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Alpine Flowers. By Thos. W. Hinchliff.

OUTSIDE scoffers have often accused the members of the Alpine Club of being mere climbers, semi-lunatics, who through the whole summer live in an atmosphere of self-imposed peril, ready at any moment to risk their lives for the empty pleasure of scrambling where nobody else has scrambled before, and without a particle of intelligent interest in anything that they may happen to see by the way. This may be the case with some, but a glance at the list of members will abundantly testify to the fact that some of the most enterprising and successful climbers have found time also for doing good service in geology, botany, surveying, and glacial science, the last of which especially would have had very small chance of advancement without the labours of those who, at the time, were probably classed among the unprofitable and aimless lunatics. The mountain world is well known to afford the highest possible interest to the scientific student of natural history; and even the humblest lover of nature may derive infinite pleasure from cultivating his favourite pursuits among the most apparently desolate regions of the High Alps. There is no small gratification in a successful hunt for crystals in the rocky fastnesses above the Col du Géant or the unfrequented precipices behind the Aiguille Verte; and great as is the pleasure of ascending the moderate mountains of 11,000 feet or 12,000 feet above the sea, the pleasure is very greatly increased to a lover of flowers, if he can find a blooming bunch of the purple saxifrage or *Ranunculus glacialis* on its topmost rocks. Those who undertake the longest and most arduous expeditions have certainly a good excuse wherewith to defend themselves

from the charge of not making use of their eyes; they may say with the utmost truth that they have no time for making use of anything but their hands and feet. The whole success of such expeditions depends upon all the party progressing like one man steadily towards the object in view; and the interruptions and delays caused by any one hanging behind or straying to the side would, in many cases, entail failure for all, and dismal objurgations upon those who caused it. The scientific mountaineer must, however, remember that in all probability no one would ever have cared much to investigate the little mountains if it had not been for the big ones. To our ancestors and predecessors, from Ovid downwards, a mountain was a mountain, and a snow mountain, large or small, was simply a thing to be avoided and accursed. It is only in very recent days, amidst the general thirst for new experiences and fresh fields of knowledge, as well as of pleasure, that men were tempted to investigate the awfully mysterious peaks which pierced the blue of distant skies, and seemed to offer a universal challenge which generations after generations had declined to accept. It was the view of Mont Blanc from Geneva that first tempted De Saussure, the father of mountaineers, to break through the fears and evil auguries of his contemporaries; and let it never be forgotten that this first enthusiastic climber was also eminently distinguished in the fields of natural science. The more of our modern mountaineers who can be found to imitate his example, the better it will be for themselves as well as for the rest of the world.

Admitting that the longest and most arduous mountain expeditions give little or no time or opportunity for the careful examination of anything but rocks, snow slopes, and crevasses; admitting further that we number among us certain youthful enthusiasts who will not condescend to feel the smallest respect for anything in the mountain world except the most difficult peaks, passes, and glaciers to be found, and who would rather toss and tumble in their beds than waste their time in the pleasures of a quiet walk: admitting all this, I cannot but think there must be a large number of the somewhat less ambitious order, who find the pleasures of each favourite Alpine haunt very considerably increased by a taste for the more or less scientific scrutiny of the natural objects which surround them. In addition to those who may from various causes be unable or unwilling to enrol themselves among those worshippers of the Alps, who will sacrifice upon none but the loftiest altars, there are many who, after having performed their share of reverence in that particular form, still retain their old veneration for the mountain world,

though satisfied with less elevated shrines. For my own part, I can very confidently say that the attractions of the Alps increase in number and intensity every year that I find myself among them. Memory is too weak to retain the whole splendour of scenes which each year seem in reality to surpass the expectation; and those who have a general knowledge of the mountains, will find an ever-increasing pleasure in the examination of their details.

