

SUPPORTING INFORMATION

Title: Biomagnification of PBDEs in three small terrestrial food chains

Authors: Stefan Voorspoels, Adrian Covaci, Veerle L.B. Jaspers, Hugo Neels, Paul Schepens

Tables SI-1 – SI-6 present details on levels of selected PCBs and OCPs in both prey species and in the predators of the present study. The SI consists of 7 pages.

Table SI-1. Statistical descriptors of the concentrations of the most persistent CB congeners (ng/g lw), together with the sum of all measured PCBs and mean lipid % (SD) in the prey species.

		CB					Sum all	
		CB 153	138/163	CB 170	CB 180	CB 194	PCBs *	
Rodents (n = 63; 12 pools)	Liver	Mean	78	55	16	42	3.1	300
		Median	46	34	11	38	2.3	220
		Minimum	15	8.4	< 3.4	6.0	< 0.25	61
		Maximum	270	210	39	83	12	840
		Lipid % (SD)	6.5 (1.7)					
	Muscle	Mean	52	23	7.0	27	2.1	170
		Median	27	12	< 5.9	21	< 0.50	110
		Minimum	9.3	< 6.3	< 5.9	< 10	< 0.50	24
		Maximum	190	100	27	81	11	630
		Lipid % (SD)	2.2 (0.69)					
	Brain	Mean	11	< 4.8	< 4.5	< 7.9	< 0.35	25
		Median	3.2	< 4.8	< 4.5	< 7.9	< 0.35	6.3
Minimum		3.2	< 4.8	< 4.5	< 7.9	< 0.35	4.3	
Maximum		28	15	< 4.5	< 7.9	< 0.35	72	
Lipid % (SD)		8.2 (0.64)						
Passerines	Fat (n = 25)	Mean	970	610	200	660	93	3890
		Median	780	490	140	450	67	2960
		Minimum	341	240	31	190	23	1510
		Maximum	2530	1390	680	2360	335	10100
		Lipid % (SD)	73 (7.7)					
	Eggs (n = 15)	Mean	980	700	170	560	80	4110
	Median	850	550	150	520	73	3560	
	Minimum	470	360	94	290	31	2020	
	Maximum	1960	1770	380	990	150	9670	
	Lipid % (SD)	10 (2.1)						

* Sum all PCBs includes the following congeners: PCB 28, 52, 74, 95, 99, 101, 105, 110, 118, 128, 138/163, 149, 153, 156, 170, 180, 183, 187, 194, 196/203, and 199.

Table SI-2. Statistical descriptors of the concentrations of the most persistent CB congeners (ng/g lw), together with the sum of all measured PCBs and mean lipid % (SD) in birds of prey.

		CB					Sum all	
		CB 153	138/163	CB 170	CB 180	CB 194	PCBs *	
Buzzard (n = 44)	Liver	Mean	7580	3920	2400	6020	1300	30800
		Median	1160	610	290	700	140	4450
		Minimum	64	42	15	34	7	260
		Maximum	77400	41200	24900	70800	17600	316000
		Lipid % (SD)	3.8 (1.3)					
Buzzard (n = 44)	Muscle	Mean	5740	3020	1670	4310	770	23400
		Median	1750	920	460	1130	210	6780
		Minimum	2	2	2	2	2	385
		Maximum	57800	31500	15600	47600	8270	238000
		Lipid % (SD)	4.2 (2.3)					
Sparrowhawk (n = 12)	Liver	Mean	37900	26100	9580	26600	4400	166000
		Median	15500	11000	3670	9370	1660	65500
		Minimum	2430	1770	540	1300	200	10900
		Maximum	179000	119000	43600	128000	19100	755000
		Lipid % (SD)	3.0 (1.3)					
Sparrowhawk (n = 12)	Muscle	Mean	41000	27200	10200	29700	4780	178000
		Median	14300	9520	3210	8710	1380	57700
		Minimum	360	190	87	240	1380	1350
		Maximum	211000	136000	50300	152000	21000	884000
		Lipid % (SD)	2.2 (2.0)					

* Sum all PCBs includes the following congeners: PCB 28, 52, 74, 95, 99, 101, 105, 110, 118, 128, 138/163, 149, 153, 156, 170, 180, 183, 187, 194, 196/203, and 199.

Table SI-3. Statistical descriptors of the concentrations of the most persistent CB congeners (ng/g lw), together with the sum of all measured PCBs and mean lipid % (SD) in fox.

