Observations On the Olympics

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IN the northwest corner of our state lie a nearly circular mass of rugged mountains. Their serrated and jagged forms have defied explorations. True, several parties have invaded the more accessible parts, but the interior is a **terra incognita.** The rivers have cut deep channels often to nearly sea-level.

The mountains often form on their sides talus slopes from base to summit. In climbing many of these peaks the loose stones will start downward, giving the climber a free ride. He has to step lively so as not to get his feet caught between the loose stones.

It does not seem possible that the northern ice sheet ever passed over these mountains. The writer believes that these mountains were raised after the glacial period, but at a time when the climate was still quite cold, and that local glaciers from the summits of these peaks moved down the river valleys for some distance, making their upper courses **U** shaped. The softness of the rocks makes erosion go forward with great rapidity. These mountains lack the granitic formation so common in the same latitude in the Cascades, hence the time necessary to cut deep river valleys is short. Everything goes to show that these mountains are young.

The precipitation is greater in these mountains than that of any other part of the state. There is every reason to believe that the same conditions existed during the geological periods. This fact together with the softness of the strata would account for eroding deep river channels in a comparatively short period of time. We will leave the geology of these mountains to the geologists and hasten to give a brief account of the plants in the region of Mt. Constance and along the Quilcene and Dungeness rivers.

There is nothing more beautiful than the large areas covered with **Rhododendron Californicum** which grows to the highest perfection about Hood's canal and extends quite a distance up the mountain slopes. Growing with it are many plants characteristic of low altitude, such as salal, psoralea, alder, willows and madrone. The common forest trees extend to about 2500 feet, when the forest becomes mixed with the lovely fir, the noble fir and the white pine. The underbrush is very dense along the lower course of the rivers. The Devil's walking stick is by far the most troublesome. These disappear in the higher altitudes and the forest is covered with the little bramble (**Rubus pedalus**) and other small plants found in corresponding altitudes in the Cascades. The ferns are also abundant growing very tall and beautiful. The sword fern, the maiden hair and the deer fern are the most conspicuous of the family. There are many graceful radiate tufts of the lady fern (**Athyrium cyclosorum**) growing in rich moist places. At an altitude of about 4500 feet the plants above mentioned give place to other forms much smaller. The forest becomes more open and distinctly alpine. The principal trees are the Alaska cedar, the alpine hemlock, the alpine fir and on the very summit are a few scrub trees of the black pine.

The deciduous trees in the lower forest are covered with a dense growth of mosses, liverworts and the licorice fern (**Polypodium falcalum**). This gives the forest a semi-tropical appearance. As we approach the alpine trees this green appearance gives place to the dull gray forms of lichens.

Some of these hang down and others form crusts on the trees. We find the trees decorated from sea-level to the summit. Some trees have long streamers waving in the wind. The forms of **Usnea** are the most common of these pendant forms.

As we begin to emerge from the forest region into the parks or meadows we find many herbaceous plants. Perhaps the largest and most characteristic is the Elk Grass (**Xerophyllum tenax**). This plant is called Squaw grass because it is used by the Indians in making baskets. Mountain Lily is another popular name for it. The Sitka valerian and the Mountain dock are always pioneers on the outpost of the open grassy slopes. There are four or more different kinds of huckleberry bushes loaded with fruit in the proper season. The rosy spiraea is quite common along the rills and with it grow several alpine willows. Among the roots of these shrubs grow **Mimulus aplinus** and **Mimulus Lewisii**, popularly known as monkey flowers. Both of these form dense mats—the former of small yellow flowers and the latter of large rose-colored blossoms. The white and yellow deertongues grow among the tall, waiving grass. Two species of Arnica and several mountain dandelions add more yellow to the scene while several species of Asters give a coloring of purple. Under the cliffs are two species of blue bells. The round leaved one, so common on the prairies, is equally well at home at an altitude of nearly 6000 feet. Several members of the lily family grow here together with three or four composite flowers, one of which proved to be new to science and was named from my collection. Near by on a stony slope was a dense mass of a pretty little union also new to science, while on the very highest peaks was a large purple violet also waiting to be christened. Thus were three new plants found near together and neither so far as I know has been found outside of the Olympics. There were three ferns growing on these peaks, namely the lace fern (**Cheilanthes gracillina**), (**Polypodium hesperimum**) and (**Polystichum lonchites**). These are strictly alpine ferns and are not seen about Puget Sound. There were several painted cups or Indian pinks in this region. Some of these were yellow, some red and others purple. The red, white and yellow heathers were also abundant. The most attractive of all, perhaps, was the purple larkspur (**Delphinium bicolor**). There were several members of the mustard family nearly all of which were small. The pea family was well represented both in number and beauty of coloring.

It would be out of place for me in a paper of this kind to name all the plants seen in the region referred to. I have indicated only those which I think are the most conspicuous and which would be observed by tourists. There is a great similarity between the flora here and that in the Cascades. The Olympic mountains seem to have fewer species common to the eastern states than do the Cascades. The Cascades have more common to the Arctic regions. The latter fact is just what might be expected because of the isolation of the Olympics. There is not the opportunity for north and south migration in these that there is in the Cascades. Hence the new and rare species of the Olympics belong more to the ordinary genera.

There is perhaps no other region in the United States that can equal the Olympics for hunting and fishing. The streams and small lakes are well supplied with trout. The large animals are fairly abundant in the interior of these mountains. Bears and cougars are often seen prowling along the well beaten trails.