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In vitro Clonal Micropropagation of Aquatic Plant *Glossostigma elatinoides* (Benth.) Hook.f.

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Aim of the study: One of the methods of biological water purification is the use of plants, as they are able to accumulate toxic substances and turn them into non-toxic, to accumulate certain metals and organic substances that are difficult to decompose, and they contribute to the settling of suspended substances. Aquarium plants establish the biological equilibrium of the aquatic environment, enrich the water with oxygen, and play an important role in the metabolism necessary for fishes and plants life. The aim of the work is to develop a system of *in vitro* cultivation of the aquatic plant *Glossostigma elatinoides* (Benth.) Hook.f.

Material and Methods: As a primary explant, small *G. elatinoides* plants with a well-developed root system were selected. For *in vitro* introduction, plants underwent the sterilization treatment in a laminar box. Sterilization was carried out according to the following scheme: under sterile conditions, individual plants were placed in to 0.1% solution of mercury (II) chloride for 1, 2, 3 and 4 minutes, as well as into 5% solution of sodium hypochlorite (bleach) for 5, 10, 15 and 20 minutes. Then they were placed on a Murashige and Skoog nutrient medium (MS). To study the effect on the intensity of growth processes of *G. elatinoides*, the plants were placed on the MS medium with the addition of phytohormones and growth regulators: auxins (2,4-D, IAA, NAA), cytokinin kinetin.

Results: When sterilized with sodium hypochlorite, most of the plants died due to contamination. It was observed that the growth after treatment with a 0.1% CS solution commenced after 2 weeks. The optimal time for sterilization with CS is 2 and 3 minutes. Sterile plants were placed on different variations of Murashige and Skoog medium with the addition of phytohormones and growth regulators in different concentrations. After planting, the plants were placed in the light room. The results of experiments on elucidating the effect of phytohormones and growth regulators, as well as their combinations on the growth rate of *Glossostigma* plants are following: the experimental variants with the addition of only auxins (NAA and IAA) in concentrations of 0.1 and 0.5 mg/l did not actually differ from the control. The variants with a combination of auxin and cytokinin components with the addition of combinations of BAP+IAA and Kin+NAA in concentrations of 3 and 0.3 mg/l were significantly higher, showed a better result than other experimental variants.

Keywords: *Glossostigma elatinoides*, aquascaping, *in vitro* culture, clonal micropropagation