

## Supplementary material

Table S1. List of pharmaceutical compounds and their metabolites determined in common carp liver and brain tissue from groups T-T (persistent at Cezarka treatment pond), C-C (persistent at control site) and C-T (restocked from control to treatment site for six months; n=20 for each group). Concentration values presented as mean ( $\pm$  SD) and range (min-max), along with number of fish with positive detection of a particular compound (N positive) and LOQ range in ng/g wet weight. LOQ = limit of quantification. N.M. not measured.

		Liver					Brain			
		C-C group	T-T group	C-T group	LOQ range		C-C group	T-T group	C-T group	LOQ range
Antiepileptics										
Carbamazepine	Mean ± SD	<LOQ	<LOQ	<LOQ			<b>0.14</b>	<LOQ	<b>0.13</b>	
	Range				<i>0.053-0.12</i>		0.14		0.13	<i>0.074-0.097</i>
	N positive						1		1	
Antidepressants										
Citalopram	Mean ± SD	<LOQ	<b>0.13±0.05</b>	<b>0.12±0.08</b>			<LOQ	<b>0.064±0.029</b>	<b>0.046±0.019</b>	
	Range		0.056-0.22	0.048-0.25	<i>0.034-1.2</i>			0.031-0.11	0.029-0.081	<i>0.018-0.024</i>
	N positive		11	7				11	8	
N-Desmethycitalopram	Mean ± SD	<b>0.12 ±0.11</b>	<b>1.7±1.1</b>	<b>1.8±2.0</b>			<LOQ	<b>0.071±0.024</b>	<b>0.062±0.026</b>	
	Range	0.037-0.46	0.43-5.1	0.57-10	<i>0.022-0.75</i>			0.037-0.11	0.038-0.11	<i>0.026-0.035</i>
	N positive	13	19	20				8	5	
Clomipramine	Mean ± SD	<LOQ	<b>0.21±0.06</b>	<b>0.24±0.09</b>			<LOQ	<b>0.035±0.018</b>	<b>0.025±0.012</b>	
	Range		0.15-0.32	0.12-0.41	<i>0.085-0.19</i>			0.013-0.064	0.013-0.051	<i>0.0051-0.0067</i>
	N positive		7	7				12	10	
Mirtazapine	Mean ± SD	<LOQ	<LOQ	<LOQ			0.21	<LOQ	<LOQ	
	Range				<i>0.11-0.26</i>		0.21			<i>0.054-0.078</i>
	N positive						1			
Sertraline	Mean ± SD	<LOQ	<b>0.67±0.40</b>	<b>0.77±0.55</b>			<b>0.11±0.10</b>	<b>0.55±0.33</b>	<b>0.55±0.23</b>	
	Range		(0.95-1.6)	0.080-12	<i>0.055-0.14</i>		0.072-0.41	0.12-1.5	0.11-0.91	<i>0.063-0.082</i>
	N positive		17	16			11	18	16	
Trazodone	Mean ± SD	<b>1.5±2.2</b>	<LOQ	<b>0.11±0.05</b>			N.M.	N.M.	<LOQ	

