on alignment ISOL-TRO1)	Character state	Code	Character state	species of <i>Dermanyssus</i> concerned	Comments
ID11		354-355	aa	1	<i>D. gallinae</i> , <i>D. carpathicus</i> , <i>D. hirundinis</i> , <i>D. longipes</i>		
			ga	2	<i>D. apodis</i>		
			absent	0	<i>D. longipes</i> (population ENVL08)		
ID12		377-380	atac	2	<i>D. apodis</i>		
			a	1	<i>D. gallinae</i> , <i>D. carpathicus</i>		
			absent	0	<i>D. hirundinis</i> , <i>D. longipes</i>		
F	x	398-408	attggacc	1	<i>D. gallinae</i> , <i>D. apodis</i>		
			attggact	5	<i>D. longipes</i>		
			atcgat	2	<i>D. carpathicus</i>		
			attggaccgac	4	<i>D. hirundinis</i>		
			attggaccgc	3	<i>D. longipes</i>		
			absent	0	<i>D. gallinae</i>		
ID13	x	415-416	cc	1	<i>D. gallinae</i> , <i>D. apodis</i> , <i>D. carpathicus</i> , <i>D. hirundinis</i> , <i>D. longipes</i>		
			c	2	<i>D. hirundinis</i>		
			absent	0	<i>D. carpathicus</i>		
G	x	422-425	gtca	1	<i>D. gallinae</i> , <i>D. apodis</i> , <i>D. carpathicus</i> , <i>D. hirundinis</i> , <i>D. longipes</i>		
			gcca	2	<i>D. gallinae</i>		
			gtcc	3	<i>D. gallinae</i>		
			gcct	4	<i>D. gallinae</i>		
			absent	0	<i>D. gallinae</i>		

Appendix 3-1. Cont.

Character name	Presence of intraspecific variation according to presence/absence of the considered insert	Position of insert (based on alignment ISOL-TRO1)	Character state	Code	Character state	species of Dermanyssus concerned	Comments
H	x	426-433	ggcggc	1	<i>D. gallinae</i>		
			ggcggctc	2	<i>D. apodis</i>		
			absent	0	<i>D. gallinae, D. carpathicus, D. hirundinis, D. longipes</i>		
ID14	x	445-449	tgaag	1	<i>D. carpathicus</i>		
			tgaaa	2	<i>D. carpathicus</i>		
			c	3	<i>D. gallinae (one individual)</i>		
			absent	0	<i>D. gallinae, D. apodis, D. hirundinis, D. longipes</i>		
ID15		453-455	ctg	1	<i>D. gallinae, D. apodis</i>		
			absent	0	<i>D. carpathicus, D. hirundinis, D. longipes</i>		
ID16		464-467	agct	1	<i>D. apodis</i>		
			absent	0	<i>D. gallinae, D. carpathicus, D. hirundinis, D. longipes</i>		
ID17		483	g	1	<i>D. gallinae, D. apodis, D. carpathicus, D. hirundinis, D. longipes</i>		
			absent	0	<i>D. hirundinis</i>		
ID18		506-508	atg	1	<i>D. gallinae, D. apodis</i>		
			absent	0	<i>D. carpathicus, D. hirundinis, D. longipes</i>		
J	x	564-582	TGAx2	1	<i>D. gallinae</i>		TGC instead of TGA in some cases
			TGAx3	2	<i>D. gallinae</i>		TGC instead of TGA in some cases
			TGAx4	3	<i>D. gallinae</i>		TGC instead of TGA in some cases
			TGAx5	4	<i>D. gallinae</i>		TGC instead of TGA in some cases
			TGAx6	5	<i>D. gallinae</i>		TGC instead of TGA in some cases

Appendix 3-1. Cont.

