

Appendix 1. Frequency (F), observed cumulative frequency (CF), predicted cumulative frequency by the random mobility model (CFR) and predicted cumulative frequency by the minimum mobility model (CFM), for each species in each quadrat and year: (a) 1/16 scale and (b) 1/256 scale. (*) significant lower (CFR) or greater (CFM) at p=0.05, (**) at p=0.01 and (***) at p=0.001

a

		Quadrat 1				Quadrat 2			
		1996	1997	1998	1999	1996	1997	1998	1999
<i>Ant</i>	F	68.8	75.0	43.8	62.5	68.8	43.8	81.3	93.8
	CF		81.3	81.3	81.3		75.0	87.5	100.0
	CFR		92.2	95.6*	98.2**		82.5	96.7	99.8
	CFM		75.0***	75.0***	83.0		68.8***	89.8***	96.6
<i>Aru</i>	F	50.0	50.0	81.3	98.3	50.0	62.5	68.8	93.8
	CF		56.3	93.8	100.0		75.0	87.5	93.8
	CFR		75.0**	95.3	99.7		81.2	93.9	99.6
	CFM		50.0***	81.3***	93.8***		62.5***	68.8***	93.8
<i>Axa</i>	F	31.3	37.5	31.3	31.3	0.0	0.0	0.0	12.5
	CF		43.8	50.0	56.3		0.0	0.0	12.5
	CFR		57.0*	70.3**	79.5***		0.0	0.0	12.5
	CFM		37.5***	37.5***	37.5***		0.0	0.0	12.5
<i>Bol</i>	F	62.5	50.0	62.5	62.5	25.0	0.0	18.8	100.0
	CF		62.5	68.8	68.8		25.0	31.3	100.0
	CFR		81.3**	92.9***	97.4***		25.0	39.2	100.0
	CFM		62.5	71.9	71.9		25.0	39.0	100.0
<i>Buj</i>	F	62.5	75.0	37.5	56.3	75.0	56.3	50.0	68.8
	CF		81.3	87.5	93.8		87.5	93.8	93.8
	CFR		90.7	94.0	97.3		89.0	94.5	98.2
	CFM		75.0***	75.0***	82.5*		75.0***	75.0***	84.3
<i>Cap</i>	F	68.8	50.0	100.0	100.0	43.8	87.5	100.0	100.0
	CF		68.8	100.0	100.0		93.8	100.0	100.0
	CFR		84.4*	100.0	100.0		93.0	100.0	100.0
	CFM		68.8	100.0	100.0		87.5***	100.0	100.0
<i>Che</i>	F	62.5	75.0	93.8	68.8	93.8	68.8	75.0	62.5
	CF		75.0	100.0	100.0		93.8	93.8	93.8
	CFR		90.4**	99.3	99.8		98	99.5	99.8*
	CFM		75.0	93.8***	93.8***		93.8	95.0	95.0
<i>Chp</i>	F	75.0	56.3	81.3	81.3	100.0	93.8	100.0	100.0
	CF		75.0	81.3	81.3		100.0	100.0	100.0
	CFR		89.2*	97.9*	99.6***		100.0	100.0	100.0
	CFM		75.0	89.2	89.2		100.0	100.0	100.0
<i>Chs</i>	F	56.3	37.5	56.3	62.5	31.3	43.8	68.8	43.8
	CF		56.3	62.5	81.3		43.8	75.0	75.0
	CFR		72.6*	88.0***	95.5*		61.2**	87.8	93.1**
	CFM		56.3	69.0	73.7		43.8	68.8***	68.8***
<i>Oxm</i>	F	87.5	31.3	37.5	62.5	93.8	68.8	31.3	56.3
	CF		87.5	93.8	93.8		93.8	93.8	93.8
	CFR		91.4	94.5	97.9		98.1	98.7	99.4
	CFM		87.5	88.7	93.0		93.8	93.8	96.0
<i>Pat</i>	F	6.3	0.0	6.3	43.8	93.8	87.5	100.0	87.5
	CF		6.3	6.3	43.8		93.8	100.0	100.0
	CFR		6.3	12.1	50.4		99.2	100.0	100.0
	CFM		6.3	12.1	47.3		93.8	100.0	100.0
<i>Rih</i>	F	6.3	6.3	6.3	18.3	12.5	37.5	37.5	68.8
	CF		6.3	12.5	25		37.5	37.5	68.8
	CFR		12.1	17.6	33.0		45.3	65.6***	84.4***
	CFM		6.3	6.3***	18.8***		37.5	37.5	68.8
<i>Sct</i>	F	81.3	87.5	87.5	100.0	68.8	75.0	100.0	100.0
	CF		87.5	93.8	100.0		75.0	100.0	100.0
	CFR		97.6*	99.7*	100.0		92.2*	100.0	100.0
	CFM		87.5	87.5***	100.0		75.0	100.0	100.0

