Local Variations and Other Notes on Blue-Eyed Grass (*Sisyrinchium angustifolium*).—By J. H. Barbour, M. B., Capt. R. A. M. C., *Halifax.*

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The following few notes on the above plant may be new to those interested in the flora of Nova Scotia and especially to those who have examined all our local species, I think that we should collect as much material as we can on variations, and particularly local variations, in order to see how far they arise and to what they point in the great scheme of adaptation to environment and the ultimate question of ascending or descending evolution.

So far, I know very little practically about Nova Scotian plants, as I have only had the past season in the country, but I did attempt to make a small collection, and while doing so was struck by the variation I saw in the flower referred to. So I made more extended observations on this species, which I think is one of your commonest flowers, just as common as the primsose (*Primula vulgaris*) is in England, on which for several years I made numerous observations on variation, the result of which I published in the form of notes each year.

Before proceeding further, let me give you a botanical description of the flower, which I dare say you know already, and then I will point out the variation observed in some one thousand specimens gathered this summer.

Nat. Ord., Iridaceæ. Perianth segments 6, blue, obovate, notched at the end and bristle-pointed from the notches. Stamen monodelphous. Stigmas thread-like, stem two-edged, leaves grass-like, plant slender, roots fibrous.

In one thousand specimens I noticed the following variations:—

60 specimens possessed only 6 leaves in the perianth.
20 " " " 5 " " "
10 " " " 3 " " "

The number of stamens corresponded to the number of divisions of perianth present.

The divisions of the perianth absent always belonged to the inner segments of the perianth.

As regards colour variation of perianth, first of all let me point out that the perianth is, as a rule, blue, and the outer leaves of it on the reverse sides are always lighter in colour than the reverse sides of the inner ones, the former being very light blue or almost white on the reverse side, while the latter on the same side retain their dark blue colour. Now, in the specimens examined, I found that the blue colour of the perianth is replaced by a distinct violet-purple in one hundred instances, and that this variation occurred not in fading flowers but in those in fresh, full bloom.

Another point I noticed, which is not a variation, but which I think may be found useful for diagnostic purposes, is the question of venation. Given only one segment of the perianth to look at, the outer leaves of the perianth are always marked by five distinct dark veins of blue, the inner only possesses three such lines.

The three outer segments of the perianth are always a millimetre or two broader than the inner three leaves, and the notches on the inner three leaves nearly always deeper than those on the outer three.

In about sixty specimens in a thousand you will find the bristle absent in the outer segment and replaced by a fringe.

I did not find one specimen I examined showing any trace of disease, and I only found one insect frequenting them, and that was a small black dipterous one.

These are all the remarks I have to make, except that these observations were made in Bedford and Sackville districts, Halifax County, N. S., and the variation occurred more in the open than in shade, and in low-lying places rather than higher.

Next year I hope to continue this series of observations on variations among plants here and extend them to other orders also.