Table S1. Analysis of variance of the effect of different factors on photosynthetic-related traits

| Source            | DF | $A_{\text{max}}$ F | P-value | $g_{sw}$ F | P-value | $g_{m}$ F | P-value | $g_{m}/g_{sc}$ F | P-value |
|-------------------|----|---------------------|---------|------------|---------|-----------|---------|------------------|---------|
| Canopy level      | 2  | 96.65 <0.001        |         | 37.25 <0.001 |         | 50.68 <0.001 |         | 4.59 0.001       |         |
| Ambient CO$_2$    | 1  | 0.63 0.43           |         | 1.33 0.25  |         | 1.33 0.25  |         | 0.37 0.34        |         |
| Copper stress     | 2  | 0.26 0.77           |         | 3.95 0.032 |         | 0.21 0.81  |         | 0.04 0.95        |         |
| Soil nitrogen     | 1  | 32.30 <0.001        |         | 5.29 0.024 |         | 8.74 0.004 |         | 1.78 0.24        |         |
| Soil moisture     | 1  | 4.99 0.029          |         | 17.20 <0.001|         | 12.18 0.001|         | 4.28 0.044       |         |

$A_{\text{max}}$: light-saturated photosynthetic rate; $g_{sw}$: stomatal conductance; $g_{m}$: mesophyll conductance. In $g_{m}/g_{sc}$ ratio, $g_{sw}$ for water (mol H$_2$O m$^{-2}$ s$^{-1}$) was divided by 1.6 to obtain $g_{sc}$ (mol CO$_2$ m$^{-2}$ s$^{-1}$).