

Scotland, the collection of these dye "crottles," as they were called, was quite an important industry and proved of great value to the peasantry of some of the poorer tracts of the country. We have before us now a phial which has been on the shelf for about four years undisturbed. A portion of the thallus of an *Umbilicaria* collected on a rock in the neighborhood of Halifax was at that time put into it with a little ammonia and water. In a short time a rich purple liquid was formed. After a lapse of four years it is a rich purple still, and so deep in color as to make an ink with which this article might be written. Another phial taken from the same rubbish of our laboratory, with a different lichen, contains a brown colored liquid of similar origin. The purple coloring of a lichen can easily be developed by putting it into a phial or test tube with some water and a little ammonia. No matter how impure the ammonia-liquid may be, if the phial be kept for a short time in a warm place and occasionally shaken and exposed to the air, and if the lichen contains any red or purple coloring principles the color soon appears. The experiment is a simple one, and we hope it may be tried. The lichens most likely to give rich colors are those with a crustaceous thallus. The leathery flakes growing in rocky spots such as around Halifax, Bedford, Windsor Junction, Grand Lake, give beautiful purples. A magician could turn clear water into the color of a

purple wine by simply putting into it some clear Ammonia and a flake of black-brown leathery looking umbilicaria. No one can tell without actual trial what color a new species of lichen may give. To examine it for yellow, green or brown, chop it up finely and boil it in water alone. To examine it for reds or purples, add ammonia.

The more we observe this class of plants, the more shall we see, that though in comparison with the vegetable kingdom as a whole, its position is humble and low in the scale, yet it

"Holds a rank

"Important in the plan of Him who framed  
This scale of beings; holds a rank which lost  
Would break the chain and leave behind a  
gap  
Which Nature's self would rue.—"

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#### OUR CANADIAN BIRDS.

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#### PAPER IV.

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BY ERNEST E. T. SETON.

Closely related to the Family *Turdidae*, which we discussed in Paper III, is the Family *Saxicolidae*, which will now be treated according to the plan already laid out.

Family *Saxicolidae*.—Rock-dwellers (Latin *Saxicola*, rock-inhabiting.)

The Common Bluebird—*Sialia Sialis*.

The Arctic Bluebird—*S. Arctica*.

So far as we are concerned, this is a very small family, for it contains only the genus *Sialia*, the characteristics of which are well shown in the common Bluebird.