	Range	0.076-9.9		(0.049-0.19)	0.033-0.16					N.M.
	N positive	19		9						
Venlafaxine	Mean ± SD	<b>0.057±0.029</b>	<b>0.66±0.33</b>	<b>0.51±0.28</b>			<b>0.031±0.010</b>	<b>0.18±0.08</b>	<b>0.13±0.06</b>	
	Range	0.017-0.11	0.18-1.4	0.11-0.92	0.0094-0.039		0.018-0.042	0.056-0.32	(0.041-0.25)	0.065-0.085
	N positive	15	20	20			12	20	19	
Norsertaline	Mean ± SD	<LOQ	<LOQ	<LOQ			<LOQ	<b>6.2±1.2</b>	<b>6.7±1.6</b>	
	Range				1.9-4.2			4.3-8.8	4.9-9.4	3.6-4.7
	N positive							10	12	
<b>Beta-blockers</b>										
Metoprolol	Mean ± SD	<LOQ	<b>0.52</b>	<LOQ			<LOQ	<LOQ	<LOQ	
	Range		0.52		0.072-0.16					0.56-0.84
	N positive		1							
Metoprolol acid	Mean ± SD	<LOQ	<b>0.98±0.32</b>	<LOQ			<LOQ	<LOQ	<LOQ	
	Range		0.60-1.5		0.58-2.1					0.35-0.54
	N positive		5							
Telmisartan	Mean ± SD	<LOQ	<b>1.2±0.3</b>	<LOQ			<LOQ	<LOQ	<LOQ	
	Range		0.84-1.5		0.34-0.75					0.56-0.77
	N positive		3							
<b>CNS stimulants</b>										
Caffeine	Mean ± SD	<b>14±30</b>	<b>4.9±1.4</b>	<b>2.9±0.5</b>			<b>3.3±0.9</b>	<b>19±16</b>	<b>3.4±1.1</b>	
	Range	2.7-120	3.4-7.1	2.4-3.3	1.0-3.7		2.4-4.5	2.7-35	2.3-4.5	1.3-2.2
	N positive	14	4	2			4	2	2	
<b>Anti-inflammatory drugs</b>										
Diclofenac	Mean ± SD	<LOQ	<b>1.3±0.8</b>	<b>1.2±0.3</b>			<LOQ	<b>0.43±0.02</b>	<b>0.39±0.02</b>	
	Range		0.61-3.0	0.90-1.6	0.37-0.83			0.39-0.45	0.37-0.43	0.046-0.06
	N positive		6	4				4	4	
<b>Analgesics</b>										
Tramadol	Mean ± SD	<LOQ	<b>0.27±0.14</b>	<b>0.26±0.11</b>			<b>0.12±0.01</b>	<b>0.19±0.10</b>	<b>0.13±0.03</b>	
	Range		0.11-0.62	0.16-0.45	0.11-0.28		0.11-0.12	0.10-0.40	0.10-0.17	0.57-0.11
	N positive		10	9			2	7	6	

Table S2. List of pharmaceutical compounds assessed in common carp but not detected in tissues, i.e. with concentrations below the LOQ.

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**Antiepileptics**

10, 11 trans dihydro carbamazepine, 10, 11-dihydro carbamazepine, Carbamazepine 10, 11 epoxide, Oxcarbazepine

**Pharmaceutical drugs for enlarged prostate**

Alfuzosin

**Antidepressants**

Amitriptyline, Maprotiline, Mianserin, O-Desmethylvenlafaxine

**Beta-blockers**

Atenolol, Bisoprolol, Cilazapril, Diltiazem, Irbesartan, Propranolol, Valsartan, Verapamil

**Cholesterol lowering medications**

Atorvastatin, Bezafibrate, Fenofibrate

**Antibiotics**

Clarithromycin, Clindamycin, Clindamycin sulfoxide, Erythromycin, N1-Acetylsulfamethoxazole, N4-acetylsulfamethoxazole, Sulfamethazine, Sulfamethizole, Sulfamethoxazole, Trimethoprim

**Anti-Parkinson's drugs**

Biperiden, Ropinirole

**Antihistamines**

Cetirizine, Clemastine, Diphenhydramine, Fexofenadine, Orphenadrine

**Anxiolytics**

Clonazepam, Oxazepam

**Anticholinergics**

Dicycloverine

**Antiarrhythmics**

Disopyramide, Sotalol

**Hypoglycemics**

Glibenclamide, Glimepiride

**Antipsychotics**

Haloperidol

**Diarrhea medication**

Loperamide

**Alzheimer's drugs**

Memantine

**Antimycotic medication**

Miconazole

**Influenza antiviral medications**

Oseltamivir carboxylate

**Antimigraine drugs**

Pizotifen

**Antifungal medication**

Terbinafine

**Bronchodilators**

Terbutaline

**Diuretics**

Triamterene

**Anti-dementia drugs**

Donepezil

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