		Quadrat 3				Quadrat 4			
		1996	1997	1998	1999	1996	1997	1998	1999
<i>Ant</i>	F	87.5	93.8	100.0	100.0	87.5	93.8	100.0	93.8
	CF		100.0	100.0	100.0		93.8	100.0	100.0
	CFR		99.2	100.0	100.0		99.3	100.0	100.0
	CFM		93.8***	100.0	100.0		93.8	100.0	100.0
<i>Aru</i>	F	68.8	75.0	93.8	81.3	25.0	93.8	100.0	100.0
	CF		87.5	100.0	100.0		93.8	100.0	100.0
	CFR		92.2	99.6	100.0		95.3	100.0	100.0
	CFM		75.0***	93.8***	93.8***		93.8	100.0	100.0
<i>Axa</i>	F	0.0	0.0	0.0	6.3	37.5	25.0	31.3	43.8
	CF		0.0	0.0	6.3		43.8	43.8	56.3
	CFR		0.0	0.0	6.3		53.1	67.6***	81.8***
	CFM		0.0	0.0	6.3		37.5***	42.7	53.1
<i>Bol</i>	F	43.8	43.8	6.3	62.5	37.5	0.0	6.3	12.5
	CF		62.5	62.5	75.0		37.5	43.8	43.8
	CFR		68.4	70.4	88.8*		37.5	41.4	48.7
	CFM		43.8***	43.8***	77.4		37.5	41.4	45.4
<i>Buj</i>	F	68.8	81.3	6.3	25.0	56.3	50.0	31.3	56.3
	CF		100.0	100.0	100.0		75.0	75.0	75.0
	CFR		94.2	94.5	95.8		78.1	85.0	93.4**
	CFM		81.3***	81.3***	85.1***		56.3***	56.3***	72.1
<i>Cap</i>	F	93.8	37.5	100.0	100.0	100.0	87.5	93.8	100.0
	CF		93.8	100.0	100.0		100.0	100.0	100.0
	CFR		96.2	100.0	100.0		100.0	100.0	100.0
	CFM		93.8	100.0	100.0		100.0	100.0	100.0
<i>Che</i>	F	93.8	81.3	81.3	87.5	87.5	68.8	56.3	62.5
	CF		93.8	100.0	100.0		100.0	100.0	100.0
	CFR		98.8	99.8	100.0		96.1	98.3	99.3
	CFM		93.8	93.8***	95.8		87.5***	87.5***	89.3***
<i>Chp</i>	F	100.0	93.8	100.0	100.0	93.8	68.8	100.0	100.0
	CF		100.0	100.0	100.0		100.0	100.0	100.0
	CFR		100.0	100.0	100.0		98.0	100.0	100.0
	CFM		100.0	100.0	100.0		93.8	100.0	100.0
<i>Chs</i>	F	56.6	6.3	25.0	18.8	50.0	37.5	56.3	56.3
	CF		56.3	56.3	56.3		50.0	62.5	68.8
	CFR		59.0	69.2*	75.0**		69.3**	86.5***	93.9***
	CFM		56.3	65.1	65.1		50.0	65.0	65.0
<i>Oxm</i>	F	100.0	68.8	62.5	81.3	100.0	56.3	87.5	93.8
	CF		100.0	100.0	100.0		100.0	100.0	100.0
	CFR		100.0	100.0	100.0		100.0	100.0	100.0
	CFM		100.0	100.0	100.0		100.0	100.0	100.0
<i>Pat</i>	F	25.0	18.8	6.3	31.3	62.5	81.3	68.8	87.5
	CF		31.3	31.3	56.3		81.3	87.5	93.8
	CFR		39.1	42.8*	60.6		93.0*	97.8*	99.7*
	CFM		25.0***	25.0***	45.0***		81.3	81.3	92.5
<i>Rih</i>	F	0	6.3	0.0	6.3	31.3	25.0	31.3	25.0
	CF		6.3	6.3	12.5		37.5	37.5	37.5
	CFR		6.3	6.3	12.1		48.4	64.4***	73.3***
	CFM		6.3	6.3	12.1		31.3***	37.0	37.0
<i>Sct</i>	F	87.5	93.8	100.0	100.0	62.5	93.8	100.0	100.0
	CF		93.8	100.0	100.0		93.8	100.0	100.0
	CFR		99.3	100.0	100.0		97.6	100.0	100.0
	CFM		93.8	100.0	100.0		93.8	100.0	100.0

