Use of Leaves as Bioindicator to Assess Air Pollution Based on Composite Proxy Measure (APTI). Dust Amount and Elemental Concentration of Metals

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Table S1. Dust concentration and APTI values of the study sites.

| T.europaea | C.occidentalis |
|------------|---------------|
|            | June          | September    | June          | September    |
| coarse dust. µg cm$^{-2}$ | 36 ± 11  | 41 ± 14  | 17 ± 4  | 58 ± 29 | 48 ± 9  | 64 ± 8  | 24 ± 3.4 | 18 ± 7  | 11 ± 2  | 40 ± 13 | 70 ± 34 | 76 ± 3  |
| fine dust. µg cm$^{-2}$    | 5.1 ± 0.6  | 4.2 ± 0.5  | 2.1 ± 0.2  | 4.9 ± 2.5 | 2.0 ± 0.4  | 1.2 ± 0.1 | 3.8 ± 0.3 | 1.6 ± 0.1  | 0.9 ± 0.1  | 5.5 ± 0.3 | 3.0 ± 0.4 | 4.9 ± 0.5 |
| ascorbic acid. mg g$^{-1}$ | 0.9 ± 0.1  | 1.0 ± 0.1  | 0.7 ± 0.1  | 1.6 ± 0.3 | 1.2 ± 0.1  | 1.3 ± 0.2 | 1.8 ± 0.3 | 2.6 ± 0.4  | 2.2 ± 0.1  | 3.0 ± 1.0  | 2.3 ± 0.9  | 2.8 ± 0.4 |
| total chlorophyll. mg g$^{-1}$ | 6.5 ± 0.4  | 7.4 ± 0.7  | 8.3 ± 1.1  | 5.8 ± 1.4 | 7.0 ± 0.1  | 7.9 ± 1.9 | 10 ± 1     | 7.4 ± 0.5  | 17 ± 1     | 5.4 ± 1.2  | 3.9 ± 1.9  | 8.1 ± 0.4 |
| pH         | 6.5 ± 0.1  | 6.6 ± 0.1  | 6.5 ± 0.1  | 7.1 ± 0.1 | 6.7 ± 0.1  | 6.5 ± 0.1 | 8.9 ± 0.2 | 9.0 ± 0.2  | 8.9 ± 0.2  | 9.3 ± 0.2  | 6.3 ± 3.1  | 9.3 ± 0.1 |
| relative water content. %  | 72 ± 1     | 78 ± 4     | 60 ± 4     | 78 ± 3   | 76 ± 2     | 67 ± 4   | 73 ± 1     | 76 ± 3     | 72 ± 5     | 93 ± 1     | 61 ± 30    | 97 ± 1    |
| APTI       | 8.3 ± 0.1  | 9.2 ± 0.5  | 7.1 ± 0.5  | 10 ± 1   | 9.2 ± 0.1  | 8.6 ± 0.3 | 11 ± 1     | 12 ± 1     | 13 ± 1     | 14 ± 1     | 9.5 ± 4.4  | 15 ± 1    |
Table S2. Elemental concentration in leave’s tissue at the study sites.

