THE PURSUIT OF NATURAL HISTORY IN MONTREAL AND VICINITY.

Having been requested to write an article on some Natural History subject, the writer thought that nothing could be more suitable or appropriate for the inaugural number of the UNIVERSITY GAZETTE than something concerning the natural history of the "land that we study in," and accordingly has selected the above heading for the following remarks.

In the first place, with reference to the Mineralogy of the district, a fair collection of Crystals of Calcite may be obtained at the limestone quarries in the neighborhood of the Mile End. The quarries are easily reached, either by walking or by the St. Lawrence Main street cars as far as Wiseman's corner, and then by taking the road on the right and walking up the village of Côte St. Louis for a short distance, the locality will soon be arrived at. The usual forms of the crystals met with here, are the common nail-head, the dog-tooth, and the hexagonal. Some of the nail-head crystals are quite large and transparent, attached by the lateral edges to the side of the fissures in the bedded rock. Quartz and Dolomite crystals have also been collected, as well as small cubical masses of Iron Pyrites.

By continuing in a north-easterly direction past the toll-gate at the head of the Papineau Road, and then for four or five miles to Cote St. Michel, any one, by making a few enquiries (in French) from the farmers, will soon be able to find out the exact location of "the cave." The sides of this cave are covered with stalactitic carbonate of lime, one or two inches in thickness, and occasionally a few small stalactites may be seen hanging from the roof. The inside of this place is very wet and muddy, and it would be advisable to postpone any intended visit till the summertime.

There are a few other minerals to be met with at the quarries, but they are much less common than the above. On the Mountain a great variety of specimens of Dolerite may be collected, the best place being in the Protestant Cemetery, where the workmen are continually blasting out the rock for drainage and other purposes—all sorts of specimens, ranging from nearly all Pyroxene to others nearly all Feldspar. Separate crystals of Pyroxene can only be obtained when the Dolerite is beginning to disintegrate, which does not often occur, although the writer has seen some very perfect crystals collected on the side of the aqueduct, about two miles out on the west end of the city.

Turning our attention to the fossils, the collector may resort to the Mile End quarries. Here, however, he may be slightly disappointed, as few fossils are to be obtained in the quarries themselves, but by a good use of one's eyesight, specimens both of the hemispherical and also of the fibrous Stenopora (*Stenopora petropolitana*, and *S. fibrosa*) may be obtained along with a few shells. It is best, however, to search along the fences. It is hardly necessary to add that the collector should, of course, be provided with a steel square-headed hammer and chisel, and be also well supplied with wrapping paper, to prevent the specimens from abrading each other. While at the quarries in addition to those fossils preserved in the rock, numerous specimens of Post-pliocene shells may be gathered from the sand overlying the limestone beds The commonest kinds are the Saxicava Rugosa, Macoma Groenlandica, and Mya Truncata, associated with occasional specimens of Macoma proxima, Mya arenaria, and others. The best locality for other species of Post-pliocene remains, is at the brickyards near Côte St. Paul, by the side of the beautiful glen on the west end of the city. At the last named locality, in addition to the shells, the remains of silicious and other sponges may be collected; some of the spicules of the sponges, when examined under the microscope, presenting curious forms, anchor-shaped, &c. Besides these, if the loamy part of the deposit be examined with a pocket lens, flat spiral-shaped shells of Foraminifera may be observed. The plan usually adopted is to bring home some of the material containing the forams, and then after drying it well in an oven, or in the sun, put some of the dried stuff in an earthenware basin, and pour in a sufficient quantity of clean cold water so as to nearly fill the basin. As soon as the clay has become soaked, stir up the whole, the object being to free the small shells from the clay, which absorbs the water quickly, and as the chambers or small cavities in the forams have become full of dried air in the first process of drying, when the clay is soaked and removed from the forams, the latter are buoyed up. Now, either carefully strain the surface water through a piece of muslin, which must be coarse enough to allow the water to freely pass through, and yet fine enough to retain the small shells; or what will answer the purpose, gently wave the water against the sides of the basin. If this process be repeated several times, the forams will be seen along the edge of the water, and may be removed either with a feather or with a camel-hair brush; the shells have then only to be carefully dried, and are soon ready for examination under the microscope. The commonest kind bears the expressive, though rather lengthy title of Polystomella crispavar striatopunctata. At Pointe Claire, specimens of the characteristic Tetradium fibratum may be gathered, and a few miles further, on the end of the island at St. Anne, the so-called worm burrows (*Scolithus*) in the Potsdam sandstone, along with shells in the associated Calciferous beds, are to be seen. On the north-east side of St. Helen's Island, a small deposit of Lower Helderberg limestone occurs, from which, with considerable difficulty, a few fossils may be obtained. In addition to the foregoing, there is a deposit of shell marl, and peat lying about a foot under the surface, in the low lands in the neighbourhood of St. Joseph Street toll-gate. This deposit contains a number of existing fresh water shells.

The student in botany will most probably find the east end of the Mountain and the woods beyond the St. Lawrence Road more prolific in the objects of his search than the west end, though of course flowering plants are met with all over. Some of the flowers, observed by the writer, growing on the Mountain, will certainly bear comparison, so far as general appearance, delicacy of structure and fragrance in the flower is concerned, with many of the costly, much-prized and much-cared-for exotics which are to be seen in the conservatories in our neighbourhood. Might not a similar overlooking of the charms of the wild flowers of his own native land, have suggested those lines of the poet Gray, that

> "Full many a flower is born to blush unseen,
> And waste its fragrance on the desert air?"

Those in search of Ferns will find species of interest, both in the woods in the neighbourhood of the city, and also on the Mountain. On the left side of the road to the Protestant Cemetery, one may find the Maiden-hair Fern along with others, and in the marshy spots between the cemeteries, and in the cemeteries themselves, many kinds are to be procured that are rather scarce elsewhere. On the east end of the Mountain the common Polypodium occurs abundantly, while in front, on the rocky ledges near the top, the smaller species Woodsia, and others, are found. Mosses, lichens, and fungi are plentiful—one of the latter, the Hydnum coraloides, being very handsome, and looking like a network of white coral. The microscopic examination of the petals of the flowers and sections of the plants found, will afford very much more pleasure than a mere cursory examination sufficient for determination of the species. For the purpose of making sections of most plants, an ordinary razor, which must be sharp however, will, for all practical purposes, answer very nearly as well as more costly apparatus. All that is required in addition to the sharp razor is a piece of smooth-planed wood and a steady hand. The leaf of the Mullein, which grows so common about the quarries, is well worth examining under the microscope, especially with polarized light, exhibiting its peculiar tree-like hairs, and the glandular hairs on the leaves of the common Sweet Briar are also interesting.

With reference to the Zoology, or animal life, the collector will find much that will interest him. In the first place, all sorts of creatures may be found living in the ponds, principally in those on the right side of St. Lawrence Main Street toll-gate. For the proper examination of these objects it is necessary to have a microscope; such a one as is now manufactured by Parkes & Son, and other English makers, for five guineas or thereabouts, has been the only one used by the writer, and has been found to answer as well for all ordinary purposes as the more expensive instruments, and is more likely to be well used by the beginner, by reason of the less loss in case it should be accidentally injured. Among the more interesting forms may be seen the Amoeba, Vorticella, and Cyclops, beside a common species of bivalve crustacean, having the valves of a whitish colour, and marked with three or four dark bands; only portions of the body of this creature can be seen extended beyond the edges of the valves, as it swims rapidly here and there over the field of vision. For the procuring of the larger life of the pond, it is better to have a good strong cord net fastened on an iron ring, to which a long