For the present moment, I have no concern with glacial theories or the many stupendous questions which present themselves to the consideration of those who have time and inclination to use their eyes and their brains while climbing among the recesses of the High Alps; but my thoughts have been induced to wander among ferns and flowers by a perusal of Mr. Robinson's book * of 'Alpine Flowers,' in which the author strives, not unsuccessfully, to prove that the greater part of the beautiful plants which contribute so largely to the beauty of the mountains may be cultivated in an English garden, and that, if the English Mahomet cannot go to the Alps, the Alpine Flora can be brought to Mahomet.

The title of the book is very attractive to those who are equally fond of mountains and of flowers, and find one of the highest forms of happiness in the combination of the two. I had hoped to find accounts of many wanderings in highways and byways, in rich valleys and rocky glens, and of the rare and beautiful plants that are to be found in particular localities, and at different seasons of the year. It was therefore with no small disappointment that I found only forty-two pages devoted to what is very properly called 'A Little Tour in the Alps.' The little tour consists of a trip on the Saléve; a walk through the valley of Saas in such weather that no flowers were visible till the snow was shaken off; the passage of the Moro; and the descent of the Val Anzasca from Macugnaga. The rest of the book is a gardener's manual rather than a traveller's companion, and the few illustrations of mountain scenery have, so far as I can see, no relation whatever to the places described in the text. We must not, however, forget that the term 'Alpine,' when applied to plants, is by no means exclusively connected with the Alps of Europe; and in the list of plants described by the author, and recommended for cultivation, are many that hail from Asia Minor and the Rocky Mountains, from Mexico and the Himalayas.

* 'Alpine Flowers for English Gardens.' By W. Robinson, F.L.S. (Murray.)

If we are disappointed at its not being a practical mountaineer's book, we ought to remember that it makes no pretension to be so; a very few pages are sufficient to assure us that 'it contains no exciting account of attempts to mount any peaks that happen to be a few hundred feet higher than those of comparatively easy access.' It may, nevertheless, be hoped, that Mr. Robinson will have other opportunities of being more fortunate in weather, and seeing more for himself how glorious are the Swiss flowers under favourable circumstances. If he could have spent a summer's day at Saas, and climbed up the wild slopes below the Weissmies, or scrambled about the sides of the Findelen Glacier, he would never have insulted such a gem as *Senecio uniflorus*, by saying that 'its flowers are poor, and should be removed, as tending to weaken and disfigure the plant.' This treatment may, perhaps, be applied with propriety to such specimens as can be produced in botanic gardens or artificial rockwork; but no one who has seen the flower in its native purity can fail to designate such a proposal as blasphemous in the extreme.

Though the author of this book has evidently as yet had few opportunities of seeing the flowers of a true Alpine country in their natural state of uncivilised beauty, it is equally clear that he has a true love for them, and a thorough practical knowledge of the best means of cultivating them. His remarks about the construction of rock-gardens are admirable, and he has by the aid of very careful illustrations pointed out in the clearest possible way what should be done and what should be avoided by those who aim at the successful reduction of these wild beauties into a state of domestic slavery. He has, as it were, dissected out many of them from their stony homes; and found that, though they may apparently have little or no means of subsistence, yet they are in fact nourished by masses of fine roots which push their way far into clefts and fissures, diving into a congenial soil at such a distance from the surface as to render them comparatively independent of changes in weather and temperature. Thence he clearly shows the principles that must guide us in the construction of places adapted for their artificial growth. It is not enough to pile up a heap of stones and brickbats and scatter a little earth at hazard on the top of them; there must be a proper depth of soil for the nourishment of the plants, and well-arranged apertures between the stones or rocks for the protection of the roots from the extremes of climate and temperature. Good drainage is perhaps more necessary than any other of the precautions to be taken. In

addition to the consideration of requisites, due weight should be given to matters of taste, and in this respect also there is probably no better guide than Mr. Robinson.

