**Supplementary Table S1.** Summary of fluorometric analysis parameters and their description.

| **Fv/Fm** | **Photosystem II (PS II) quantum yield.** |
|---|---|
| Area | Area above the Kaustky curve, proportional to the size of the oxidized quinone pool. |
| N | Quinone redox turnover rate. |
| γRC | The probability that a chlorophyll *a* molecule functions as a light-harvesting reaction centre. |
| $\delta R_0$ | The efficiency of the transfer of an electron from $PQH_2$ to final PS I acceptors. |
| $M_0$ | The net rate of PS II RC closure. |
| SM | Corresponds to the energy needed to close all reaction centers. |
| $V_K$ | Relative variable fluorescence K-step. |
| $V_J$ | Relative variable fluorescence J-step. |
| K-band amplitude | The amplitude of the K-step ($W_K = V_K - V_J$). |
| $\psi_{E0}/(1 - \psi_{E0})$ | The equilibrium constant for the redox reactions between PS II and PS I |
| PI | Performance index on absorption basis, incorporating the steps of antenna, reaction centre and electron transport parameters. |
| RC/ABS | Reaction centre II density within the antenna chlorophyll bed of PS II |
| SFI | Structure functional index for photosynthesis. |
| SFI (NPQ) | Non-photosynthetic or dissipation structure functional index. |
| ABS/RC | Absorbed energy flux by reaction centre (RC). |
| TR/RC | Trapped energy flux by reaction centre (RC). |
| ET/RC | Electron transport energy flux by reaction centre (RC). |
| DI/RC | Dissipated energy flux by reaction centre (RC). |
| RC/CS | The number of available reaction centres per cross-section. |