

1 *Supplementary Material*

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3 **Effects of microplastics mixed with natural particles on *Daphnia magna* populations**

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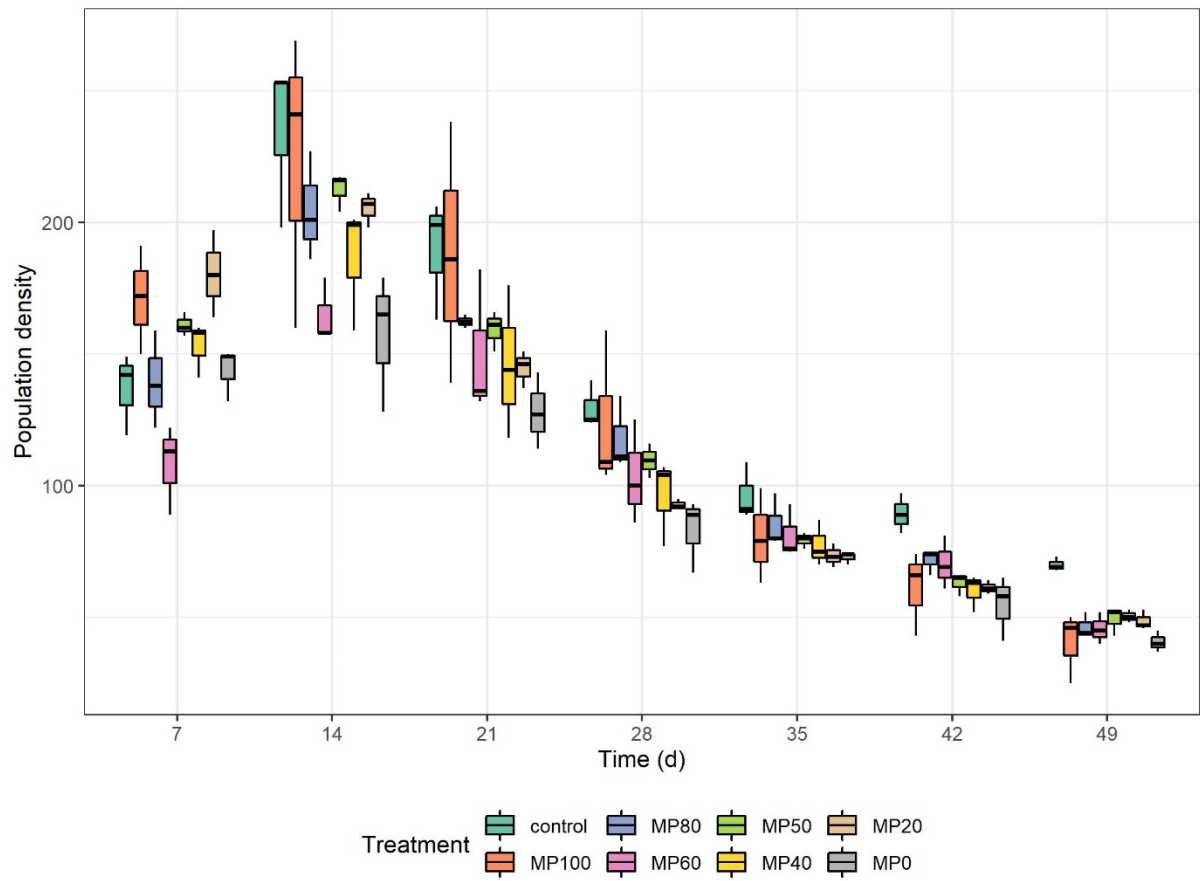