| Element | T. europaea | C. occidentalis |
|---------|-------------|----------------|
|         | urban       | industrial     | rural | urban | industrial | rural | LoD. ug g⁻¹ |
| Al. mg kg⁻¹ | 129 ± 17     | 565 ± 19       | 181 ± 46 | 112 ± 9 | 157 ± 11     | 133 ± 23 | 300        |
| Ba. mg kg⁻¹ | 4.5 ± 0.5    | 10.7 ± 0.3     | 16.6 ± 3.3 | 11.3 ± 2.4 | 20.1 ± 1.5     | 28.2 ± 2.4 | 2.5        |
| Ca. g kg⁻¹ | 14.6 ± 0.8   | 15.1 ± 1.1     | 13.2 ± 1.9 | 44.7 ± 2.9 | 37.1 ± 5.6     | 23.7 ± 2.5 | 5          |
| Cd. mg kg⁻¹ | 0.08 ± 0.08  | 0.08 ± 0.08    | 0.12 ± 0.001 | n.d. | n.d.       | n.d. | 25        |
| Co. mg kg⁻¹ | 0.04 ± 0.04  | 0.04 ± 0.04    | 0.12 ± 0.001 | 0.12 ± 0.002 | 0.04 ± 0.04     | 0.04 ± 0.04 | 150        |
| Cr. mg kg⁻¹ | 0.83 ± 0.15  | 2.93 ± 0.25    | 0.7 ± 0.21 | 0.66 ± 0.05 | 0.87 ± 0.06     | 0.55 ± 0.05 | 50        |
| Cu. mg kg⁻¹ | 4.2 ± 0.5    | 5.7 ± 0.5      | 6.9 ± 0.5 | 6.5 ± 0.8 | 7.3 ± 0.9      | 9.6 ± 0.8 | 50        |
| Fe. mg kg⁻¹ | 181 ± 10     | 581 ± 11       | 215 ± 38 | 201 ± 11 | 231 ± 23      | 179 ± 22 | 50        |
| K. g kg⁻¹ | 17.6 ± 2.0   | 10.0 ± 1.6     | 14.1 ± 1.3 | 15.9 ± 3.7 | 11.6 ± 1.3     | 12.6 ± 1.1 | 50        |
| Mg. g kg⁻¹ | 5.0 ± 1.0    | 4.8 ± 0.3      | 3.2 ± 0.4 | 4.0 ± 0.4 | 4.9 ± 0.6      | 2.7 ± 0.2 | 2.5        |
| Mn. mg kg⁻¹ | 31.4 ± 10.4  | 52.9 ± 5.3     | 99.7 ± 18 | 49.6 ± 7.6 | 65.0 ± 7.6     | 79.5 ± 6.4 | 2.5        |
| Na. mg kg⁻¹ | 66.5 ± 0.6   | 132 ± 6        | 131 ± 16 | 84.5 ± 13.5 | 137 ± 7.8      | 177 ± 17 | 5          |
| Ni. mg kg⁻¹ | 1.32 ± 0.44  | 1.3 ± 0.04     | 1.07 ± 0.08 | 0.82 ± 0.08 | 0.75 ± 0.12     | 0.76 ± 0.05 | 25        |
| Pb. mg kg⁻¹ | 0.33 ± 0.11  | 0.69 ± 0.11    | 0.41 ± 0.07 | 0.37 ± 0.09 | 0.34 ± 0.09     | 0.34 ± 0.04 | 225        |
| Sr. mg kg⁻¹ | 31.8 ± 5.4   | 68.9 ± 3.2     | 39.7 ± 6.9 | 79.9 ± 7.3 | 151.2 ± 33.1   | 42.1 ± 2.3 | 550        |
| Zn. mg kg⁻¹ | 9.7 ± 0.7    | 27.2 ± 12.6    | 13.2 ± 1.5 | 14.0 ± 1.4 | 12.1 ± 0.8     | 13.0 ± 2.6 | 0.5        |

Notations: n.d. means concentration was below detection limit.
Table S3. Correlation (r) between elemental concentration, dust, and APTI values.

|         | T. europaea |                 | C. occidentalis |                 |
|---------|-------------|-----------------|-----------------|-----------------|
|         | coarse dust | fine dust       | APTI            | coarse dust     | fine dust       | APTI            |
| coarse dust | 1.000      | 0.633           | 0.661           | 1.000           | 0.750           | 0.000           |
| fine dust | 0.633       | 1.000           | **0.828**       | **0.750**       | 1.000           | −0.583          |
| Al      | 0.467       | 0.217           | 0.502           | 0.238           | 0.024           | 0.357           |
| Ba      | −0.650      | −0.800          | −0.594          | −0.595          | −0.905          | **0.810**       |
| Ca      | −0.100      | 0.083           | 0.042           | **0.810**       | 0.952           | −0.714          |
| Cd      | −0.226      | −0.261          | 0.044           | n.d.            | n.d.            | n.d.            |
| Co      | −0.261      | −0.183          | −0.494          | −0.051          | 0.355           | −0.482          |
| Cr      | 0.617       | 0.467           | **0.803**       | **0.714**       | 0.429           | 0.024           |
| Cu      | −0.583      | −0.567          | −0.410          | −0.643          | −0.810          | 0.571           |
| Fe      | 0.367       | 0.267           | 0.494           | 0.429           | 0.238           | 0.071           |
| K       | −0.150      | 0.200           | −0.117          | −0.452          | −0.190          | −0.048          |
| Mg      | 0.367       | 0.450           | 0.586           | **0.762**       | 0.548           | −0.143          |
| Mn      | −0.733      | −0.800          | −0.669          | −0.429          | −0.738          | 0.667           |
| Na      | −0.117      | −0.117          | 0.109           | −0.667          | −0.929          | **0.833**       |
| Ni      | 0.333       | 0.200           | 0.644           | 0.571           | 0.429           | −0.095          |
| Pb      | 0.317       | 0.500           | 0.536           | 0.214           | 0.000           | 0.381           |
| Sr      | 0.133       | −0.017          | 0.335           | **0.833**       | 0.548           | −0.095          |
| Zn      | −0.050      | −0.150          | 0.059           | −0.071          | 0.143           | −0.429          |

Bold letters indicate significant correlation values. n.d. means elemental concentration was not detected.