

An Advanced Method of Plant Preservation and Colour Retention of Herbarium Specimens

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Abstract : Herbaria are specimens of preserved plants, which are very delicate and cellulosic in nature. While these collections are very useful for the enrichment of knowledge and are considered as natural heritage of our entire world, it is very important to preserve and conserve them. The significance is not only to prevent the herbaria from the deterioration of biological agencies but also to preserve its colours and retain natural colour. Colour is not only characteristic of a plant, but it can also help to identify closely related species or to distinguish a plant from a collection of herbaria. Keeping this in mind, a selective solution has been prepared for the conservation and preservation of herbarium in the present study. In this, the quantity of all the selected chemicals, i.e., formaldehyde and copper sulphate was kept constant, and the solution was prepared by dissolving it in distilled water by increasing the amount of picric acid (1, 2, 3, 4, and 5 ml). Fresh specimens of roses and bougainvillea were washed with distilled water and kept in the above solution for 10 to 15 minutes at room temperature. After 10 minutes, the specimen was removed from the solution, dried with the help of paper, and then pressed under the plant press. Blotting sheets were used to absorb the moisture content and were changed every 2 to 3 days to protect against fungal growth. The results revealed that all solutions had insecticidal properties and protected the herbarium specimen against pests. While in the case of colour retention, solution-1 and 2 were not satisfactory colour preservation, and solutions-3 and 5 maintained the colour of rose and bougainvillea leaves for 15 to 20 days and for a month, respectively. After that, the colour begins to fade, and the process is faster in rose leaves than in bougainvillea. And it was also observed that the colour of young leaves started to fade before that of older leaves. When the leaves of rose and bougainvillea are treated with Solution-4, then the colour of rose leaves is maintained for six months.

Keywords : solutions, colour retention, preservation and conservation, leaves of roses and bougainvillea

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