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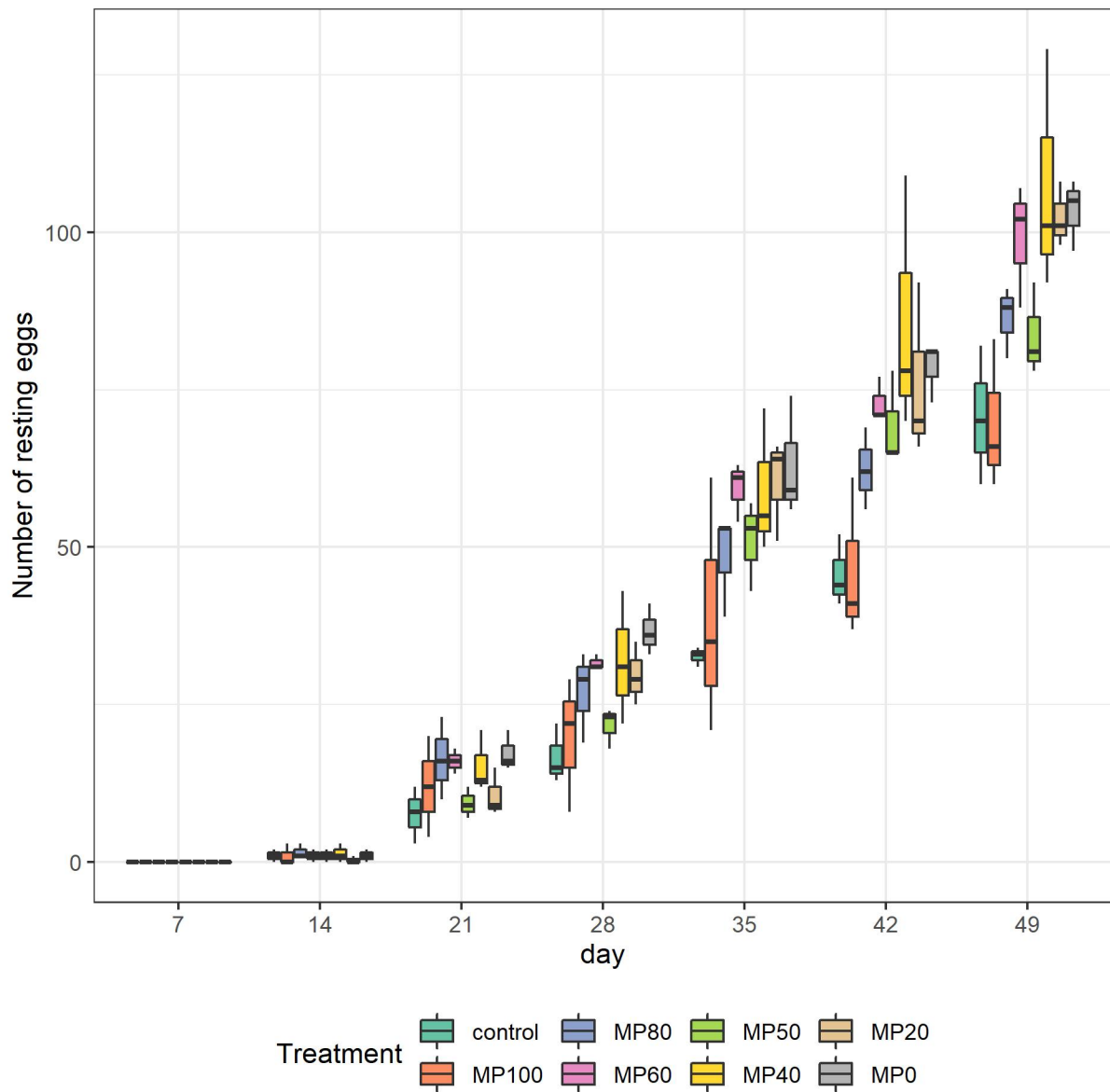
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20 **Figure S1: Box-whisker plot of population density of *Daphnia magna* exposed to**  
 21 **polystyrene microplastics (MP100), diatomite (MP0), or their mixtures over 50 d (n =3).**



