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MOUNTAIN SPRITES.

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(Delivered Dec. 10th at the opening meeting of the
Winter Course, 1907-8.)

As I came into the hall this evening I was asked whether Mountain Sprites were birds, beasts or fishes, or at any rate to which branch of natural history sprites belonged. A sprite the dictionary tells us is a spirit, a shade, an apparition, and I have never yet found in nature anything to which such a title could be quite so appropriately applied as to the very elusive soberly coloured or extremely active butterflies which one finds on the summits of high mountains, where they flit up suddenly from the broken rocks, appear for a second or two and then close their wings and drop into a crevice or over a precipice where pursuit is impossible. Another disconcerting device is to drop suddenly to the ground and feign death, when followed closely, where they lie over sideways among the broken rocks with which such places are strewn, and thus become instantly and most effectually invisible. On the other hand these attractive creatures may come dashing at you out of space as soon as a ray of sunshine warms up the snow fields or rugged rocks, and then as suddenly disappear over a cliff or beyond a pile of rough boulders where pursuit is most difficult.

It may not be amiss to remind you, here, that chasing butterflies in the rarefied atmosphere and among the loose rocks on the bare summits, or on the boulder-strewn slopes of a mountain over 8,000 feet high, is an entirely different proposition from even a long trying chase over level meadows and through the woods of the lowlands. The very fatigue of violent exercise of all kinds at such heights is a factor which constantly forces itself upon one. Added to this any recklessness, accidental stumble or mis-step near the edge of a ravine may easily result in a serious accident, involving perhaps a sudden and involuntary descent of some thousands of feet.

There are many species of fragile butterflies and insects of all kinds, which are found only on the bleak and wind-swept summits of high mountains. These are naturally, on account of their rarity in collections, a great attraction to entomologists whenever opportunities occur of seeking for them in their native haunts.

In response to the President's invitation to speak for a few minutes this evening on "a collecting experience of the past summer," I am going to tell you of a short expedition made on the 4th of August last in company with my friend Dr. Henry Skinner, of Philadelphia, the well known authority on many branches of entomology and the Editor of Entomological News. The chief objects of our search were some species of mountain butterflies discovered by Mr. T. E. Bean whose excellent work on the butterflies of the Canadian Rockies has made Laggan, the place where he lived for some years, a classic ground for entomologists. We decided to stop at this Mecca and endeavor to secure among others, specimens of *Argynnis alberta*, Edw., and *Eneis beanii*, both discovered for the first time by Mr. Bean in this locality. The chief object of our search, however, was the beautiful and most interesting *Argynnis astarte*, Dbl.-Hew., which has a very interesting history. This butterfly had been described in 1848 from a specimen brought back to England by a collector sent out by Lord Derby.* Owing to the small appreciation of the value of exact localities in those days and even to-day with some of the entomologists in Europe who deal with all-world collections, the inaccurate and indefinite locality given on this specimen was "Jamaica," which was one of the points of call of the collector in proceeding to or from North America. In 1888 Mr. Bean who was then living in the Rocky Mountains, re-discovered the species which had been a mystery to all entomologists from the time the single specimen was taken back to Europe. As Mr. H. J. Elwes, one of the most astute of the English lepidopterists, wrote to me just about that time, it seemed almost impossible that a species with the general appearance of *A. astarte* could be a tropical insect, and he felt sure that this insect would prove to be an arctic or high alpine form, which would be found in the Rocky Mountains if anyone would go and search for it. He even offered to subscribe £200 towards such an expedition. Just about this time, by a curious co-incidence, Mr. Bean sent specimens of the butterfly, together with several other new species, to Mr. W. H. Edwards of Coalburgh, W. Va., for identification, and Mr. Edwards had decided to name it *A. Victoria* after our late beloved Queen, Victoria the Good. This fine

insect is not only extremely rare and difficult to obtain because of the inaccessibility of its habitat, but is exceedingly active and difficult to catch even under the most favourable circumstances.

We arrived at Laggan Station on the Canadian Pacific Railway on the morning of August 3rd. The station is almost at the highest point reached by the railway (alt. 5037 feet above sea-level) in passing over the main chain of the Rockies, and is close to the dividing line between the provinces of Alberta and British Columbia. It was a glorious morning and we enjoyed thoroughly the drive of four miles or thereabouts up through the woods to the Chalet Hotel on Lake Louise. Our hopes rose to a high point as we saw the numerous butterflies and other insects flitting along the flowery banks of the roadway. Having arrived at the Chalet, perhaps the most picturesquely situated and luxuriously comfortable, even of the Canadian Pacific Railway hotels, we at once made preparations for our journey up to the happy hunting grounds on the top of Mount St. Piran, a mountain towering up 8,500 feet to the south of Lake Louise. Alas, however, we were to be disappointed. Lake Louise, which on our arrival, from its beautiful colour well deserved its original name of Emerald Lake, in an hour's time was entirely changed in appearance, for heavy black clouds rolled over from Mount Lefroy and Victoria Glacier, and very soon descended in such a torrent of rain as only can fall in the mountains. Frequent showers followed throughout the afternoon which made an ascent of the mountain quite out of the question. Short excursions, however, along the side of the Lake and along the carriage drive, enabled us to secure some insects of interest. Among these were specimens of a reddish "black fly" (*Simulium fulvum*, Coq.) which little knowing their danger were stupidly persistent in circling around our heads. On the flowers of the tall Spiked Willowherb and the large golden flowers of an Arnica, we secured many bumble bees and a few *Plusias*. While waiting in a boathouse between showers several specimens of two species of mosquitoes were enticed from their native wilds to our collecting boxes.

