Supplementary material

Table S1. Field works and sampling for research on deicing salt pollution affects on the foliar traits and arthropods' biodiversity of lime trees in Riga, Latvia

Study/ experiment	Field works	2014	2015			2016	
		Sept.	July	Aug.	Sept.	May	July
Structural injury in *T. x vulgaris* street greeneries	Leaf sampling for chemical and microscopy analysis	x					
Arthropod and soil profile study (P, U)	Soil sampling for chemical analysis for arthropod surveys		x				
	Leaf sampling for chemical analysis for arthropod surveys		x				
	Arthropods' biodiversity surveys in the street trees' canopies		x				
	Soil profile study and sampling				x		
A common garden experiment: experimental salt exposures	Treatments with NaCl		x			x	
	Ecophysiology measurements for *T. x vulgaris*		x	x			
	Plant functional traits				x		
	Trunk diameter measurements				x		
	Aphid experiment						x

Table S2. Comparison between soil and leaves for salt concentration (July 2015). Shown are average Na^+ and Cl^- concentration (mean ± SE) in the top layer of the soil (n = 3 soil samples per plot) and leaves at each site (n = 3 trees per plot) used for the soil and canopy arthropod surveys in the city of Riga.

		Na and Cl concentrations			
Sites	**Plot**	**Soil**		**Leaves**	
		Na, mg/kg	Cl, mg/kg	Na, ppm	Cl, ppm
Site 1: Kalnciema street near the Daugava river	Unpolluted	51.82 ± 4.92	7.27 ± 0.58	120 ± 15	600 ± 38
	Polluted	354.55 ± 28.34	12.72 ± 2.08	960 ± 126	2375 ± 350
Site 2: Z.A.Meierovica blvd.	Unpolluted	62.22 ± 5.24	8.87 ± 1.02	82 ± 7	2050 ± 180
	Polluted	103.33 ± 11.41	13.31 ± 1.25	4240 ± 525	5500 ± 670
Site 3: Hanzas street (Viestura Garden)	Unpolluted	31.12 ± 4.38	7.20 ± 0.62	151 ± 12	620 ± 42
	Polluted	233.34 ± 31.21	15.24 ± 2.34	1280 ± 145	4250 ± 520
Site 4: Meža Cemetery	Unpolluted	29.63 ± 3.41	6.48 ± 0.45	68 ± 7	675 ± 39
	Polluted	176.93 ± 21.78	11.12 ± 1.50	9400 ± 730	9000 ± 886