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23 **Figure S2: Number of resting eggs produced by *Daphnia magna* populations exposed to**  
 24 **polystyrene microplastics (MP100), diatomite (MP0), or their mixtures over 50 d (n=3).**

25 **Table S1: Mean population density as number of individuals per treatment group over**  
 26 **time.**

<b>Treatment group</b>	<b>Day</b>	<b>Mean population density ± standard deviation</b>
<b>Control</b>	7	137 ± 16
	14	235 ± 32
	21	190 ± 23
	28	130 ± 9
	37	96 ± 11
	42	89 ± 8
	50	70 ± 3
<b>MP100</b>	7	171 ± 21
	14	223 ± 57
	21	188 ± 50
	28	124 ± 30
	37	80 ± 18
	42	61 ± 16
	50	45 ± 16
<b>MP80</b>	7	140 ± 19
	14	205 ± 21
	21	162 ± 3
	28	118 ± 14
	37	85 ± 10
	42	72 ± 5
	50	47 ± 5
<b>MP60</b>	7	108 ± 17
	14	165 ± 12
	21	150 ± 28
	28	104 ± 20
	37	81 ± 10
	42	70 ± 10
	50	46 ± 6
<b>MP50</b>	7	162 ± 5
	14	212 ± 7
	21	159 ± 8
	28	110 ± 9
	37	79 ± 3
	42	63 ± 4
	50	49 ± 6
<b>MP40</b>	7	153 ± 11
	14	186 ± 24
	21	146 ± 29
	28	96 ± 17
	37	77 ± 9
	42	60 ± 7
	50	50 ± 3
<b>MP20</b>	7	180 ± 17
	14	205 ± 7
	21	145 ± 7

<b>Treatment group</b>	<b>Day</b>	<b>Mean population density ± standard deviation</b>
	28	93 ± 2
	37	73 ± 5
	42	61 ± 3
	50	49 ± 4
<b>MP0</b>	7	144 ± 10
	14	157 ± 26
	21	128 ± 15
	28	83 ± 14
	37	73 ± 2
	42	55 ± 12
	50	41 ± 4

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28 **Table S2: Abundance of age groups as number of neonates, juveniles, and adults per**  
 29 **treatment over time.**

<b>Day</b>	<b>Treatment</b>	<b>Group</b>	<b>Mean abundance ± standard deviation</b>
7	Control	Adults	5.3 ± 2.1
		Juveniles	46.3 ± 4.7
		Neonates	85 ± 16.5
	MP100	Adults	8.7 ± 2.3
		Juveniles	50.7 ± 14
		Neonates	111.7 ± 16.8
	MP80	Adults	7.7 ± 1.5
		Juveniles	48 ± 7.8
		Neonates	84 ± 18.7
	MP60	Adults	10.3 ± 3.2
		Juveniles	42.7 ± 2.5
		Neonates	55 ± 18.3
	MP50	Adults	6.3 ± 1.2
		Juveniles	65 ± 7.8
		Neonates	89.7 ± 11
	MP40	Adults	6.3 ± 1.5
		Juveniles	39.7 ± 19.7
		Neonates	107 ± 20.7
MP20	Adults	9.3 ± 1.5	
	Juveniles	72 ± 19	
	Neonates	99 ± 34	
MP0	Adults	7 ± 3	
	Juveniles	46.7 ± 9.1	
	Neonates	90 ± 11.8	
14	Control	Adults	9.7 ± 2.1
		Juveniles	75.3 ± 6.4
		Neonates	149.7 ± 37.4
	MP100	Adults	12 ± 2
		Juveniles	90 ± 12.8
		Neonates	121.3 ± 45.8
	MP80	Adults	11 ± 1.7
		Juveniles	79.7 ± 7.6
		Neonates	114 ± 13.5
	MP60	Adults	15 ± 5.6
		Juveniles	74.7 ± 7.8
		Neonates	75.3 ± 16.3
	MP50	Adults	7.7 ± 3.8
		Juveniles	81 ± 6.1
		Neonates	123.7 ± 7.6
	MP40	Adults	8.3 ± 1.5
		Juveniles	92.7 ± 12.1
		Neonates	85.3 ± 32.1
MP20	Adults	9 ± 1.7	
	Juveniles	86 ± 11.8	
	Neonates	110.3 ± 16.6	
MP0	Adults	11.3 ± 3.5	