The next morning we were up bright and early, and although the day was not very promising, we started up the mountain in a light shower of rain, hoping that on the summit conditions would improve.

To those who have never enjoyed the exquisite pleasure of threading their way up through the rich forests which clothe the bases of our grand mountains in any of the great chains of the Rockies, and then on through the diminishing groves of

trees, shrubs and bushes to the delightful flower-laden mountain meadows above, the idea that every fresh zone of vegetation is teeming with animate life characteristic of each altitude, must come somewhat as a surprise. This, however, is known actually to be the case by all who have been fortunate enough to enjoy such a climb as my companion and I did last August. From the base to the very summits capped with snow, which at a distance seem to be so bare and forbidding, we find that not only the plants but the animals, birds, and insects, keep rapidly changing with each succeeding modification of the conditions of life, due to the varying altitudes. The recognition of the various denizens of the mountain forests, streams, meadows, and rocky crags, as each group appears and then gives place to others better able to stand the rigours of higher altitudes, gives an indescribable charm and exhilarating zest to an ascent of one of these mountains.

On leaving the hotel we pushed on through the woods with our eyes ever on the alert to notice the different trees, shrubs and abundant flowering plants. A circuitous path up the side of the mountain brought us to the Lakes in the Clouds, Lake Agnes and Mirror Lake, two beautiful pieces of water which lie on the flanks of St. Piran. Here we hoped to find *Argynnis alberta* among the shrubs and low groves of conifers, but we were too late in the season to get this local treasure. Above the lakes the mass of the mountain slopes away gradually to the summit over meadows which were ablaze with lovely alpine flowers and where clumsy bumble bees hummed busily from one bright blossom to another. Many of these beautiful mountain blossoms were of so much interest that we cannot pass them by, and indeed they were the chief interest of our expedition, for with the exception of a few moths, one or two butterflies, and some small insects of various orders, found here and on the surface of the snowfields at the summit, our expedition was rather unproductive in specimens, although most enjoyable from the opportunity of seeing new friends in all forms of life, among the sublime surroundings of the mighty mountains which form the backbone of our continent. The scenery in that part of the main chain of the Rockies is beyond description magnificent. From the summit of Mount St. Piran we looked down upon the lakes below with the Chalet nestling, half hidden among the trees, at one end of Lake Louise, and further off in the valley of the Bow, a slender thread showed where the railway made it possible for new lovers of nature to come and enjoy this wonderland. Beyond this again, across the Bow Valley, was the great Sawback Range. Nearer to us

were many mountains of equal height or soaring above that on which we stood. As we watched the snowfields on Mount Lefroy we noticed what appeared to be a little puff of snow or cloud rolling down the precipitous side, and many seconds later we appreciated, by the roar of sound that was brought to us, that this had been an avalanche of perhaps thousands of tons of ice and snow which had been dislodged by the action of the summer heat.

On the whole our trip it must be acknowledged, as far as insects were concerned, was half a failure, because we did not succeed fully in the object of our quest. When we reached the summit where the butterflies we most desired are to be found, we were met by a strong freezing blast which came up from the other side of the mountain with such force as to make it at times almost impossible to stand. The sun was for most of the time hidden by rolling clouds laden with snow, which almost incessantly fell in flurries during the hour and a half we were on the summit. For a few minutes the sun came out and I saw a black object like a drifting leaf rise from a bed of broken rock and drop suddenly upon another one. This I knew to be *Æneis beanii*, one of the Mountain Sprites we were in search of. It was within a few feet of me and gave a good instance of the almost incredible difficulty of finding these insects which nature has so well protected by their resemblance to the rocks amongst which they live and by their secretive habits. I saw the little creature fall almost at my feet within a space of two feet square where not a blade of grass was growing, and yet it was only by going down on my hands and knees and picking off one by one every piece of loose stone that at last I detected it by a movement of the wing as a small piece of rock fell upon it. It feigned death perfectly and was easily picked up and dropped into the killing bottle. No other specimens were seen except one *Argynnis astarte* which Dr. Skinner says came towards him as though it had started from the south pole and when he raised his net to make a stroke, made for the north pole as if it meant never to stop till it reached there. The temperature was below freezing, snow was falling and the wind blowing a perfect gale. The sun showed no sign of being in a kindlier mood, so after a stay of an hour and a half we made up our minds to revisit again the flowery fields below. Here we were well repaid by the many objects of beauty which we found on every side. Around the Lakes in the Clouds the rocks were covered with mossy Saxifrages and the rich flowers of the Wide-leaved Willow-herb. Here also we found beds of the White Dryas (*Dryas octopetala*, L.) a low alpien