There is, of course, no doubt that very many of our established garden flowers are essentially Alpine in their origin; and every year is adding to the number of species which can be safely introduced from the upper regions of vegetation. Some of these, with even the most moderate care, may be maintained in all their natural perfection; others struggle feebly for a few seasons, and then perish; others, again, succeed very fairly, though with some diminution of the peculiar brilliancy which is the inheritance of so many children of the Alps. I have, for instance, for several years cultivated the yellow Alpine Foxglove; it proves itself a true perennial, and in a mixed bed it is a great ornament, particularly in combination with our own red and white varieties; but though it throws up abundance of very strong flower-stalks, yet the size of the blossoms and the depth of the colour are inferior to those which may be seen in the Hasli Thal or by the side of the St. Gotthard road. Anybody can grow the *Gentiana acaulis* or the Alpine Rhododendron with perfect success, but he may consider himself fortunate indeed if he can reproduce the dazzling blue flowers of the *Gentiana verna*, which is the chiefest ornament of the High Alps.

Many who have time and opportunity, in addition to a favourably situated garden, will doubtless find great pleasure and interest in endeavouring to raise many of those plants which are commonly supposed to be altogether dependent upon mountain air for their existence; the experiment will be laborious and expensive, besides being too frequently disappointing, but he who is prepared to open his purse to Mr. Backhouse and his ears to the counsels of Mr. Robinson, will have as good a chance of success as can be expected in a world of uncertainties. I leave the Alpine horticulturist safely in their hands, and am not going to infringe upon their peculiar province. Admitting my own devotion to the charms of horticulture, I must remember that the pages of the 'Alpine Journal' are not so much intended for gardeners as for practical pedestrians and mountaineers—men who would be more easily tempted to scramble over stony places in search of plants during the summer months than to bother themselves with their cultivation through the remainder of the year.

Considering the extreme beauty and immense variety of the Alpine flowers, it seems surprising that such a small proportion of our mountaineering fraternity ever pays the slightest

attention to them, or thinks it necessary to know anything beyond the difference between blue gentians and Alpenrosen. They lose a very great and lasting pleasure—a pleasure which not only greatly increases the enjoyment of each particular walk, but which throughout life will adorn and beautify the mountains as they appear before the memory. Hundreds of balmy openings in the forest, and dark glens among the rocks, instead of being merged in the vague mass of general beauty, become fixed for ever in the grateful remembrance of him who can associate them with the discovery of some unusually fine specimen of a flower or a fern. The habits of observation acquired in the course of his pursuit enable him to understand a host of details which escape the notice of those who only condescend to open their eyes when they get upon a glacier, and who shut them up again when they take off their spectacles on the return. He learns the art of adding an accurate and beautiful foreground to the magnificent pictures of the mountain world. He can feel no sensation of dullness, even in solitude; every sunny bank and every fern-nourishing stream speaks to him by the way, and he knows that even the dreariest spots may at any time produce some of his choicest treasures.

If plant-hunting in general is a delightful and instructive pursuit, it becomes doubly so in a mountain country. Not only are most of the Alpine flowers particularly beautiful in themselves, but the variety of elevation and consequent temperature enables us to study many of them under very different circumstances. Many others refuse altogether to modify their habits, and evidently declare that they will only live at a particular height above the level of the sea, or in one particular kind of situation; and it is a matter of no small interest to watch for and determine these very differently regulated plants. The *Gentiana acaulis*, for instance, whose dark blue trumpet-shaped flowers are well known in our gardens, seems exactly the same in size and colour at the level of the sea as in its native Alps, from 5,000 to 7,000 feet higher. Here, in Essex, where I am writing, we had in the spring about fifty blossoms at the same time on a plant one foot in diameter. The *Gentiana campestris*, on the other hand, has a much wider range of elevation, but varies in proportion. On the Riffelberg and Eggischhorn—i.e., from 7,000 to 8,500 feet—it appears in myriads during August and September, but is seldom more than two inches above the ground; in the Lower Alps it may be seen somewhat earlier about six inches high; but in the woods of Baron Rothschild, near Tring, in Hertfordshire, I have seen it of double that size, and with far finer flowers. The

