See [ insert future reference ] for complete methodology.

Explanation of variables:

Extract\_date: The date when that particular plant part (sexual or vegetative thallus) was collected and extraction began. These occurred over several weeks depending on logistics and when plants were producing sexual thalli.

Genetic\_ind: this variable stands for “genetic individual,” which can be considered equivalent to genotype, although we did no genetic testing in this study. These genetic individuals would have been taken from isolated patches in the field. A clone of each genetic individual was grown in either high or low light. Each clone was sampled (if available) for both vegetative and sexual thalli.

Note: In several cases, a thallus (sexual or sometimes vegetative) suitable for sampling from a clone was not available. These are marked as blank data lines.

Sex: In *Marchantia*, sex is determined by chromosomes and is not labile. Thus, sex was consistently male (M) or female (F) throughout the study.

Light: this is the light environment the plants were grown in and was provided by acetate filters that each pot was fitted with. There were only two light levels, which we mark as either high (H) or low (L).

dwtot\_chl: total chlorophyll (*a* + *b*) per dry mass of thallus tissue (μg chlorophyll \* mg-1).

dwtot\_car: total carotenoids per dry mass of thallus tissue (μg carotenoids \* mg-1).

chl\_abratio: ratio of chlorophyll *a* to chlorophyll *b*.

car\_per\_chl: ratio of total carotenoids to total chlorophyll (*a* + *b*).

thallus\_dmc: this is the proportion of hydrated, fresh weight of each thallus sample that was made up of dry biomass.

STA: specific thallus area. This measure is analogous to specific leaf area for vascular plants and is the of surface area each thallus sample divided by its dry biomass (cm2 \* mg-1).

wet\_mass: the fully hydrated, fresh mass of each thallus sample (g).

dry\_mass: the fully dried mass of each thallus sample (mg).

surface\_area: estimated area of the upper surface of each thallus sample (cm2).