shrub with creamy white flowers, and close to the water, sturdy bushes of Labrador Tea, the same as we get in our eastern swamps, the small-leaved mountain variety *microphylla* of *Kalmia glauca* and other bog plants. Among flower-laden bushes of the White-flowered Rhododendron, the tall graceful spikes and almost tropical foliage of the False Hellebore (*Veratrum viride*), were conspicuous, together with bushes of *Lonicera involucrata* showing both the small yellow twinned blossoms and dark purple berries surrounded by their enlarged claret coloured bracts. Here too Lyall's Larch and *Abies lasiocarpa*, heavily loaded with their curious cones, drew the attention of the passer by. The striking crimson flowering spikes of the Greenland Lousewort and three other species of the same genus, *Pedicularis contorta*, *racemosa*, and *bracteosa*, all grew close together on a springy slope, mixed with the graceful white-flowered Grass of Parnassus, the large purple daisy-like flowers of *Erigeron salsuginosus*, Lewis's Mimulus, scented Valerians, golden Buttercups, Arnicas and Cinquefoils. Higher up the slope were seen beds of Alpine Asters, Golden Ragworts, some of the smaller Fleabanes and showy Pentstemons, all of which added their quota to this scene of beauty. The feathery seed heads of the beautiful Western Anemone (*Anemone occidentalis*), stood well up above the low grasses and sedges. Higher up the mountain side we found in perfection the handsome white cup-like flowers of the same plant, and higher still nearer the snow, the young buds lying like white satin buttons close to the ground. With these were also the pretty blue tinged flowers of Drummond's Anemone and hosts of other alpine flowers too numerous even to mention. A word, however, must be said of the beds of mountain heather which are such a charm to all visitors to the mountains. These are of three colours and although they are not true heathers, they belong to the same natural order, the Heath family. The most beautiful is the red-flowered heather, *Bryanthus empetriiformis*, then the white, *Cassiope mertensiana*, which grows on St. Piran in wonderful beauty. An interesting but less showy plant is *Phyllodoce glanduliflora* which has clusters of greenish white flowers. Right on the bleak summits of these mountains large patches of the lovely little Moss Campion, *Silene acaulis*, are to be found. This little plant consists of numerous stems all bunched close together like a tuft of moss. The annual growth consists merely of half a dozen leaves and one large flower at the tip of each little stemlet, giving the whole tuft the appearance of a green cushion thickly studded with rosy pink blossoms.

As we left the Lakes of the Clouds and went down the

slope to the Hotel, we noted a few more floral treasures nestling among the feathery mosses which covered the ground everywhere among the tall trees. Here the deliciously scented Twin-flowers and Single-flowered Pyrolas were abundant and the Star-like flowers of *Clintonia uniflora*, prettily called by Mrs. Henshaw "Queen Cups," looked bravely up from between their shining leaves and were intermingled with delicate orchids and many other treasures characteristic of these woods. We reached the hotel towards sunset, not particularly laden with treasures of the chase, but perfectly happy after one of the most enjoyable days we had either of us ever spent with Nature.

BOTANICAL NOTES.

RHUS ITHACENSIS, Greene, Proc. Wash. Acad. Sci. VIII, 178.

R. glabra, Macoun, Cat. Can. Plants, I, 100.

R. glabra is a southern species which does not occur in Canada. An immature specimen collected by Dr. Geo. Dawson at the Lake of the Woods (Herb. No. 10069) Dr. Greene believes to be an undoubted undescribed species, but the specimen is too poor to describe.

RHINANTHUS OBLONGIFOLIUS, Fernald, Rhodora, IX, 24.

Distinguished from *R. Crista-galli* by its wider crenate-toothed leaves and the much broader yellow lateral teeth of the upper lip of the corolla. Common on alpine meadows and slopes on Table-topped Mountain, Gaspé Co., Que. (*J. A. Allen, Fernald and Collins*). Several specimens in our herbarium from Labrador and the Hudson Bay region apparently belong here, but they have not retained their green color which Mr. Fernald says is a characteristic of *R. oblongifolius*.

EUTHAMIA OCCIDENTALIS, Nutt.

In thickets, Lake Okanagan, B.C., August 14th, 1891 (Jas. McEvoy). Our only Canadian specimens. Referred at time of collecting to *Solidago lanceolata*.

J. M. M.



Fletcher, James. 1902. "Mountain Sprites." *The Ottawa naturalist* 21(12), 225–231.

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