		CB					Sum all	
		CB 153	138/163	CB 170	CB 180	CB 194	PCBs *	
Fox	Liver (n = 30)	Mean	230	170	180	560	66	1300
		Median	95	68	60	170	17	510
		Minimum	10	6	6	23	< 0.35	82
		Maximum	1480	780	1370	5350	550	9500
		Lipid % (SD)	5.8 (3.5)					
	Muscle (n = 33)	Mean	150	40	120	230	70	690
		Median	63	17	51	100	19	350
		Minimum	< 6	< 2	< 1.5	< 4	< 1	< 15
		Maximum	880	240	940	1610	640	4340
		Lipid % (SD)	3.4 (1.7)					

* Sum all PCBs includes the following congeners: PCB 28, 52, 74, 95, 99, 101, 105, 110, 118, 128, 138/163, 149, 153, 156, 170, 180, 183, 187, 194, 196/203, and 199.

Table SI-4. Statistical descriptors of the concentrations of selected OCPs (ng/g lw) and mean lipid % (SD) in the prey species.

		HCb	OxC	TN	pp-DDE	pp-DDT	
Rodents (n = 63; 12 pools)	Liver	Mean	6.5	15	1.5	19	3.3
		Median	< 6.4	15	1,1	12	2.7
		Minimum	< 6.4	< 7.5	< 1.1	6.8	< 0.7
		Maximum	74	40	3.0	55	12
		Lipid % (SD)	6.5 (1.7)				
	Muscle	Mean	< 6.4	< 7.5	< 1.1	6.40	< 0.7
		Median	< 6.4	< 7.5	< 1.1	< 4.1	< 0.7
		Minimum	< 6.4	< 7.5	< 1.1	< 4.1	< 0.7
		Maximum	11	< 7.5	< 1.1	20	< 0.7
		Lipid % (SD)	2.2 (0.69)				
	Brain	Mean	< 6.4	< 7.5	< 1.1	< 4.1	< 0.7
		Median	< 6.4	< 7.5	< 1.1	< 4.1	< 0.7
Minimum		< 6.4	< 7.5	< 1.1	< 4.1	< 0.7	
Maximum		8.0	< 7.5	< 1.1	9.5	< 0.7	
Lipid % (SD)		8.2 (0.64)					
Passerines	Fat (n = 25)	Mean	22	7,7	6,5	680	60
		Median	19	< 7.5	4.8	610	43
		Minimum	7,1	< 7.5	1.30	310	12
		Maximum	43	34	36	1450	140
		Lipid % (SD)	7.3 (7.7)				
	Eggs (n = 15)	Mean	17	12	5.7	670	40
		Median	11	3.5	3.8	590	38
		Minimum	4.1	2.3	2.1	360	15
		Maximum	34	39	13	1480	65
		Lipid % (SD)	10 (2.1)				

Table SI-5. Statistical descriptors of the concentrations of selected OCPs (ng/g lw) and mean lipid % (SD) in the birds of prey.

		HCB	OxC	TN	pp-DDE	pp-DDT	
Buzzard (n = 44)	Liver	Mean	300	1550	1200	4480	130
		Median	96	98	48	990	58
		Minimum	9.2	6.4	1.9	57	4.7
		Maximum	3720	34700	36100	37400	1310
		Lipid % (SD)	3.8 (1.3)				
	Muscle	Mean	250	880	490	21900	460
		Median	110	210	54	2160	130
		Minimum	8.5	8.2	2.4	74	5.1
		Maximum	1670	16200	11500	760000	4770
		Lipid % (SD)	4.2 (2.3)				
Sparrowhawk (n = 12)	Liver	Mean	2780	2490	1120	147000	1700
		Median	540	1190	460	128000	390
		Minimum	210	80	60	24700	56
		Maximum	13600	9610	4420	429000	14700
		Lipid % (SD)	3.0 (1.3)				
	Muscle	Mean	2420	2280	940	209000	11200
		Median	680	1740	530	125000	1410
		Minimum	13	24	10	650	360
		Maximum	13900	9510	3840	618000	100000
		Lipid % (SD)	2.2 (2.0)				

Table SI-6. Statistical descriptors of the concentrations of selected OCPs (ng/g lw) and mean lipid % (SD) in fox.

		HCB	OxC	TN	pp-DDE	pp-DDT	
FOX	Liver (n = 30)	Mean	7.7	390	48	20	2.2
		Median	5.9	210	28	9.9	1.5
		Minimum	1.3	33	2.3	< 2.1	< 0.4
		Maximum	19	2300	300	170	20
		Lipid % (SD)	5.8 (3.5)				
	Muscle (n = 33)	Mean	3.4	25	5.0	7.6	1.9
		Median	2.2	13	1.7	2.1	0.57
		Minimum	< 0.2	< 0.01	< 0.4	< 1.6	< 0.3
		Maximum	14	190	63	65	15
		Lipid % (SD)	3.4 (1.7)				