common Alpine roses, *Rhododendron ferrugineum*, may be roughly said to range through elevations of from 4,500 to 8,500 feet without any diminution of their size and luxuriance, but in certain unfrequented rocks of the Riffelberg I have found them covered with bloom two or three weeks after the disappearance of the last blossoms in the neighbourhood of Zermatt. Thus, while some flowers give a kind of barometrical indication of their situation by the season at which they bloom, others tell the same tale by their stunted or luxuriant proportions. The same remarks of course apply to all hill regions, and I have been equally interested among the Organ mountains of Brazil in watching the gradual diminution of the magnificent bamboos, from 60 or 80 feet in height to about a third of the size as we ascended a few thousand feet above the hot and teeming forests of the lower land.

So also with respect to ferns. The Swiss Alps contain, I believe, no species of fern that is not occasionally found in Great Britain; while, on the contrary, after many years of looking through most parts of Switzerland, I have never there found a single specimen of *Scolopendrium* or *Asplenium Adiantum-nigrum*. If, however, we include the Alps from the Adriatic to the Mediterranean, we soon add to the British ferns several which, like *Pteris cretica* and *Nothochlæna marantæ*, require protection in an English winter, as they do not frequent great heights above the sea. But some of the hardier species which are common to both England and the Alps, have a very great range of elevation among the latter; and those who collect them will be much struck by observing the difference of appearance imposed upon them by a difference of conditions. Take, for instance, the holly fern, *Polystichum lonchitis*. The finest specimens I have ever seen of it were in the Creux des Champs, at the foot of the Diablerets, where the fronds rose in magnificent crests, some of them being 2 ft. 4 in. in length. About a third of the way up the Faulhorn from Grindelwald, they are almost as fine, and far more numerous; at the base of the Fée Gletscher Alp, and on the lower slopes of the Weissmies, the diminishing process may be seen; while hidden in the interstices of a group of loose rocks not far from the foot of the Riffelhorn, at a height of about 8,600 feet, I know of a few specimens which, though very interesting in respect of the elevation at which they contrive to exist, are scarcely larger than those for which the Keswick guides endeavour to extort fabulous prices. Close to these, and concealed by the same friendly stones from all but the most inquisitive eyes, may be found a few tufts of *Asplenium viride*, with fronds of about

half the usual length, but double the usual number—evidently the very best arrangement that could be devised for their protection at such an unaccustomed altitude. *Cystopteris fragilis*, in the same place, is not only dwarfed, but much beaten about by weather. About 100 yards further, however, in the recesses of a cave facing the Görner Glacier, and entirely protected from the possibility of a chilling blast, it may be found in thick bunches of delicate green fronds, as perfectly developed as if they were at the bottom of an Italian valley.

Very different from this audaciously ubiquitous fern is the beautiful and comparatively rare *Cystopteris montana*, which confines itself exclusively, as far as I know, to one level. I have never found it except on the northern side of the central chain which extends from the Wetterhorn to the Diablerets. It is to be found within a five minutes' walk from the Rosenlaui Inn; it is close to Kandersteg, at the foot of the Gemmi, and in an exactly similar situation at the foot of the parallel Rawyl Pass; and it is found again in a scramble among the lower rocks on the north side of the Diablerets. All these habitats have much the same elevation, and I have never found a single specimen more than a few hundred feet higher or lower.

With the exception of the *Woodsias*, by far the rarest fern in a Swiss collection will probably be the beautiful *Asplenium fontanum*. I have carefully examined banks, and hollows, and rocky clefts, in almost every part of Switzerland, and have never found a specimen of it except, strange to say, by the side of the carriage-road from Aigle to Sépey, where it is in great perfection and abundance, but *only within an area of a few hundred yards*. It is said to exist still upon the Saléve, near Geneva, but I have never been there. One of the most interesting objects of search is the *Adiantum capillus Veneris*. In spite of the assertion of a too enthusiastic lady, that she had found plenty of it in the Gasteren Thal, it may be pretty confidently stated that this fern does not exist in Switzerland proper, north of the main chain of mountains. Everybody who has been in Italy knows how universally it ornaments each shady rock from the Borromean Islands and the Grotto of Egeria to the extremities of the Two Sicilies. Where, then, is the natural frontier or barricade of climate beyond which the universal favourite cannot pass? In the course of crossing almost all the highways and byways from Switzerland into Italy, I have always kept an eye open for the first traces of this fern; and, for the benefit of anyone who may like to look for it in the same place, I may say that the point where I found it nearest to the great mountains is among some small

