

In the denser shaded stations the fern was in company with *Asplenium Filix-femina* and *Cystopteris fragilis*.

Before proceeding to a consideration of the cliff ferns, it will be necessary to give a short description of a station already mentioned, namely, Credit Forks. This location is situated in the northern part of Peel County; there the Credit River has cut through the Niagara escarpment, leaving an exposure of clay and rock of about 345 feet in height. Commencing below the level of the Credit River a slope of red clay extends upward for 175 feet; overlying this is about 20 feet of Medina sandstone, while the top of the section furnishes an outcrop of 150 feet of almost vertical limestone of the Niagara formation. The clay slope is covered with a talus of blocks of sandstone and limestone fallen from the cliff above, and in the crevices of these rocks many ferns find roothold.

*CRYPTOGRAMMA STELLERI* (Gmel.) Prantl. (Slender Cliff Brake). Found usually on narrow, moist, shaded ledges of limestone cliffs. It roots, in company with moss, in detritus derived from the weathering of the rock. It is a frail and delicate species, very sensitive to sun and to lack of moisture.

*PELLAEA ATROPURPUREA* (L.) Link. (Purple Cliff Brake). In crevices of limestone cliffs; not nearly so sensitive to lack of shade and moisture as the former species. It is often found in dry situations under full illumination. It thus shows closer affinities with *Pteris*.

The two cliff brakes we have just considered are both found in the vertical limestone section of the Credit Forks' escarpment. It is worthy of note that they are entirely absent from the blocks of rock which cover the clay slope.

*SCOLOPENDRIUM VULGARE* Sm. (Hart's Tongue). This fern is found abundantly in Europe; in England it is reported as hanging from old ruins and even drooping from the stone curbs of wells. In America, however, it is exceedingly rare; it is found in Tennessee and New York, while in Ontario it is confined to the district between Collingwood and Owen Sound. At Woodford, near Owen Sound, it is found rooting in soil on the top of limestone rocks and cliffs; there it is associated with *Polystichum Lonchitis* and *Polypodium vulgare*. The ferns are shaded by paper birch, small maple and beech, with an occasional hemlock. It grows at Owen Sound from crevices in the walls of fissures in limestone rocks; but under these conditions, however, it does not thrive as well.

*POLYSTICHUM LONCHITIS* (L.) Roth. (Holly Fern). Has nearly the same distribution in Ontario as *Scolopendrium* and its habitat is practically the same.