

Tennessee rivers there was developed between each of the above long and short bars a still shorter and narrower bar, so that the coloration here consisted of whole, half and quarter bars. The Arkansas river also afforded exact representatives of this pattern.

Between the two patterns described every possible gradation was found. The quarter bars made their first appearance between the fifth and sixth whole bars. The whole bars toward the posterior end of the body increased in width and intensity of color near their ventral limit so as to give rise to an incomplete longitudinal series of lateral spots. These spots were more evident in the pattern consisting of whole, half and quarter bars.

Specimens from Texas showed the bars less regularly developed with a corresponding increase in the extent and distinctness of the series of lateral spots.

A great number of specimens taken from other tributaries of the Cumberland and Tennessee rivers all showed the longitudinal series of nine, almost confluent black lateral spots very highly developed, while the bars had become so modified as to form quite a close network over the dorsal half of the body. The young of this pattern had the spots less strongly developed, and the original bars could be easily traced.

It seems, thus, that the variations in the color patterns in *E. caprodes* are by no means promiscuous, but that they show a serial passage from one form, that consisting of alternate whole and half bars, through the form consisting of whole, half and quarter bars, and having the incomplete longitudinal series of lateral spots more highly developed to the reticulated form having a very prominent longitudinal series of dark lateral spots. I was unable to discover any relation between these variations and the latitude in which they occurred.

SOME QUERIES RELATIVE TO A SUPPOSED VARIETY OF SOLANUM DULCAMARA. By
R. W. McBRIDE.

The books describe the flower of the common Bitter Sweet, *Solanum Dulcamara*, as being purple in color. This, as is well known, is the usual color of the flower of this plant. Some six or eight years ago, however, I found in DeKalb county a specimen, which, while it in all other respects

resembled the common *Solanum Dulcamara*, had pure white flowers instead of purple. I sent a specimen of the plant with flowers to Prof. J. M. Coulter as a variety which I had not previously seen described, and asked for information. He informed me in reply that it was merely an albino sport. Silenced, but not quite satisfied, I continued my observations and learned that from the seeds of this plant were produced plants bearing white flowers only. I also found several other specimens in DeKalb and Steuben counties. In 1890, I changed my home to Elkhart, and there along the banks of the St. Joseph river, I found *S. Dulcamara* growing commonly, and also discovered that at least thirty per cent. of the plants bore pure white flowers. I am not a botanist, but a mere layman with the habit of occasionally using my eyes and thinking at the same time, and now appeal to this learned body for information. If I am not mistaken in my facts, and if in several counties of the state a large per centage of the plants of *S. Dulcamara* are white instead of the commonly purple color, should not the white specimen be denominated a variety? also is not the white variety a new and hitherto undescribed variety of *S. Dulcamara*? What does it take to constitute a variety of a species? How may we be assured that we have discovered a distinct variety and not a mere sport?

WORK OF THE BOTANICAL DIVISION OF THE NATURAL HISTORY SURVEY OF MINNESOTA. By D. T. McDUGAL.

NOTES ON AN EMBEDDING MATERIAL. By JOHN S. WRIGHT.

[ABSTRACT.]

A report was made of experiments upon a commercial "glycerine jelly," for embedding purposes. The jelly, a translucent glassy material, remains solid at temperatures below about 97° C. It is composed of glycerine, Na₂CO₃, and stearic acid, united at a temperature of 25° C. By adding alcohol in varying quantities four solutions were made which were used in infiltration of tissues. The experiments were not sufficiently extensive to establish the preparation as a valuable embedding material. All tissues used were vegetable.