rocks about half-way down between Valtournanche and Châtillon. Here, thanks partly to the protection of a magnificent chestnut tree, it contrived to maintain a precarious existence; and I was greatly interested in seeing this luxurious child of the South reduced by starvation and unfavourable circumstances to the very edge of its grave. The tender little fronds were in no case more than 2 inches in length, and were almost destitute of the branching form. They looked so small and frail, so frightened perhaps at having got comparatively near the Matterhorn, that I thought one night of extra severity might destroy them so completely that the 'place thereof should know them no more.'

These are but a few samples of the circumstances of climate and situation which may give additional interest to the search for, and observation of, particular plants; the whole subject is full of attraction to anyone who has made the first start in it, and has found that 'Ce n'est que le premier pas qui coûte.' One fact cannot be too strongly impressed on those who wish to worship at the shrine of Flora Alpina—they must, if possible, visit the country between the latter end of June and the first week of August, after which time not ten flowers out of a thousand remain to be seen; it may be said pretty safely, that those who cannot leave home till the fashionable season, have no idea whatever of this peculiar glory of the Alps. The lower elevations should, of course, be chosen first for examination; Saas, Zermatt, or the Eggischhorn will keep for a week or two after such a warm corner as the Diablerets. Suppose we pay a visit to the latter at the end of June or the beginning of July. It would be difficult to find a more beautifully-placed high-road than that by which we wind up to Sépey from the valley of the Rhone. Rather more than half-way up, where steep rocks on the left look down into the profundity of the forest-clad valley on the right, there, as I have said, you may find to your joy the *Asplenium fontanum*. Feast your eyes upon it, for you will see it no more. As you turn to your right from the pretty village of Sépey you will see the tall stems of the large yellow foxglove, with long spikes of apricot-coloured blossoms, and make a note to bring home some of the seeds if you pass by any of them in the autumn. As to the Hotel of the Diablerets, it is then a house surrounded by a sea of flowers. As the peasant makes play with his slashing scythe, we wonder what kind of hay he expects from a crop which consists chiefly of geraniums, polygonums, orchises, purple salvias, and gigantic dandelions. In front is the magnificent cirque-like amphitheatre formed by the mighty rocks

of the Diablerets, down the sides of which leap half-a-dozen waterfalls, to form the stream which rushes by your feet, after twisting for a few miles through the pine forests which descend from both sides to overshadow it. These woods, and the wild open space near the base of the mountain, are a magazine of flowers and ferns. Here are masses of our garden columbines and *Aconitum anthora*, the yellow monkshood, mixed with exquisite clumps of the *Thalictrum aquilegifolium*, waving long pendulous bunches of lilac fringe. Inside the woods, the ground is in many places carpeted with the delicate white blooms of the *Maianthemum bifolium*, younger cousin of the lily of the valley, which is itself to be found in a few places higher up. Near the side of the stream, the *Pyrola media* is accompanied by groups of *Pyrola rotundifolia*, whose tall spikes of white flowers and orange stamens would do credit to the most refined of nosegays. Yet a little further in the wood, and at first singly, then in sheets of white, come the lovely blossoms of *Pyrola uniflora*. The white wax-like stars of this gem of flowers, which for a few days scent the air around them with a delicate oriental perfume, would alone be worth going far to see.