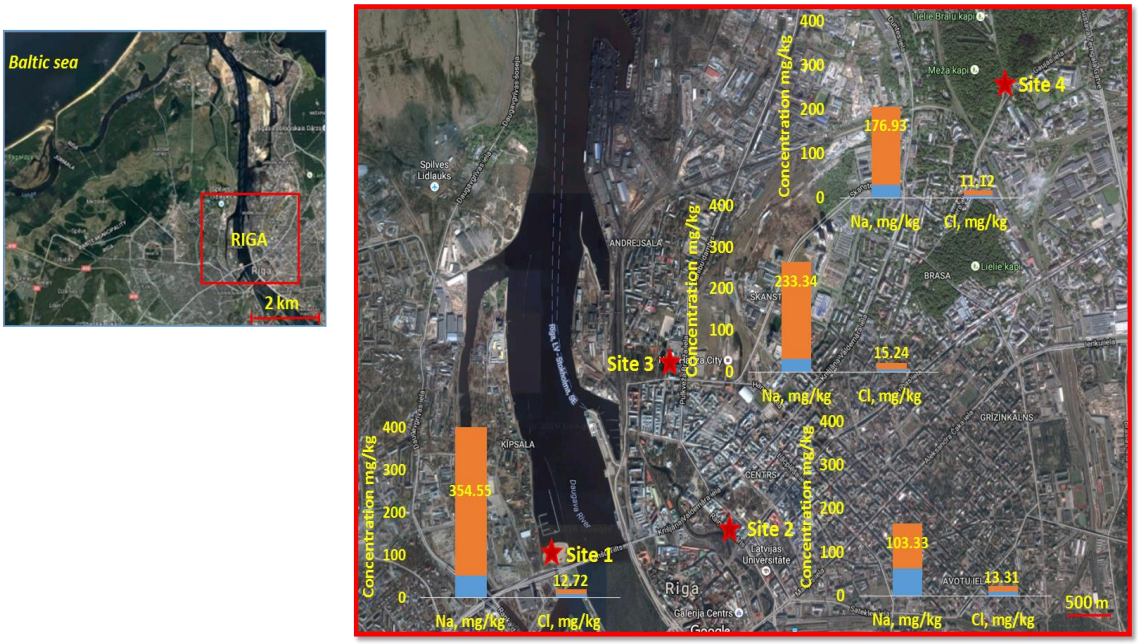

Figure S1. Map of the 4 sites used for the fieldworks on soil pollution effect on canopy arthropod diversity in Riga; Site 1: Kalnciema street close to Daugava river; Site 2: Meierovica blvd.; Site 3: Hanzas street; Site 4: Gaujas street next to the cemetery (n=8 plots) – Riga LV. Scales of the maps: 2 km and 500 m.

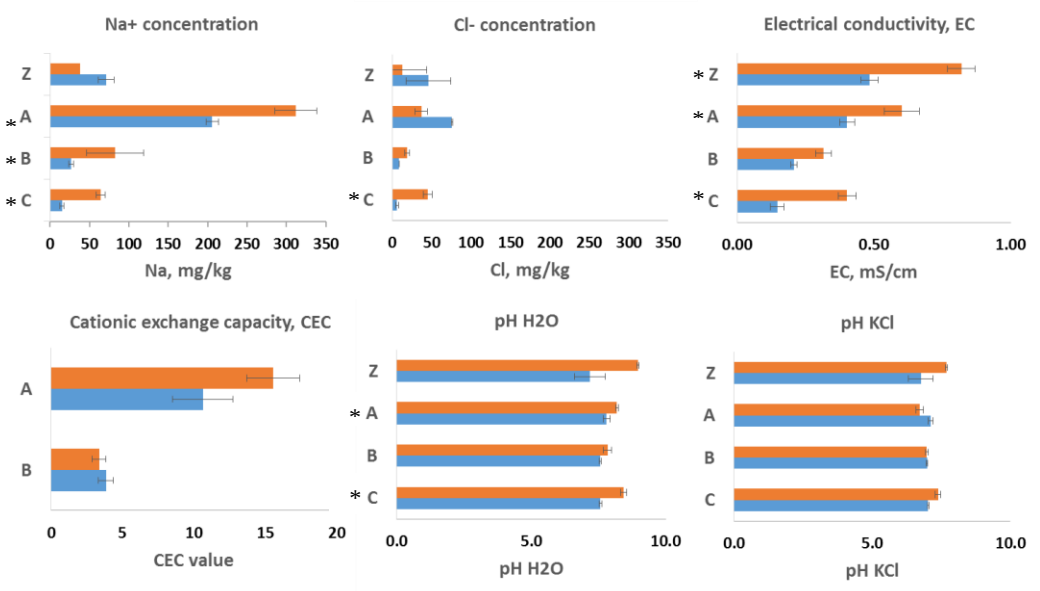

Figure S2. Soil properties for salt-polluted and unpolluted sites. Shown are means per horizon category (A, B, C and Z) +/- 1SE (n = 4 sites per pollution treatment). The means include the transition horizons AB and BC. Polluted sites are shown in red, while unpolluted sites are shown in blue. The measurement of Na/Cl concentration was assessed after 1M HCl extraction with subsequent flame photometry/distilled water extraction with subsequent $AgNO_3$ titration (Cekstere & Osvalde, 2013). Electrical conductivity was measured using a Metrohom 914 pH meter and conductometer (Metrohm Schweiz AG), cation exchange capacity (CEC) was assessed following the cobaltihexamine chloride method; and pH in 2.5 soil volume of deionized water ($pH_{H2O)}$ as well as in KCl solution (pH_{KCl}). Differences among polluted and unpolluted soils for each similar horizon were analyzed using paired Samples Wilcoxon Test in R (R Development Core Team, 2017). Significant differences between P and U horizons categories are indicated with a star (*)