b

		Quadrat 1				Quadrat 2			
		1996	1997	1998	1999	1996	1997	1998	1999
<i>Ant</i>	F	16.4	16.8	11.3	11.3	16	9.4	12.1	21.5
	CF		23.8	27.7	30.9		18.4	23	36.7
	CFR		30.4***	34.8***	45.3***		23.9***	33.1***	47.5***
	CFM		16.8***	16.8***	16.8***		16.0***	18.6***	27.2***
<i>Aru</i>	F	6.6	6.6	12.5	18.8	7.8	5.9	11.3	19.9
	CF		11.7	21.5	31.6		12.1	19.1	29.7
	CFR		12.8*	23.7**	38.0***		13.2*	23.1***	38.4***
	CFM		6.6***	12.5***	18.8***		7.8***	13.2***	21.6***
<i>Axa</i>	F	4.3	3.5	2.7	3.9	0.0	0.0	0.0	2.0
	CF		6.6	8.6	10.2		0.0	0.0	2.0
	CFR		7.7**	10.2***	13.7***		0.0	0.0	2.0
	CFM		4.3***	4.3***	5.5***		0.0	0.0	2.0
<i>Bol</i>	F	9.4	11.3	13.7	14.5	1.6	0.0	2.0	9.8
	CF		14.1	20.7	30.1		1.6	3.5	13.3
	CFR		19.6***	31.0***	41.0***		1.6	3.5	12.9
	CFM		11.3***	13.7***	14.5***		1.6	3.5	11.2***
<i>Buj</i>	F	7.8	9.4	3.1	4.7	11.7	11.3	5.1	8.2
	CF		14.1	15.6	16.8		20.3	22.7	25.4
	CFR		16.5***	19.1***	22.9***		21.7*	25.7***	31.8***
	CFM		9.4***	9.4***	10.8***		11.7***	11.7***	14.6***
<i>Cap</i>	F	9.4	3.9	26.6	29.3	6.3	10.5	26.6	37.5
	CF		11.7	32.8	48.8		16.4	34.0	54.3
	CFR		12.9**	36.1**	54.8***		16.1	38.3***	61.5***
	CFM		9.4***	30.8***	33.3***		10.5***	26.6***	37.5***
<i>Che</i>	F	8.2	7.4	10.5	10.2	23.0	10.2	13.3	11.3
	CF		10.9	18.8	22.3		25.8	27.3	29.7
	CFR		15.0***	24.0***	31.7***		30.9***	40.0***	46.8***
	CFM		8.2***	11.3***	11.3***		23.0***	25.7***	25.7***
<i>Chp</i>	F	7.0	4.7	8.2	10.9	22.7	18.4	23.0	30.9
	CF		8.2	14.8	18.4		30.1	36.3	45.7
	CFR		11.4***	18.7***	27.6***		36.9***	51.4***	66.4***
	CFM		7.0***	10.5***	13.1***		22.7***	27.1***	34.5***
<i>Chs</i>	F	7.4	4.7	7.8	7.0	4.3	6.6	7.8	5.1
	CF		10.2	16.4	20.7		8.2	12.1	13.3
	CFR		11.8***	18.7**	24.4***		10.7***	17.6***	21.8***
	CFM		7.4***	10.5***	10.5***		6.6***	7.8***	7.8***
<i>Oxm</i>	F	15.6	2.0	5.1	8.6	21.5	6.3	3.1	5.5
	CF		16.0	19.1	23.8		23.8	25.4	27.3
	CFR		17.3**	21.5***	28.2***		26.4***	28.7***	32.6***
	CFM		15.6***	19.3***	21.3***		21.5***	21.5***	23.4***
<i>Pat</i>	F	0.8	0.0	0.4	6.3	28.9	28.1	30.9	29.7
	CF		0.8	0.8	7.0		43.4	54.7	64.5
	CFR		0.8	1.2**	7.4		48.9***	64.6***	75.1***
	CFM		0.8***	1.2***	7.0		28.9***	31.6***	31.6***
<i>Rih</i>	F	1.6	2.3	0.4	2.0	3.1	8.2	7.8	9.0
	CF		3.1	3.5	4.7		8.6	13.3	18.4
	CFR		3.9**	4.2**	6.1***		11.1***	18.0***	25.4***
	CFM		2.3***	2.3***	3.9***		8.2***	8.2***	9.4***
<i>Sct</i>	F	25.0	25.0	32.4	46.5	13.7	16.8	30.5	27.7
	CF		34.0	48.0	66.0		22.3	39.8	50.0
	CFR		43.8***	61.9***	79.6***		28.2***	50.0***	63.9***
	CFM		25.0***	32.4***	46.5***		16.8***	30.5***	30.5***

