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First Results on *In-Vitro* Propagation of *Genistella sagittalis* (L.) Gams (Fabaceae in the Republic of Moldova

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Abstract: The paper presents the first results on the initial stages of *in-vitro* propagation of the rare vascular plant – *Genistella sagittalis* (L.) Gams (Fabaceae). This work was initiated due to the extreme rarity of the species in the Republic of Moldova. *Genistella sagittalis* (L.) Gams (=*Genista sagittalis* L., *Chamaespartium sagittale* (L.) P. Gibbs) is a subshrub. Blooms in June, fruits in July-August. In the Republic of Moldova, the species is recorded from a single locality (in the vicinity of Bahmut commune, Călărași district) and is situated at the south-eastern edge of its natural range of occurrence. According to the IUCN criteria, the species is assessed as Critically Endangered (CR A4c; B2ab(iii). As a rare species, it is protected by law in the Republic of Moldova and included in the Red Book of the Republic of Moldova. For inoculation of *G. sagittalis* L., the explants were taken from donor plants in early April, when the plants were at the beginning of the vegetation period, and in May, during the active vegetation. Apical meristems were used. The plant material was disinfected with a 0.1% diacid solution. Two asepsis regimes were used (4 and 7 minutes). For the initiation of *in vitro* culture, agarized and liquid Murashige–Skoog (MS) nutrient medium was used, supplemented with cytokinin 6-benzylaminopurine (BAP) in different concentrations (BAP – 1.5 mg/L, BAP – 0.5 mg/L, BAP – 0.2 mg/L, BAP – 0.1 mg/L). Following the research conducted, we determined that exposure to this sterilization reagent did not cause necrotization of the explants, however, asepsis with a 0.1% diacid solution for 7 minutes is more beneficial, because the infestation process of the explants was small and about 90% of viable inocula were obtained, following sterilization with a 0.1% diacid solution for 4 minutes, about 70% were obtained. The obtained planting material will be planted in the natural habitats in biotopes characteristic of the species' requirements.

Keywords: Genistella sagittalis; In-vitro Propagation; Sterilization Protocol; BAP Supplementation; Conservation Efforts.