Emerging from the pleasant shade upon the open Creux des Champs, you fancy you see golden curtains hanging from ridges of brown rock, and festooned among the deep green branches of the pine forest. What a combination of colour! Scramble up through beds of oak fern and groves of that splendid *Spiræa* which waves its huge white crests before the breeze. Look up presently, and you will find what the golden curtain is made of. It is a magnificent laburnum, the *Cytisus alpinus*, whose roots are buried between the rocks above, while a thousand tails of yellow blossoms hang down in clusters before your delighted eyes. Farther on, in openings among the slanting woods, may be found the pure white blossoms of *Anthericum liliago*, one of the most conspicuously beautiful among the early flowers of the Alps.

In front of the rocky fortresses of the Diablerets is a kind of island, each side of which is swept by the streams that descend in long waterfalls from the mountain. The trees here lie strewed about the ground and torn to pieces in such numbers, that the place must be a very temple of the wintry winds; but among the battered remains may be found many a good example of a natural fernery. Not far from one of these streams, on a broken, rocky slope, partly covered with bushes, I found no less than fourteen distinct species of ferns within a few yards of one another. They were all in remarkable perfection, and

among them were many holly ferns more than two feet in height. A little lower down is a small colony of lilies of the valley; and a little higher up, close to the first opening rhododendrons, we found, among other treasures, the great *Aquilegia alpina*, before which all other columbines must hide their diminished heads. I know of no flower which may be found in more unexpected places than our old friend the lily of the valley. Once upon a time, rather late in the season, as I was coming down the last part of that curious path from the Enge of the Wetterhorn, I observed some of the leaves of this plant, and made a mental note to come and look for the flowers at a more convenient season. Seven or eight years afterwards, being at Grindelwald during the first half of July, I went straight to the place, and found thousands of them in the beauty of their early bloom. Only a very few hundred yards from the well-trodden route of the Great Scheideck, the huge unpromising slopes of loose stones and débris at the foot of the avalanche-shoots were literally covered with beds of these lovely flowers, varied by the lilac tufts of *Globularia nudicaulis* and the tall snow-white blossoms of *Anemone alpina*. A splendid blackcock, rising from some rhododendron bushes close by, testified to the normal quiescence of a spot which would probably be more visited if the sojourners at Grindelwald had any idea of the treasures in store for them at the cold foot of the Wetterhorn. The beautiful yellow anemone, *A. sulphurea*, is considered only a variety of the white *A. alpina*, but as far as my observations go, it often inhabits separate localities—a subject on which I should like to have further information. In the Grindelwald valley, for instance, I found that on the southern or shady side, the white form was universal; while on the sunnier slopes of the Faulhorn the yellow variety prevailed.

This was exactly the time for settling down into residence at the ever-beautiful Grindelwald. Everything was perfect either for high mountaineering or botanising, or a mixture of the two. The long midsummer days tempted us to stay out till the latest of late dinners, and then who shall describe the splendour of the scene as we sat in the balcony of the Adler Hotel, and saw the edge of the Eiger, and that great white wall of the Viescherhörner shining like polished silver in the light of a full moon, which was still hidden from us by the gloomy rocks of the Mettenberg? The house on the top of the Faulhorn was opened on one of the first days of July. The heat in the valley was tremendous; the upper third of the mountain was still covered with snow, but the middle region was a

