was inscribed, also in German, the following: "When by God's help and the builder, M. Küba of Burg, I had built this house on the 8th of June, 1788, and by God's will and permission it had burnt down on the 24th of June, 1791, I rebuilt it again by God's help on the 28th of August, 1792, by the very same builder, M. Küba of Burg." There was also a back door to the house, and over this another religious verse. The old couple that lived there received us in the most friendly manner, and showed us all they had. It was a simple peasant's hut, consisting of one room. All was very clean, but there was nothing peculiarly Wendish about it. In a regular Wendish hut, the door opens into a passage-way: on one side of this, live the animals; on the other, the people. The small loft is used for hay, and is reached by a ladder from the passage-way.

Leipe is Germanized; and so we found at the dance, that, beyond the costumes of the women, and a very little bagpipe music, there was nothing to distinguish it from an ordinary German peasant dance. The girls looked very fresh, pretty, and tempting; but the men were not so pleasing: they took off their coats, smoked while they danced, and drank schnapps between the dances. The amount of spirits drunk among the poorer classes in Germany is considerable; among the Wends drunkenness is the prevailing vice, and the men celebrate market and feast days by intoxication. We learned afterwards that the second holiday at Whitsuntide is the only day in the year on which married women may dance. It was a pretty sight after the dance to see the Wendish maidens independently paddling themselves home through the moonlit canals.

The next day found the ladies of our party arrayed in Wendish finery. It is very becoming, and I advise some of my young lady readers to play Wendish peasant girls at the next fancy party they attend. The dresses, though short, by beginning high up on the person, manage to contain about as much material as a fashionable ball dress. A more lucid description than this my masculine stupidity is incapable of furnishing.

It was with regret we tore ourselves away from the nightingales, from the cuckoos that sounded just like real clocks, from the stirred eggs that we had come to look upon as the staff of life, and from the numerous quaint fascinations of the Spreewald. But Boreas was inexorable. We passed once more through Lehde, and after supper, and an unannounced theatrical performance in the Lübbenan theater by some members of our troupe, we took the train to Berlin, there to separate, as the pleasantest of parties must.

J. P. PETERS.

A BOTANICAL WEDDING-TRIP.

Looking northward from the old adobe city of Tucson, the Santa Catalina Mountains, about fifteen miles distant, appear to be a very distinct and isolated range of nearly bald peaks, with a green patch of forest on their tops; the whole rising majestically out of that great sandy, torrid, wind-swept desert that stretches for more than a thousand miles from the south end of the Sierra Nevada, to the southern portion of the Rocky Mountains.

It is evident to the ordinary observer that this desert was lately the floor of a vast inland sea. The sand and gravel bed is slightly undulated, and seems to be overlaid on all the plain, covering, perhaps, long ranges of mountains, leaving only the sharp peaks, here and there, rearing their metal-lined spires to the skies. So constant is this isolation of peaks, that, with few exceptions, the many mountain clusters of Arizona can be skirted by a horseman in a short time: most of them in a single day. But the Santa Catalina is a marked exception. It must be the

unsubmerged remnant of a long, wide, and lofty range in primeval times; for there yet remains, above the bed of this ancient sea, a range of mountains about seventy miles long, by an average breadth of twenty miles, and a hight of a little over ten thousand feet.

As remarked, looking northward from the streets of Tucson, or from the trains that pass parallel with the range for fifty miles, the Santa Catalina looks a gently rounded, smooth, innocent sugar-loaf, with a crown of green trees, pleasantly contrasted with the barren reddish sand desert that glares in the quivering heat between the mountain and the observer. A good field-glass, however, resolves the beautiful object into two lofty ranges of worn and splintered mountains, inclosing a large forest between them.

