the writer in $T$. sessile, but with a smaller number of parts. T. sessile when showing a monstrosity as above indicated, so far as observed, is always smaller than other individuals of that species in the same locality which are normal in other respects. The parts of the flower in Trillium, as above indicated, are not always increased but are sometimes decreased in number as the writer has further described in the case of T. erectum. The writer found another specimen of $T$. sessile which was transplanted in the spring of 1926, in order to follow out some of the above points. This has, heretofore, not been so easily attended with success as might seem to be easily possible. This is all the more unusual in as much as it is well known that plants of the genus Trillium are easily transplanted and successfully grown where ordinary care is exercised, as the writer has shown by an experiment extending over a long period of years. The specimen of $T$. sessile above mentioned which the writer has under observation had in 1926 the usual number of parts in only the androecial whorls. This flower had four sepals, four petals, the usual six stamens and four styles. All these parts showed in part the usual relation with reference to one another but all were much smaller than the normal specimens, for the various flower parts measured only one-third the size of similar parts in the control plants which were used for comparison. There were also four foliage leaves on this specimen of $T$. sessile in 1926 instead of the usual three leaves. These also, like the flower, were much smaller than those of the normal plants in the same vicinity. Their length was only one-third and their breadth one-half that of the average dimensions of the normal plants. This year (1927) this specimen of $T$. sessile did not revert to the usual number of parts. There were present three leaves, four sepals, three petals, four stamens and four styles. All the various parts were still below the normal size.

# MODIFIED NARCISSUS FLOWERS. 

## F. M. Andrews, Indiana University.

The writer has observed some specimens of Narcissus Pseudo-Narcissus whose flowers showed an unusual form and color. As stated by Bailey the flowers are "seldom green." In the so-called "full-flowers" part of the flower divisions of my specimens were more or less green and others entirely so, as stated below. This was particularly noticeable in the case of those plants which had been in cultivation for a protracted period. Within the last ten years during which time the plants have been under observation, from year to year, the green color gradually advanced in the segments of the "full-flowers" that were produced each season, until finally in the tenth year all of the flowers of the specimens, here referred to, were entirely green. The change from light yellow to green nearly always began in the peripheral division of the flower and proceeded inward toward the center. As regards the individual segments of the "full-flowers" the change to a green color
began at the tip and progressed downward, and in the first years of observation this advance was very evident during the period of blooming. However, in certain "full-flowers" some of the segments near the center of the flower showed an advanced stage of chlorophyll formation even before its completion in the outer divisions. In these flowers the trumpet was entirely absent.

A few other specimens possessed flowers of an unusual form. One of these bore a general resemblance to Narcissus incomparabilis. The leaves were slightly more pointed but the chief points of difference were in the flowers. The flowers were nearly erect and large with rather pointed segments. One of the chief differences was noticeable in the corona. This equaled the segments in length and was broadly barrelshaped. The outer end of the corona instead of flaring out, was strongly constricted and showed a fringe-like border of very narrow divisions. The color of the corona was deep yellow except the fringe-like border which was of a very light yellow color. The stamens and style were included as in the common N. incomparabilis. Only a few flowers showed the above mentioned differences and were growing among a large number of other specimens all of which were $N$. incomparabilis. For this reason the deviations above mentioned were all the more noticeable, and therefore stood out with surprising distinctness in comparison to the hundreds of uniformly shaped flowers of $N$. incomparabilis which immediately surrounded them. A dense bed of $N$. poeticus in which an actual count showed more than 4,000 flowers, which were fully open at the same time, showed only a slight tendency in two of the flowers to deviate from the normal. These two specimens suggested slightly the form assumed by N. poeticus var. plenus. Of all the forms of Narcissus which I have grown and kept under observation during the last ten year, N. poeticus has retained the original type form most perfectly.

## DEPOSITION OF MATERIAL BY WATER PLANTS.

F. M. Andrews, Indiana University.

It is a matter of common knowledge that various organisms, such as plants, play an important rôle in the deposition of material in bodies of rather still water, as for example, lakes and ponds. This takes place to a very noticeable degree in many ponds having a heavy growth of vegetation in the water, and into which very little soil is carried by erosion. When, however, plant activity, as here referred to, is supplemented by erosive action of the surrounding land, complete obliteration of considerable bodies of water, such as shallow ponds, may occur in a comparatively short time. This has been observed by the writer to progress rather rapidly in the case of some shallow ponds. About some ponds and lakes erosion is not an inmportant factor in this respect as was found by Evermann and Clark for Lake Maxinkuckee. Birge and Juday have estimated the organic matter in Lake Monona. Some deposition,