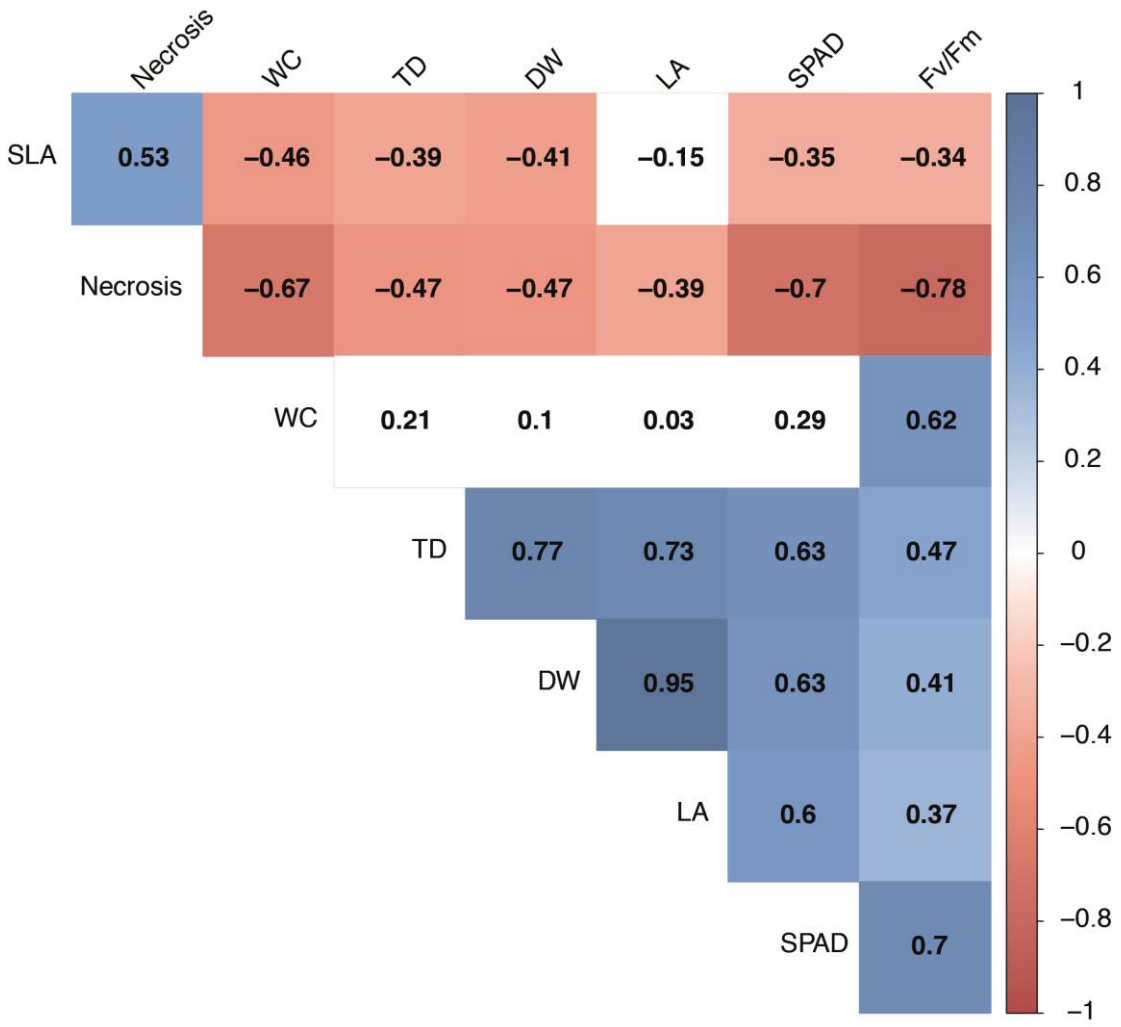

Figure S3. Correlogram for *Tilia x vulgaris* eco-physiological traits. Different traits are: SPAD = chlorophyll content (SPAD units), Fv/Fm = fluorescence index, DW = leaf dry weight (mg), WC = water content (%),LA = leaf area (mm^2), SLA = specific leaf area (mm^2 mg^{-1}), trunk diameter (TD), and leaf necrosis symptoms. Colored squared indicate significant correlations (Pearsons' correlation, $p < 0.05$), and their correlation coefficients.