When we comprehended that a high valley was upheld there, fenced off by bristling peaks from the intrusive and scorching winds of the desert; when we were assured by the strong and determined botanist, Mr. Pringle, that he had just been baffled, after a long struggle, in the effort to penetrate to this valley; when General Carr told us that, to his certain knowledge—and he is an old settler, the founder of Fort Lowell—no white man had ever succeeded in passing over the southern rim of this secluded *terra incognita*, and that but recently it was one of the strongholds of the savage Apache nation;—when we learned all this, the information but intensified the resolution formed on a preliminary excursion the season before, that, inasmuch as this isolated region, of all others in the territory, must abound in rare and distinct forms of plants, and that, happily, it was as yet totally unexplored, we would make a determined effort to surmount all obstacles, and reach this hidden heart of Santa Catalina.

Arriving at Tucson early in March, we at once set about preparations for botanizing plain and mountain in the most effectual manner. By "we," in the foregoing sentences, I mean my wife and myself. We had been married on the Thanksgiving before, and this was our wedding-tour. My wife, being as enthusiastic and as devoted to botany as I, was the first to propose that, instead of the usual stupid and expensive visit to a watering-place, idling our time in useless saunterings, and listening to silly gossip, we should wait a few weeks, devoting the time to study; then, at the right time, make a grand botanical raid into Arizona, and try to touch the heart of Santa Catalina.

She was provided with a short suit of strong material, the best of firm calfskin shoes, nailed along the soles and heels with gimp-tacks, and reinforced by substantial leather leggings that promised defiance to cacti and serpents. A broad-brimmed hat with a buckskin mask, and heavy gloves, a botanical portfolio, and a long staff, completed her outfit. Mine was a suit of canvas, with the usual equipments of a botanist.

Only one night was spent in Tucson, purchasing and packing provisions for an absence of about a fortnight.

Hiring a conveyance next morning, we proceeded to the edge of the foothills of Santa Catalina, about six miles, where stood a stick-and-mud cabin, deserted a short time before by a Mexican who had been detected stealing horses. The cabin was a simple affair. Nine crooked posts of mesquite upheld the roof, formed of giant cactus ribs, overlaid with weeds, and coated with mud, raised highest in the center to shed rain. A mud chimney formed a part of one corner. The sides were composed of the thorny poles of the candle-wood thrust into the ground, and plastered outside with mud. So tenacious of life is this candle-wood (*Foqueira splendens*), that the gardens and yards of Tucson are fenced with it, growing like a hedge, and several of the poles of our cabin exhibited little tufts of green leaves among the thorny ribs. A small hole on the east side, stopped at night by a wad of paper, served for a window; and a swinging affair, made of pieces from a dry-goods box, cross-barred with barrel-staves, we called the door. A cracker-box was at once suspended from the ceiling by a wire, to serve for cupboard and food depository; for, by the many holes along both inside and outside of the walls,

it was evident that the premises were not totally deserted. A round ash pole divided off a portion of the floor for a deposit of weeds and "grama," upon which our blankets were spread, and the bed was ready.

The worst feature of our housekeeping at this place was the great distance to water, nearly three-fourths of a mile. You need so much water to cook with, and to cool your faces in that terrible heat, and you crave so much to quench thirst, drinking it by the pint, that regular trips had to be made over the hot sands, which were only to be crossed after nightfall; and a tiresome task it was to pack ourselves with oil-cans of water, and wade through the sand and weeds, when one needed the rest from the day's hard work botanizing.

From this cabin we sallied out every day at sunrise, to be gone all day, scouring the foothills for plants. These hills skirt the mountains proper with a border of about six miles; then commences the steep uprise of the mountains, and very forbidding they looked at close range. It took a week to explore the approaches, and to find supposed vulnerable places where the crest could be surmounted. Every way deep, inacessible ravines, with polished sides, were seen separating projecting ridges barred at intervals from bottom to top with vertical, sometimes beetling, walls; the red fiery earth glaring between, sparsely clothed with cacti and Spanish bayonet, under which crouched starved grasses, and silver-coated or hairy ferns.