Day	Treatment	Group	Mean abundance $\pm$ standard deviation
21	Control	Juveniles	73.7 $\pm$ 11.7
		Neonates	72.3 $\pm$ 34.9
	MP100	Adults	10.3 $\pm$ 3.1
		Juveniles	83.3 $\pm$ 15
		Neonates	95.7 $\pm$ 36.1
	MP80	Adults	37 $\pm$ 49.4
		Juveniles	85 $\pm$ 38.2
		Neonates	98.5 $\pm$ 13.4
	MP60	Adults	6.3 $\pm$ 0.6
		Juveniles	70 $\pm$ 13.5
		Neonates	86 $\pm$ 16
	MP50	Adults	7.7 $\pm$ 1.2
		Juveniles	91.7 $\pm$ 12.2
		Neonates	50.7 $\pm$ 16.8
	MP40	Adults	7.7 $\pm$ 3.8
		Juveniles	86.3 $\pm$ 4
		Neonates	65.3 $\pm$ 4.2
	MP20	Adults	7 $\pm$ 3.6
		Juveniles	92.3 $\pm$ 11.9
		Neonates	46.7 $\pm$ 30.4
	MP0	Adults	10 $\pm$ 5.3
Juveniles		88.7 $\pm$ 9.3	
Neonates		46 $\pm$ 18.5	
28	Control	Adults	10.3 $\pm$ 0.6
		Juveniles	73.7 $\pm$ 4
		Neonates	44 $\pm$ 16.7
	MP100	Adults	12 $\pm$ 3.5
		Juveniles	83.7 $\pm$ 2.5
		Neonates	34 $\pm$ 9.2
	MP80	Adults	11.3 $\pm$ 2.1
		Juveniles	89.3 $\pm$ 24
		Neonates	23.3 $\pm$ 8.5
MP60	Adults	11 $\pm$ 6	
	Juveniles	90.7 $\pm$ 13.4	
	Neonates	16.3 $\pm$ 3.1	
MP50	Adults	11 $\pm$ 4.4	
	Juveniles	78 $\pm$ 21.3	
	Neonates	14.7 $\pm$ 4.5	
MP40	Adults	6 $\pm$ 1.4	
	Juveniles	83 $\pm$ 2.8	
	Neonates	20.5 $\pm$ 13.4	
MP20	Adults	10.7 $\pm$ 4.6	
	Juveniles	71.7 $\pm$ 4.7	
	Neonates	13.7 $\pm$ 12.5	
MP0	Adults	10.3 $\pm$ 5	
	Juveniles	68.3 $\pm$ 6.7	
	Neonates	14 $\pm$ 3	
	MP0	Adults	16.3 $\pm$ 3.2
		Juveniles	55 $\pm$ 8.5
		Neonates	11.7 $\pm$ 5.8

<b>Day</b>	<b>Treatment</b>	<b>Group</b>	<b>Mean abundance ± standard deviation</b>
37	Control	Adults	16 ± 1
		Juveniles	69.7 ± 6.7
		Neonates	10.7 ± 9
	MP100	Adults	12 ± 2.6
		Juveniles	56.3 ± 15.7
		Neonates	12 ± 7.2
	MP80	Adults	18.3 ± 8.1
		Juveniles	59.3 ± 8.1
		Neonates	7.7 ± 4
	MP60	Adults	17.3 ± 2.5
		Juveniles	61 ± 9.6
		Neonates	3 ± 1.7
	MP50	Adults	16 ± 2.6
		Juveniles	59 ± 1.7
		Neonates	4.3 ± 4.9
	MP40	Adults	12 ± 6.6
		Juveniles	56 ± 4.6
		Neonates	9.3 ± 9.7
MP20	Adults	20.7 ± 6	
	Juveniles	47.3 ± 4	
	Neonates	5.3 ± 4	
MP0	Adults	21.7 ± 7.4	
	Juveniles	43.3 ± 6.5	
	Neonates	7.7 ± 4	
42	Control	Adults	17.3 ± 6.7
		Juveniles	65 ± 10.8
		Neonates	7 ± 3
	MP100	Adults	12.7 ± 6.4
		Juveniles	43.7 ± 19.6
		Neonates	4.7 ± 3.2
	MP80	Adults	16 ± 2.6
		Juveniles	53.3 ± 6
		Neonates	2.3 ± 1.5
	MP60	Adults	13 ± 5.6
		Juveniles	54 ± 15.7
		Neonates	3.3 ± 3.2
	MP50	Adults	17 ± 3.6
		Juveniles	43.3 ± 1.5
		Neonates	2.7 ± 0.6
	MP40	Adults	16.3 ± 4.7
		Juveniles	41.3 ± 8.6
		Neonates	3.5 ± 2.1
MP20	Adults	20.7 ± 4.9	
	Juveniles	38.7 ± 4.6	
	Neonates	3 ± 2.8	
MP0	Adults	16.7 ± 3.8	
	Juveniles	35 ± 10.1	
	Neonates	4.5 ± 0.7	