garden of flowers, dotted here and there with patches of still unmelted snow. A long half hour's pull up the usual path from Grindelwald lands us on a tolerably level part of the mountain, where dark blue beds of *Gentiana acaulis* are close to some luxuriant specimens of a great variety of ferns. The yellow anemones are as perfect as can be seen, scattered on all sides in little groups and clusters among oak-ferns and rhododendrons, and the white clumps of *Maianthemum bifolium.* Moist places are gay with tall purple orchis, and the edges of a little stream are fringed with the delicate heads of *Primula farinosa.* Up among the rocks on the left of the waterfall, a short scramble will be rewarded by a good boxful of flowers, conspicuous among which I there found the best specimens of *Anthericum liliago* that I have ever met with. A little higher than this, as the snow patches become more frequent, we came upon abundance of *Primula viscosa* in full bloom. There is hardly a district in the Swiss Alps where, during the full summer and autumn seasons, you will not see scores of rocky ledges covered with the stout leaves and slender seed-stalks of this plant and several species closely allied to it. In spring and the earliest summer these primulas are in all their glory. The rocks are in all directions fringed with row upon row of their exquisite clusters of lilac and magenta-coloured blossoms, every vestige of which will disappear before the popular Swiss season has begun. The *Primula auricula,* a lovely flower of the purest yellow, is to be found only at or about the same time; but, as a rule, in very different situations. The *Primula viscosa* generally frequents the cool clefts of shady rocks; the *P. auricula* I have always seen at its best among grassy slopes, with its face towards the mid-day sun. It is frequently in company with our old English friend, the oxlip, as for instance, by the foot of the Blumlis Alp Glacier, where, near to the châlets, I have seen them both in perfection, and almost touching blue cushions of *Gentiana verna,* about a foot in diameter of solid bloom.

I have lately been talking of flowers which for the most part appear only some time after the melting of the snowy covering which has protected them through the winter. But on the Alps in early summer we have the opportunity of seeing much more impatient and uncontrollable flowers than these. On such Alps as those of the Faulhorn there are acres of blue and white crocuses in full blossom under the snow; and as the fierce midsummer sun daily diminishes the size of the snow patches, thousands of their blossoms emerge and gradually lift up with thankfulness their oppressed heads.

If you raise a few handfulls of rather deeper snow, you will find hundreds more of them lying almost flat upon the ground and anxiously waiting for their share of the great warmth-giver. A few feet only from the retiring snow, where the soil is still soaked with its melting, the purple bells and drooping fringe of the *Soldanella alpina* spring as by magic out of ground which is yet brown from its burial during six months of wintry sleep. Lovely indeed is this waking from slumber, this melting of death into life. On one of those bright first days of July we ascended the Männlichen, a grassy mountain about 7,500 feet high, which forms the angle between the two Lutschine rivers, and thus commands the valley of Lauterbrunnen on one side, and that of Grindelwald on the other. The collection of flowers grew rapidly as we moved upwards. Pink rhododendrons and purple columbines were supplemented by yellow anemones and blue gentians; then came the white crests of *Anemone narcissiflora*, beautiful to behold; then crocuses, blue and white, and beds of the lilac-belled soldanella on the margin of the snow. In open places upon the top was an abundance of the delicate *Lloydia serotina* and *Myosotis alpestris*, which far excels all other forms of forget-me-not. I made a large snowball, and bored a hole in the middle of it with my finger; into this I put the bright cluster of Alpine beauties, and made a bouquet whose effect could scarcely be surpassed. It was worthy of the scene.

The Riffelberg, which from the second week of August is about as bare as the South Downs, is in July an almost continuous carpet of flowers, and it would be a good summer's work to botanise this district alone. Half way up the path from Zermatt, in addition to the usual anemones, there is an abundance of the purple *Anemone Halleri*; and higher up comes the small but elegant *Anemone baldensis*, and some of the rarer ranunculuses, such as *R. pyrenæus* and *R. rutæfolius*. But it is impossible here to speak of these floral legions excepting in a general way. One fact is particularly worthy of observation. The higher we get among the Alpine flowers the more clearly we see what may perhaps be called the concentration of nature. Larger leaves and coarse stems gradually disappear with every upward step we take. The resources being so small, they are made the most of. There is no time for stalks and leaves in the short summer of the High Alps, so the whole energy of the plant is thrown into the flower and the consequent means of reproduction. The most beautiful gentians are almost entirely blossom; so is the brilliant yellow *Aretia vitelliana*, the *Androsaces*, the higher saxifrages, and a

hundred other inhabitants of such places as the Görnergrat. Eminent among them is the true *Myosotis alpina*, which, instead of wasting itself in straggling stalks, like our English species, forms close tufts of blossoms, massed together like a bunch of turquoises. Still more exquisite as an example of this is the *Eritrychium nanum*, whose dense blue clusters are scarcely raised above the ground, and I ought not to forget the ubiquitous *Linaria alpina*.

