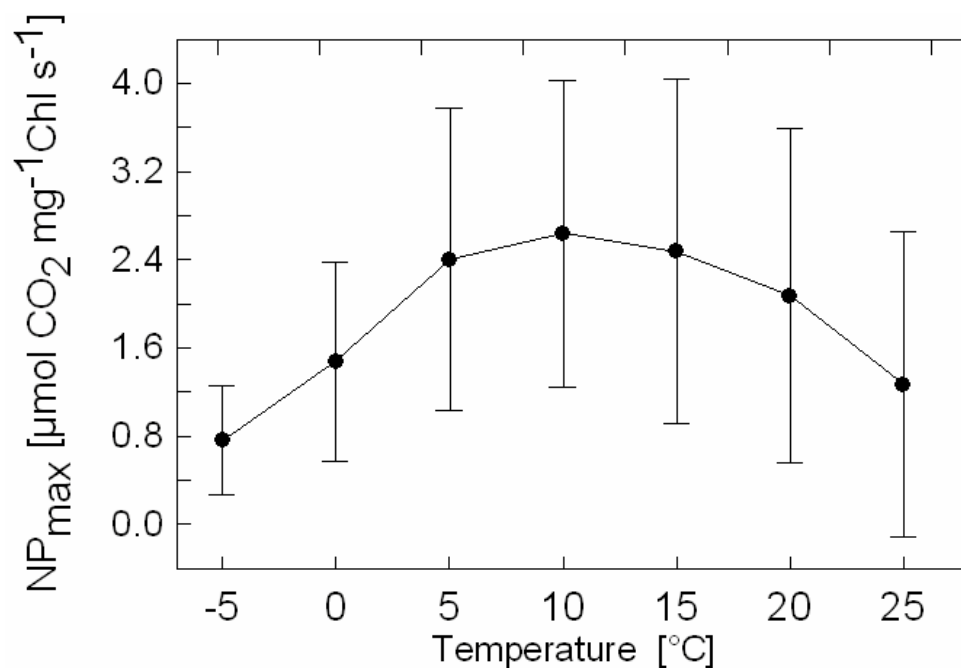


## Influence of temperature and light intensity on the photosynthesis of *Usnea aurantiaco-atra* from the maritime Antarctic

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Antarctica is one of the most extreme continents and can be regarded as a cold desert. On the continent precipitation can be below  $10 \text{ mm a}^{-1}$  with mean temperature of  $-39.3 \text{ }^{\circ}\text{C}$  in the coldest and  $+1 \text{ }^{\circ}\text{C}$  in the warmest months. Unlike as in most other arid deserts, cryptogams such as bryophytes and lichens are predominant in the vegetation of the Antarctica and the adjacent islands and can be found in nearly most ice-free area. It is well noticed that Global Climate Change leads to a steady increase of the air temperature worldwide and also in the Antarctica. Therefore, the physiological potential of different lichen populations regarding the dependence of photosynthesis and respiration on the temperature (Fig. 1) is needed to understand and model their physiological response to climate change. In this paper we investigated the intra-specific variation of the photosynthesis of *Usnea aurantiaco-atra*. *U. aurantiaco-atra* has a wide distribution and occurs from the islands of the Antarctic peninsula to South America. The results will be discussed in relation to microclimatic habitat conditions.



**Figure 1:** Mean maximum net photosynthesis (PPFD  $> 1400 \mu\text{mol m}^{-2} \text{s}^{-1}$ ) of *Usnea aurantiaco-atra* from Livingston Island at different air temperatures

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