		Quadrat 3				Quadrat 4			
		1996	1997	1998	1999	1996	1997	1998	1999
<i>Ant</i>	F	27.7	31.6	31.6	24.2	23.8	34.0	37.5	21.1
	CF		39.1	51.2	61.7		43.4	56.6	60.9
	CFR		50.6***	66.2***	74.4***		49.7***	68.6***	75.2***
	CFM		31.6***	31.6***	31.6***		34.0***	37.5***	37.5***
<i>Aru</i>	F	7.0	9.8	20.7	20.7	3.1	18.0	24.2	19.5
	CF		14.1	28.1	37.5		19.5	35.9	45.3
	CFR		16.1**	33.5***	47.2***		20.5*	39.8**	51.5***
	CFM		9.8***	20.7***	20.7***		18.0***	24.2***	24.2***
<i>Axa</i>	F	0.0	0.0	0.0	0.4	6.3	3.1	4.3	6.3
	CF		0.0	0.0	0.4		7.8	9.0	11.3
	CFR		0.0	0.0	0.4		9.2***	13.1***	18.5***
	CFM		0.0	0.0	0.4		6.3***	7.4***	9.3***
<i>Bol</i>	F	8.2	9.4	1.2	9.8	5.1	0.0	0.8	3.1
	CF		14.5	14.8	20.3		5.1	5.9	8.2
	CFR		16.8**	17.8***	25.8***		5.1***	5.8***	8.8***
	CFM		9.4***	9.4***	17.2***		5.1***	5.8***	8.1***
<i>Buj</i>	F	8.6	12.5	0.4	1.6	9.0	8.2	5.5	8.6
	CF		17.2	17.6	18.8		12.9	14.1	17.2
	CFR		20.0***	20.3***	21.3***		16.5***	21.0***	27.8***
	CFM		12.5***	12.5***	13.5***		9.0***	9.0***	12.0***
<i>Cap</i>	F	12.9	3.1	21.5	22.3	16.0	17.6	36.3	45.3
	CF		14.8	29.7	39.1		27.3	46.5	61.3
	CFR		15.6	33.8***	48.4***		30.8**	55.8***	75.7***
	CFM		12.9***	29.4	30.1***		17.6***	36.3***	45.3***
<i>Che</i>	F	32.0	17.2	28.1	26.6	12.1	7.4	9.0	10.2
	CF		34.4	40.6	43.8		16.8	19.1	21.9
	CFR		43.7***	59.6***	70.4***		18.6**	25.9***	33.5***
	CFM		32.0***	41.0	41.0***		12.1***	13.6***	14.7***
<i>Chp</i>	F	24.2	10.9	20.3	28.1	15.2	9.4	21.5	19.1
	CF		27.0	33.6	44.5		18.4	28.9	33.6
	CFR		32.5***	46.1***	61.3***		23.2***	39.7***	51.2***
	CFM		24.2***	32.2*	38.9***		15.2***	26.6***	26.6***
<i>Chs</i>	F	7.4	2.0	3.1	2.0	5.1	3.1	5.5	3.9
	CF		8.2	9.4	10.2		7.4	9.8	10.9
	CFR		9.2**	12.1***	13.8***		8.0	13.1***	16.5***
	CFM		7.4***	8.5***	8.5***		5.1***	7.4***	7.4***
<i>Oxm</i>	F	26.6	7.8	10.2	14.8	23.8	6.3	13.3	17.6
	CF		28.1	32.8	41.0		26.6	33.6	43.4
	CFR		32.3***	39.1***	48.2***		28.6**	38.1***	48.9***
	CFM		26.6***	28.4***	32.2***		23.8***	29.6***	33.0***
<i>Pat</i>	F	3.9	2.3	1.2	3.9	19.9	20.3	11.3	16.4
	CF		5.1	6.3	9.8		34.8	38.7	47.7
	CFR		6.2***	7.3**	10.9*		36.2	43.4***	52.6**
	CFM		10.0***	10.0***	6.6***		20.3***	20.3***	24.9***
<i>Rih</i>	F	0.0	0.4	0.0	0.4	4.7	6.6	6.3	2.0
	CF		0.4	0.4	0.8		8.6	9.8	10.2
	CFR		0.4	0.4	0.8		11.0***	16.6***	18.2***
	CFM		0.4***	0.4***	0.8		6.6***	6.6***	6.6***
<i>Sct</i>	F	29.7	25.0	30.9	39.8	13.7	31.6	34.4	34.0
	CF		36.7	50.0	62.5		35.2	49.6	62.5
	CFR		36.7***	50.0***	62.5***		35.2***	49.6***	62.5***
	CFM		47.2***	63.5***	78.1***		41.0***	61.3***	74.4***