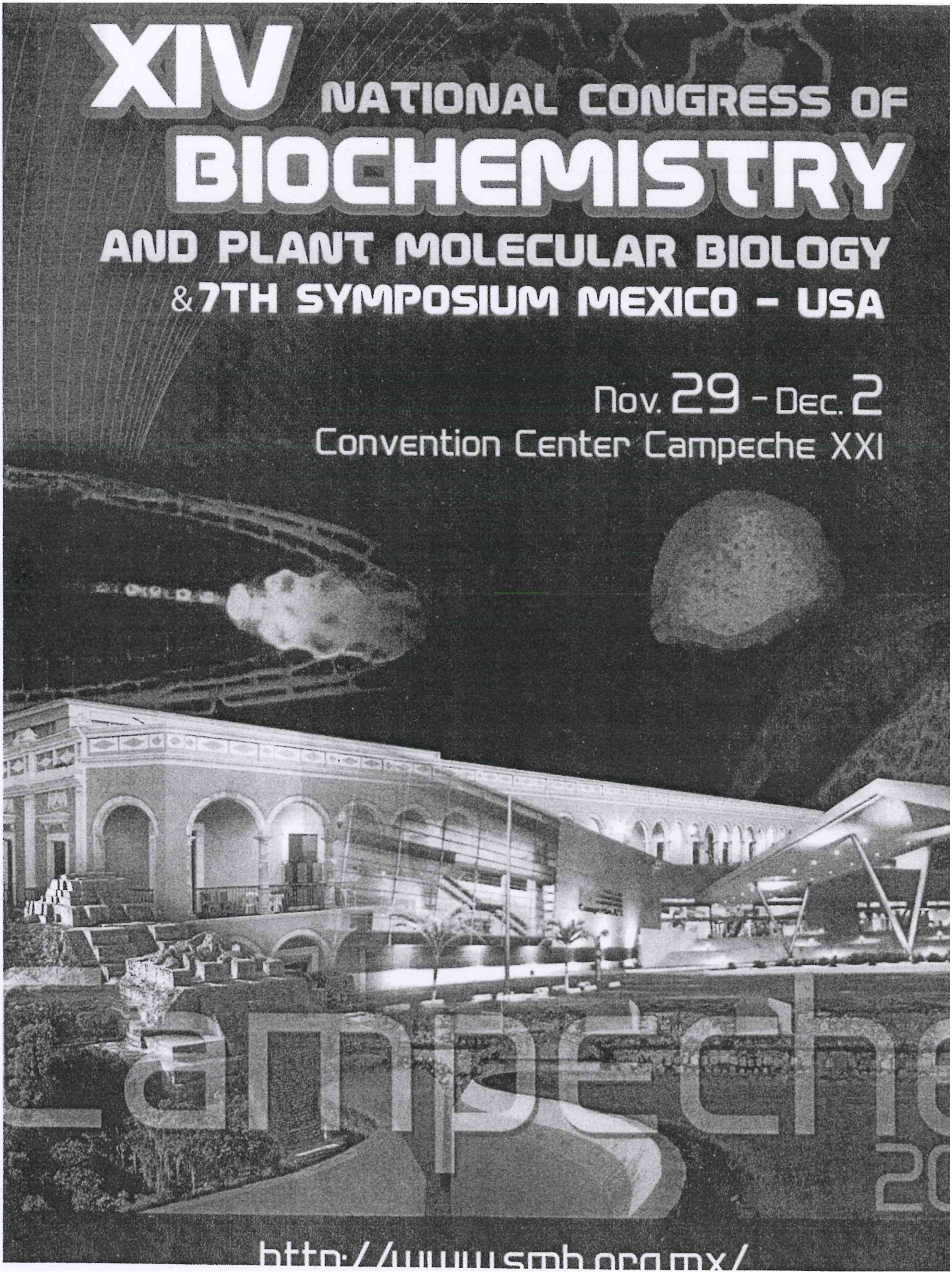
XIV NATIONAL CONGRESS OF
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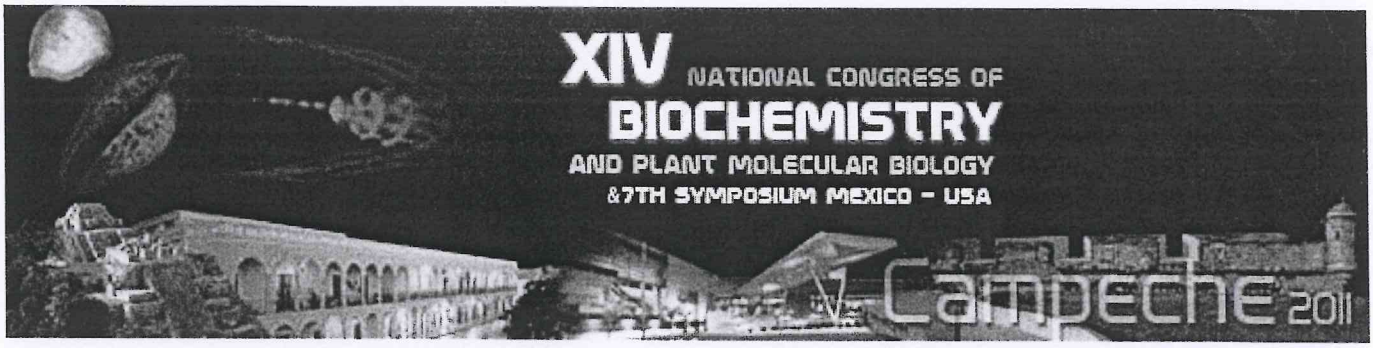

Moss phenotypes inpixels:Useof software forimage analysisof plant tissue

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Currently, most studies related to the physiological response of plants to different stimuli or stresses is performed using hedonic scales such asthe Austin prontocol[1]or even based on espectrophotometry[2] or other techniques such as color coding where the vision of a single observer can be different even at different times of the day or to the intensity and type of light reflected from the surfaces of plant tissue.In order to analyze the effect of abiotic stressing conditions on phenotype (growth, development and pigmentation) of moss samples subjected to different abiotic stressing conditions during different periods of time (days-weeks) compared to control conditions.By using Photoshop CS we eliminated unwanted areas (bottom of picture or undesirable shadows) allowing thequantifycation of the tissues areas and the corresponding colors intensities. Also, the ImageJ"measurement" tool was used to analyze a constant area of the desired image, thus allowing thequantifycation of only the area of change respect to control and / or treatments. 3D graphics show the valleys and ridges of the image using quantified pixel data. These data also allowedthe analysis along different time pointsby generating graphs with the kinetic behavior of the tissuesin a numerical way,which were entirely consistent with hedonic observations. Thus, we can use this method to quantify phenotypic changes of protonemal moss tissues (and perhaps other plant tissues) in response to different growth conditions, Authors thank SIP and CONACYT grants support.

1) Andrew J. Wood (2007). The nature and distribution of vegetative desiccation-tolerance in hornworts, liverworts and mosses. The Bryologist 110

2) Yanfang Wu, et al (2009). Responses to copper by the moss Plagiomnium cuspidatum: Hydrogen peroxide accumulation and the antioxidant defense system. Elsevier Chemosphera 74.