During one of our last approaches to the base of the range by way of the rocky floor of a dry creek-bed, we fortunately discovered a cave in the side of a ravine, at a point where a curve brought the south side of the ravine squarely facing the grand uprise of the mountains. It was the merest horizontal crack in the vertical wall, approached by a perilous climb up a zigzag stairway of rocks; then a swing around huge bowlders breast-high, holding on by the fingers; lastly, a narrow passage through angular rocks to the mouth of the cave. The interior of the cave resembled a half-opened clam shell. We could only sit upright in one limited place. It had been inhabited, for in the dust floor were bits of pottery. I crawled in first, carrying a torch to drive out the bats and moths that thronged the ceiling. Piles of rubbish, cactus burs, etc., along one side, betrayed the presence of wood-rats. But we found no crumpled snake skins in the skirting crevices, so justly concluded that this cave was not, like many other rock clefts we had noticed, a den of serpents.

Into this small cave my brave little wife crept, and gleefully commenced to put her house in order. Wooden pins were driven into cracks, and cords stretched therefrom, copper wires attached, and soon our rations for the expected week's stay were suspended, safe from rats, mice, or lizards, in little bags and tin cans. With the expenditure of an hour's time, and the incurrence of much torture, an armful of dried and brittle "grama," or grass, was fished out from under cactus and mesquite bushes, and spread over the rough rock floor on one side, for a bed. But for the neighborhood of a spring, which had been discovered two days before, even this cave dwelling would have been uninhabitable. This was about an eighth of a mile away, over a high rocky ridge, then along a lovely plateau, planted with the majestic giant cactus, and decked with the loveliest stands of candle-wood, then down a deep ravine to where a large bright green hackberry-tree betrayed the presence of water. Its roots were firmly clasped about some fractured rocks, from which issued a little pure sweet water, seeping slowly, about a quart in five minutes, into a crack one inch wide by six long and four deep. Fortunately, we had a rubber drinking-cup, and this could be flattened and insinuated into the crack to reach the precious fluid.

It was a day's work to reach this cave, from the cabin six miles away, and to make ourselves passably comfortable for the first night.

A line of fire was built along the outer edge of the cave, to deter reptiles that might be disposed to visit us, as did the Gila Monster (now on exhibition in Oakland), which came to our stick-and-mud cabin one evening; and we lay down, protected by only

one blanket, but tired enough, and triumphant enough, for sound sleep.

But the experiment was a failure. The night was too cold, and the clothing too scant; besides, our appetites were so ravenous that half our week's provisions was consumed the first day. There was no help for it. We must return to the cabin next day for supplies. We must be hearty, strong, well-fed, and courageous before trying the ascent towards the gap in the splintered peaks to which we hourly turned our eyes during daylight, impatient at the long delays. What terrible trips those were to and from the cave and the cabin! The way was along a sandy creek-wash, with patches of bowlders and occasional steep ascents, the whole way beset with cacti of varied degrees of formidable armature, from the innocent pincushion cactus, that only catches to your feet and clothing with its fishhook spines while the other straight spines tickle you, to the horrid, wide-branching tree-cactus, with its long, glistening, barbed spines, that completely clothe limbs and buds, the latter being shed off so frequently, and in such abundance, that they form high mounds under the trees, and often are scattered about for many rods. Any of these spines are strong enough to pierce through a cowhide boot-leg; and when it reaches the flesh, you are gone. The retrorse barbs cause it to continue entering, the more you struggle. The best thing to do, is to break off at once what you can, and let the rest fester and come away with the pus.

Almost as cruel are the bushes of an accacia, appropriately called "cat's-claws," that crowd into the trail, and reach their slender limbs across the way, armed every half-inch with pairs of strong, recurved thorns, that tap your veins unawares, and cause you to add drops of blood to the perspiration that drips almost constantly from your person.

It was on the up trip the second day that the accumulated hardships came near breaking us down. It was in vain I had tried to get some assistance. I knew that our only neighbor, miles away, had neither horse, mule, nor "burro." There was nothing for it but to pack ourselves like burros, and struggle alone with our scheme. We were utterly self-exiled, and beyond all knowledge of men. Early in the morning, we had arranged our blankets, food, flower-presses, bales of paper, etc., into as compact bundles as possible; adjusted them to our shoulders by straps and cords, winding towels for pads around the parts that pressed upon our collar-bones; each with a staff in one hand, my wife with a coffee-pot of broma, with crackers crumbed in to prevent slopping over, held out in her free hand; a botanical pick in mine, with which to clear the way at times;—and so we started.

