

## AN UNUSUAL IMPATIENS BIFLORA.

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On May 30, 1924, Mr. Hugh Hinkle discovered the unusual *Impatiens biflora* mentioned in this paper. It was found growing in blue mud 6 dem. from the water's edge on what is known as "Griffy Creek" and at the mouth of another stream called "Rocky Branch" in Monroe County, Indiana. When first seen the plant was 46 cm. in height. It was the only specimen of its kind and grew among many other perfectly normal representatives of *Impatiens biflora*. Attention was at first directed to it partly because it was larger and more thrifty than the normal plants. But especially it was noticeable on account of its unusual color. The stem was deep dark red. The alternate leaves were also deep dark red throughout, except for a green border 3 mm. wide. The deep dark red color of the leaves strongly resembled certain individuals of *Coleus Blumei*. The "purple color" often seen in *Impatiens biflora* was not even an approach to the deep red color of the plant here described. The same is true of the dull red color of the stem of *I. Haukeri* and *I. platypetala*.<sup>2</sup> The leaves were ovate lanceolate, coarsely serrate and averaged 6 cm. long and 3.5 cm. wide near the base. The petioles were rather long and stout. The leaves of the usual forms of *I. biflora* in our "range" are "ovate or oval, coarsely toothed," and have "slender petioles".<sup>3</sup>

The coarsely serrate form of the leaves of this specimen of *I. biflora* closely resembles the "deeply serrate" margin of the leaves of the Garden Balsam, *I. Balsamina*. No flowers were formed. The deep red plant was carefully transplanted to a shady place in rich damp soil where it could be protected and further observed. It grew rapidly and before frost it was potted and transferred to a greenhouse for further study. At first the stem was slender, with enlargements at the nodes. This specimen finally attained a height of 10 dem. The stem then grew much stouter and became enormously enlarged at the nodes, considerably more than the nodes of representatives of the Balsaminaceae ordinarily show.

After a time efforts were made to grow cuttings of this red *I. biflora* which is so readily done with the "indoor species". In this I was not successful. Light, temperature and chemical factors enter into the cause of the intense coloration in this specimen. Colored cell-sap may increase the temperature as is well known in various plants growing

<sup>1</sup> Britton and Brown. An Illustrated Flora of the Northern U. S. and Canada. 1913, 2d Ed., Vol. 2, p. 440.

<sup>2</sup> Bailey, L. H. The Standard Cyclopedia of Horticulture, 1919, 3d Ed., Vol. 3, p. 1644.

<sup>3</sup> Gray, A. New Manual of Botany, 7th Ed., p. 560.

<sup>4</sup> Bailey, L. H. l. c., p. 1642.

in damp situations<sup>5</sup>. Differences in the color of the flowers in the Balsaminaceae merits more attention than it has received. Since certain representatives of the Balsaminaceae, as the wild specimen here described, show at times a pronounced change of color to red or other color under certain conditions, these plants therefore constitute good objects for the investigation of the underlying causes. After the plant had reached its full size it shed the large leaves above mentioned and put out a large number of small leaves which were of the same deep red color as the first ones. The second lot of leaves were 2 cm. long and 9 mm. wide. Their margins were not green as were those of the large leaves, but were deep red. The margin was toothed like the large leaves which were first formed, but the petioles differed in being long and slender. The chemical conditions which in large measure brought about the deep red color so marked in all stages of the plant's development, and the absence of flowers, stand in close relation. This point also is worth further study. The plants of *I. biflora* will be studied in their original habitat next year in order to further ascertain the various points mentioned in this paper.

<sup>5</sup> Benecke, W. Pflanzenphysiologie, 1924. Vierte Auf. Bd. I. p. 86.