

salver-shaped corolla of violet blue with a yellow eye in the centre, being an object of constant delight. But the attentive observer will notice that the eye varies, sometimes being made up of four anthers closely huddled together, and less frequently of two diverging stigmas. In the first case, if the tube of the corolla be slit lengthwise and laid open it will be seen that there is a short style and that the double stigma is considerably below the anthers. In the second case it will be observed that the anthers have very short filaments, and that the style, bearing on its top the forked stigmas, projects to the top of the corolla and perhaps a little beyond. At first sight one might be tempted to regard one form of such flowers as a "sport". But a closer observation has convinced botanists that there is a design in this double form. Let me quote Dr. Gray's interesting description as to what takes place: "Small insects, feeding by a proboscis, passing from flower to flower, take from the high stamened one some pollen upon the face, as it is brought down close to the orifice of the corolla when the proboscis is thrust to the bottom for the nectar there. When the insect passes to another flower of the same sort, it merely gets its face smeared with a little more pollen. But when it visits a long-styled flower, and brings its head down to the orifice it will apply some of this pollen to the stigmas, which are exactly in the position to receive it. So the high anthers are to fertilize the high stig-

mas. How about the low stamens and low stigmas, when the insect flies from a flower of the second sort to one of the first, as it is quite as likely to do? Why, the insect's proboscis, as it explores the flower, gets dusted with the pollen of the low anthers, and the pollen is neatly carried and applied to the similarly placed stigmas of the other kind of flower."

There are many other instances of dimorphous plants, and there are very many plans that nature takes to effect this cross fertilization. Nearly every flower so fertilized takes its own peculiar method to perpetuate itself. Concerning these methods much is daily being added to our knowledge by close and intelligent observation; and nature will only yield up her secrets to the diligent and earnest watcher. Every intelligent worker in science thus has it in his power to add something to the world's knowledge.

NOVA SCOTIAN GEOLOGY.

PAPER III.

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The following are rocks collected at Arisaig and Cobequid Mountains in Nova Scotia and in Drift, as well as at Boisdale and elsewhere in Cape Breton. I also give a list of the minerals which enter into the constitution of the rocks, and accidental minerals.

ROCKS.	MINERALS.
<i>Granites.</i>	<i>Molybdenite.</i>
<i>Syenites.</i>	<i>Calchopyrite.</i>
<i>Gneisses.</i>	<i>Pyrite.</i>
<i>Diorites.</i>	<i>Calcite.</i>