We were conscious from the first that we were too heavily burdened, but not a pound could be left; and we stopped often to rest, when a jutting stone or steep bank afforded a site upon which to lean our packs that could not be easily removed. But when the sun rose higher and beat down hotter, when the perspiration became continuous, when the ravine grew steeper, and the bushes and cacti thicker, when the long hours seemed to bring us no nearer to the grim old mountain, when the galled shoulders grew keenly painful, and blistered feet became unenduring, then, at about three P. M., it seemed that we could neither reach the cave that night nor return to the cabin.

It was after nightfall when we reached the cañon up which we knew was the cave. Here we left the greater part of our loads, enabling us to stagger on more easily. In silence, except when wounded afresh, we clambered up the steep, menaced at every step by the multiplied cacti, yucca, mescal, and thorny shrubs; creeping at last into the narrow passage, a lighted match revealed the black mouth of the cave, and Amabilis, falling on her face in the grass of the bed, exclaimed, "Thank heaven, we're saved!"

But our troubles were not done yet. The luggage from the mouth of the ravine was to be brought up, and water from the distant spring in the opposite direction. Supper had yet to be prepared and eaten. The bundles were yet to be untied and disposed into bedding. Surely, the reader can take in the situation, and imagine the time of night and our condition when we could light our protecting circle of

fire, and lie down to sleep, if possible, when so utterly tired out, and suffering excruciating pain from thorn scratches and bayonet thrusts, and with imbedded cactus spines throbbing and burning like hot needles.

How warm and dazzling was the morning light! How fragrant the odor of flowers! How brilliant the plateau of candle-wood beyond the ravine! How stately the giant cacti, standing like sentinels on the bluff, and how precipitous and forbidding the old mountain rose behind all!

Though refreshed by our comfortable bed, and actually strengthened by the severe toil of the previous day, we were yet too sore for extended explorations in the morning. So we sat on the stone porch of our cave, dug the thorns and spines out of our hands and feet, repaired garments, discussed events of the past few days, and planned the next day's ascent of the mountain.

Not an ounce of weight was allowed in our packs that could be avoided. Only a portfolio of botanical papers and half as many dryers; a sack for roots of ferns, in which were wet towels rolled into hard balls to keep them damp till needed; the botanical pick; for food and drink, a little tin pail of broma, with crackers crumbed in to prevent slopping, and in it one spoon. Grasping our staffs, and locking the door of our cave by drawing a bush before the passage, we started out early, and in ten minutes were tugging and panting, snatching flowers and ferns, gasping for breath, and exclaiming upon the new glories revealed at every landing place of the steep mountain rib.

From the plain below we had taken observations, and decided that a certain ridge, the one exactly before our cave, was the very one that led up to two splintered spires between which was the lowest pass on he south side of the Catalina; and this, of course, was the objective point of our efforts.

On the way up, what bounteous discoveries were made! Whole banks and rock clefts of the two new ferns, bits of which were first collected on this mountain just a year before—the *Notholæna Grayi* and the *N. Lemmoni*. Other rare species of the same beautiful but fragile genus were found, and a half-dozen hairy species of the large family of *Cheilanthes*. Also, the flowering plants that came into view as we surmounted the ledges, one after another, put on strange appearances. Some were rarely met with, perhaps only a few on the whole mountain, evidently estrays from their home on a distant mountain range. Of these, one is a large, strong-leaved plant, having all the hurtful qualities of the Spanish bayonet family, the *Yucca*, but which required a second visit, a month later, to determine that it was a little-known but beautiful yellow-flowered, sweet-scented *Agave*, the pericarp being *below* the floral envelope, and not *above*, as in the *Yucca* and others of the lily family.

Another is a beautiful member of the mallow family, and immortalizes a distinguished botanist, as *Thurberia*. Another shrub commemorates another of the early explorers, *Fendlera*.

