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Interactive comment on "Effects of storage temperature on physiological characteristics and vegetative propagation of desiccation-tolerant mosses" *by* Yuewei Guo and Yunge Zhao

Anonymous Referee #3

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When I read title and abstract of the paper, my first impression was that the mosses were stored in a field-wet state. In became clear just in the M&M section that the mosses were stored air-dried and hermetically sealed. I suggest to mention that point in the abstract. I think it would also be a great idea to get an impression of the relative humidity during storage.

The success of incubation experiments often depends on how well experimental conditions match the niche requirements of the target organisms, in particular those with narrow ecological amplitudes. For example, low gametophyte increment, germination rate and delayed initial germination of Barbula unguiculata does not necessarily mean

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Discussion paper

that this species generally is outperformed by the Dedymodon species. It may also indicate that the experimental conditions better matched the ecological requirements of the latter, and that other experimental conditions may show a different picture.

Hence, I miss in the paper some discussion of the ecological niche requirements of the particular species investigated. For example, Barbula unguiculata Hedw. and Didymodon vinealis (Brid.) Zander var. vinealis differ with their requirements to light: While both of these species prefer open lands, Barbula unguiculata Hedw. may grow in shadowed areas with down to 30% of relative light intensity, whereas Didymodon vinealis (Brid.) Zander var. vinealis does not develop at relative light intensities below 50% (ISBN-13: 978-3825281045). As the samples were taken at north facing slopes, which possibly receive shadow, I recommend to consult the botanical literature and to consider ecological niche requirements in the discussion of implications for the practice. Further, a more precise description of the sampling procedure and sampling spots might be helpful.

Minor remarks

M&M

p. 4 l. 5 ff.: The weights of 100 and 50 mg of sample for sugar and chlorophyll measurement seem little to ascertain representative sampling. How many replicates were analysed?

p. 5 l. 17.: Please check the correct usage of the terms "seed" and "hypocotyl" in conjunction with mosses. Again, I recommend to consult the botanical literature to be more precise.

Results

Figure 2: I needed to switch between Table 1 and Figure 2 to compare initial values with the temperature effect. I would find Figure 2 easier to comprehend if the initial values could be somehow depicted there (as horizontal lines?).

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