<b>Day</b>	<b>Treatment</b>	<b>Group</b>	<b>Mean abundance ± standard deviation</b>
50	Control	Adults	17 ± 1.7
		Juveniles	49.7 ± 4.5
		Neonates	3.3 ± 1.5
	MP100	Adults	19.3 ± 2.3
		Juveniles	20 ± 12.1
		Neonates	1.5 ± 0.7
	MP80	Adults	17 ± 3.6
		Juveniles	28.7 ± 7
		Neonates	2 ± NA
	MP60	Adults	24 ± 6.1
		Juveniles	21.3 ± 1.5
		Neonates	1 ± NA
	MP50	Adults	19 ± 4
		Juveniles	29 ± 8.7
		Neonates	2 ± 1.4
	MP40	Adults	22.3 ± 3.1
		Juveniles	26.3 ± 5.8
		Neonates	1.7 ± 0.6
	MP20	Adults	23.3 ± 6.4
		Juveniles	21.3 ± 4.9
		Neonates	4 ± 2
MP0	Adults	14.3 ± 5	
	Juveniles	23.7 ± 2.1	
	Neonates	4 ± 1.4	

31 **Table S3: Number of resting eggs per replicate after 50 d of exposure.**

<b>Treatment group</b>	<b>Replicate</b>	<b>Resting eggs</b>
Control	1	82
	2	70
	3	60
MP100	1	83
	2	66
	3	60
MP80	1	88
	2	91
	3	80
MP60	1	102
	2	107
	3	88
MP50	1	78
	2	81
	3	92
MP40	1	129
	2	101
	3	92
MP20	1	108
	2	101
	3	98
MP0	1	105
	2	97
	3	108

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33 **Table S4: Results of the statistical comparison of the body length of *D. magna* individuals in populations exposed to particles.** Kruskal-  
 34 Wallis tests with Dunn's multiple comparison tests for each observation time.  $\Delta$  rank indicates the difference in mean rank (negative values imply  
 35 larger individuals) and p refers to the adjusted p values.

Control vs.	d 7		d 14		d 21		d 28		d 37		d 42		d 50	
	$\Delta$ rank	p	$\Delta$ rank	p	$\Delta$ rank	p	$\Delta$ rank	p	$\Delta$ rank	p	$\Delta$ rank	p	$\Delta$ rank	p
MP100	46.5	>0.9999	-271.5	<b>0.0018</b>	-26	>0.9999	-67.9	>0.9999	65.9	>0.9999	-33.9	>0.9999	-156.5	<b>0.0004</b>
MP80	2	>0.9999	-150	0.3391	68.6	>0.9999	-210.5	<b>0.0004</b>	-145.8	<b>0.0168</b>	-139.7	<b>0.0064</b>	-90.4	0.1029
MP60	-223.2	<b>0.0259</b>	-452	<b>&lt;0.0001</b>	-363.9	<b>&lt;0.0001</b>	-279.6	<b>&lt;0.0001</b>	-193	<b>0.0005</b>	-101.9	0.1129	-221.6	<b>&lt;0.0001</b>
MP50	-86.6	>0.9999	-87.5	>0.9999	-243.9	<b>0.0014</b>	-133.7	0.1807	-142.4	<b>0.0255</b>	-148	<b>0.005</b>	-112.1	<b>0.0144</b>
MP40	322	<b>&lt;0.0001</b>	-469	<b>&lt;0.0001</b>	-487.8	<b>&lt;0.0001</b>	-383.6	<b>&lt;0.0001</b>	-115.9	0.1315	-175.6	<b>0.0005</b>	-136.6	<b>0.0011</b>
MP20	-91.5	>0.9999	-196.1	0.0686	-475.6	<b>&lt;0.0001</b>	-298.7	<b>&lt;0.0001</b>	-260.8	<b>&lt;0.0001</b>	-210.7	<b>&lt;0.0001</b>	-157.5	<b>0.0001</b>
MP0	21	>0.9999	-442	<b>&lt;0.0001</b>	-446.1	<b>&lt;0.0001</b>	-470.2	<b>&lt;0.0001</b>	-255.5	<b>&lt;0.0001</b>	-183.3	<b>0.0004</b>	-94.19	0.1027

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