Are lighted sundews lighter?

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First been described in *The Insectivorous Plants*, Darwin's beloved carnivorous plants have become the interest of generations of scientists for centuries. Absorbing nutrients from both roots and leaves, the way of living of carnivorous plants is considered more complicated than normal plants. *Drosera*, commonly known as sundew, is one of the largest and most widely known genera in carnivorous plants. Species from this genus form leaves with mucilaginous tentacles, which are used to lure, capture and digest insects.

Drosera rotundifolia is one of the only three species of *Drosera* found in Sweden. It has been studied for a long period, yet, the mechanism of luring insects is still not clear. Studies have showed that the red colouration of leaves could all be the luring for insects. While other studies pointed out that the redness of leaves could be an alert to pollinators, which reduces the amount of pollinators caught and insures the fecundity of *D. rotundifolia*. In either mechanism, red colour is an important trait of *D. rotundifolia*. Finding out what influences the colour of leaves of *D. rotundifolia* could be helpful to a better understanding of the function of red pigmentation of leaves.

The red colour of leaves of *D. rotundifolia* is caused by the accumulation of the red pigment, anthocyanin, which is also an UV protection compound. If the light intensity intercepted by *D. rotundifolia* leaves changes the abundance of anthocyanin, which would increase the function of red colouration either as luring or alert, hence affect the carnivory of the plant.

For most of the plants, with an increased sun exposure, they would have thicker and smaller leaves and shorter stems. But facing both cohabitation and competition with peat mosses (*Sphagnum fuscum*) in as their living substrate, a different reaction to light of *D. rotundifolia* could be expected.

They aim of my study was to decipher the effect of light regime on the colour of the leaves of *D. rotundifolia* and other morphological traits, especially regarding of the leaves. The leaf colour was found to vary between individuals, while no trend of leaf colour along light gradient was found. With an increase of sun exposure, *D. rotundifolia* had higher specific leaf dry mass (leaf dry mass/ leaf area). The plant leaf area was maximized at intermediate light intensity. In addition, leaf size showed an effect on leaf colour, as smaller leaves were redder. Beside these findings, my study did not detect any statistically significant effects of light on leaf colour. Further studies on this subject could focus on carrying out more detailed measurements of light regime in order to capture the effect of light on the colour of leaves of *D. rotundifolia*.

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