Character name	Presence of intraspecific variation according to presence/absence of the considered insert	Position of insert (based on alignment ISOL-TRO1)	Character state	Code	Character state	species of Dermanyssus concerned	Comments
			TGAx3 + CGGA	6	<i>D. apodis</i>		
			absent	0	<i>D. carpathicus, D. hirundinis, D. longipes</i>		
ID19		599-601	tcg	1	<i>D. gallinae, D. apodis</i>		
			absent	0	<i>D. carpathicus, D. hirundinis, D. longipes</i>		
ID20		636	g	1	<i>D. gallinae</i>		
			absent	0	<i>D. apodis, D. carpathicus, D. hirundinis, D. longipes</i>		
ID21		639-340	tg	1	<i>D. gallinae, D. apodis, D. longipes</i>		
			cg	2	<i>D. hirundinis</i>		
			absent	0	<i>D. carpathicus</i>		
ID22	x	684	a	1	<i>D. gallinae</i>		
			absent	0	<i>D. gallinae, D. apodis, D. carpathicus, D. hirundinis, D. longipes</i>		
ID23		688-690	gca	1	<i>D. gallinae, D. apodis</i>		
			absent	0	<i>D. carpathicus, D. hirundinis, D. longipes</i>		

Appendix 3-2. Cont.

Character n°	1111111112222222223333
Haplotype n°	123456789012345678901234567890123
Tro_1	010011103201011111110101011411101
Tro_2	0100011032010111111011101011311101
Tro_3	0100111032010111111011101011311101
Tro_4	0100111032010111111111101011411101
Tro_5	0110111032010111111111101011411101
Tro_6	0110111032010111111111101011411101
Tro_7	0100001032010111111011101011311101
Tro_8	0100111032010111111111101011311101
Tro_9	0100111032010111111111101011311101
Tro_10	0100111032010111111111101011311101
Tro_11	0100111032010111111111101011311101
Tro_12	0100111032010111111111101011311101
Tro_13	0100111032010111111111101011311101
Tro_14	0100111032010111111111101011311101
Tro_15	0100111032010111111111101011311101
Tro_16	0100111032010111111111101011211101
Tro_17	0100111032010111111111101011311101
Tro_18	0100011032010111111111101011311101
Tro_19	0100011032010111111111101011311101
Tro_20	0100011032010111111111101011311101
Tro_21	0100111032010111111110101011311101
Tro_22	0110111032010101111111101011311101
Tro_23	010001103201001111112001011211101
Tro_24	0110111032010111111111101011411101
Tro_25	010001103201001111112001011211101
Tro_26	0100111032010111111010101011311101
Tro_27	0110111012010111111111101011511101
Tro_28	020001103211011212111301111610101
Tro_29	020001103211011212111201111610101
Tro_30	100021112200012101111010010000000
Tro_31	100021112200012101111010010000000
Tro_32	100021112200012101111010010000000
Tro_33	100021112200012101111010010000000
Tro_34	100021112200012101111010010000000
Tro_35	100021112200012101111010010000000
Tro_36	100021112200012101111010010000000
Tro_37	100021112200012101111010010000000
Tro_38	100021112200012101111010010000000
Tro_39	100021112200012101111010010000000
Tro_40	100021112200012101101010010000000
Tro_41	000001102220011110113000010000100
Tro_42	0000011022201111110121000010000200
Tro_43	0000011022201111110121000010000200
Tro_44	000001102220111110111000000000200
Tro_45	000101000120011010111000010000100

Appendix 3-2. Matrix of encoded In/Del.

Character n°	111111111122222222223333
Haplotype n°	123456789012345678901234567890123
Tro_46	000101000120011010111000010000100
Tro_47	000101000120011010111000010000100
Tro_48	000101000220011010111000010000100
Tro_49	011011103201011111111101011411101
Tro_50	011011103201011111111101011411101
Tro_51	011011103201011111111101011411101
Tro_52	011011103201001111112001011111101
Tro_53	010001103201001111114001011111101
Tro_54	011011103201011111111101011511101
Tro_55	010000103201011111011101011311101
Tro_56	010001103001011111011101011311101
Tro_57	010000103201001111112001011211101
Tro_58	011011103201001111112001011111101
Tro_59	010011103201001111112001011211111
Tro_60	011011103201001111112031011111101
Tro_D._hirsutus	100001102221011110111300011100101
Tro_T._pyri	000131?0002001011000000000100????
Tro_O._bacoti	100031?0040002111??1?01001000????