The Engadine is the beginning of that Eastern Alpine district which presents us with many plants which are seldom, if ever, found in other parts of Switzerland. At Pontresina, in August every rock and boulder in the woods is covered with the delicate and sweet-scented *Linnæa borealis*. The *Polemonium cæruleum*, our Jacob's ladder, is very abundant, together with various lilies; and before reaching the Rosegg Glacier, anybody of the most ordinary observation can scarcely fail to gather the Alpine daphne, and inhale a perfume which he is never likely to forget. The banks of the stream which rushes under the bridge at Pontresina are festooned with the lilac blossoms of the *Clematis alpina*; and the yellow *Papaver alpinum* may be found in abundance among the débris near the two lakes at the top of the Bernina Pass.

A word with regard to drying and preserving plants. People are often found to complain of a herbarium as being merely a collection of dead flowers that give no idea of their original and living beauty. This is certainly true of a great many among the finest of them, unless good fortune is added to great care on the part of the collector. With proper attention, he need never despair, particularly if he remembers that some of the most delicate flowers which would lose their colour in absorbent paper can often be preserved in full beauty by pressing them in an ordinary glazed sheet from the letter-case. Apart, however, from the interest of making and possessing a good collection, the system may be defended as the best way of obtaining a knowledge of plants. The processes of gathering them, handling them, laying them out, cleaning their roots, and carefully examining them at each change of the drying papers, all combine to give an accurate elemental knowledge which is easily increased and improved by the concurrent study of books. A plant that has been properly examined and preserved is so fixed in the memory that it ought never to be forgotten. But I must say no more. I have avoided all mention of the science of botany, knowing well that he who once adopts a taste for flowers will soon proceed to learn something more about them than that which merely

pleases the eye at first. He will soon find an increasing interest in the revelations of his pocket-lens and the extension of his herbarium. I have only mentioned a few of the typical flowers of the Alps and their abodes, in the hope of inducing some of my friends to search about for themselves. The pursuit will enliven many a dull walk, and lead them into many fair places that they would not otherwise have seen. In all countries they may visit, in all climates and in all weather, they will carry about with them a constant companion, and a distinct pleasure to be added to any which they may have previously enjoyed. The more countries that they see, the more they will enjoy the study of each separate Flora. He who has hunted up all the ferns and flowers of Devonshire lanes and Cumberland mountains is so much the better prepared for examining the botanical treasures of the Alps. So much the more is he disposed to enjoy the same pursuits in Southern Europe. The mountains of Greece and the Ionian Islands, for instance, will show him forests of gigantic olives with clusters of sweet cyclamens about their feet, and groves of myrtles still in fullest bloom, while clumps of snowdrops round their outer branches tell the approach of what we should call a premature spring. Still more will he be delighted if his happy fortune takes him into tropical regions, where old hothouse friends welcome him in wild luxuriance; where huge ipomœas and scarlet passion-flowers twine round the green bamboos; where cactuses fill every cleft among the granite rocks, and gorgeous orchids hang from the branches of a virgin-forest. And the more he sees and knows of each and all of them, the more compelled he will be, in reverential happiness, to think of those noble words, 'Consider the lilies of the field; they toil not, neither do they spin; yet I say unto you that Solomon in all his glory was not arrayed like one of these.'

The Ascent of the Cimon della Pala.

By E. R. Whitwell.

WHEN I read in Mr. Stephen's entertaining article on the Peaks of Primiero, which appeared in the February number of this Journal, that the Cimon della Pala and the Palle di San Martino were generally considered to be inaccessible; and further, Mr. Stephen's devout and almost pathetic wish that such might prove to be the case, an immediate desire took possession of me to see these peaks, and if possible attempt