Other plants having strange faces were seized, carefully put into our portfolio, and pressed hard, to await the day of examination. Some have been already determined, and named as new species; others await the decision of special experts. The higher we climbed, of course, the more interesting the flora became; but just as sure as we became excited over a discovery, and quickened our movements, so surely our eager hands and feet would be wounded by certain cruel guardians that menaced every step of the way. Chief of these was a cactus, called by the innocent name of *Opuntia Fulgens*, because of its long shining spines. The plant is often four to eight feet high, with wide-branching arms divided into limbs, each bearing clusters of buds about the size of a hen's egg. These are shed off by the parent plant in profusion, and if on level ground, they pile up and make a high mound all around the plant; but if on a declivity, they fall and roll to a distance. It is those sharp-spined balls, like hand-grenades around a fort in war times, that at any moment may receive your searching hand.

Another manacing danger, constantly to be feared in that hot climate, is the rattle-

snake. Once, when about half-way up, while hastily collecting one of the new ferns which grows usually in among the grass, I came very near placing my hand upon a large snake, warned only a second too soon by his loud hiss and interrupted rattle, enabling me to spring aside. Though we always carry a small bottle of ammonia for application to snake bites, yet, when one is exhausted and fevered by severe climbs, the virus from a bite is often fatal.

By ten o'clock we were well up the first bluffs of the ridge, giving us an extended view of the plain. Near at hand, seemingly, lay the square parade-ground of Fort Lowell, surrounded by tall green poplar-trees, half-hiding the line of officers' houses on the upper side, and the soldiers' quarters, hospital, commissary buildings, etc., on the other three sides; the tall flagstaff bearing the stars and stripes aloft, above the four silent cannon parked about the base — a beautiful revelation by our field-glass. Farther out on the plain, and to the westward, all in a bunch for protection against Indians, is the old city of Tucson. The protecting presence of the railroad has indeed caused enterprising Americans of late to buy outlying lands, and build up suburbs with houses in modern style.

Over the city, cutting the sky in the distance, lay Bobaquivera, a famous peak of South Arizona. To the south, fifty miles, rose the isolated, compact mountains of Santa Rita, the locality of the earliest silver mines of the Territory, once yielding fabulous quantities of metal. To the east stretched the Whetstone Mountains leading towards Tombstone, with its most famous mines of modern times. The northern horizon was hidden by the mass of rock—one of the ribs of Santa Catalina—against which we were bruising our feet and knees, while our heads were being roasted by the increasing heat on this treeless southern slope.

By eight o'clock in that latitude, on a still day, the sunlight takes effect with the intensity of noontime in Michigan and New York. But by ten o'clock, you are made aware that you are in a torrid climate. On we struggled, snatching plants and putting them in the portfolio, carefully rolling the roots of ferns in our wetted towels, and putting them in our sack, talking only in monosyllables, with bated breath, for most attention must be given to selecting the best routes around obstacles, if a choice presented, or the safest inclined plane through rock clefts. Often we had to return, and try other passages, and once we were obliged to make a detour of more than an eighth of a mile.

It was while making one of these deflections around a bluff about half-way up the slope that my wife met with a terrible experience, that came near terminating our trip. We were climbing slowly along, I in the advance, when suddenly I heard a cry of pain; and turning, I beheld, to my horror, my wife wildly shaking her gloved hand, in which was a bur of the frightful cactus described, which had dropped and rolled down from an unseen plant somewhere above. "Don't shake your hand," I cried; but too late. Every pain-propelled jerk had caused more and more of the long-barbed spines to enter her fingers, the buckskin glove only aiding their advance. Flying to the rescue, I seized her wrist, placed her hand near a jutting rock, then with my pick pressed the cruel bur into a crevice, and quickly withdrew her hand. Perhaps no torture known exceeds that produced by attempting to extract these spines from human flesh. One of the favorite tortures inflicted upon captive whites by the Apaches is to strip their victims of clothing, tie their hands and feet, then hurl them against these cacti, rolling them with their lances over upon the broken-down branches, until the poor wretches die from the fiendish torment. Animals in Arizona, impelled by hunger or thirst, often expose their noses to these attacks, when they become mad with pain, and die amidst frantic efforts to remove the burs. It is the worst country in the world for sheep. I have seen unsophisticated lambs that had caught a bur from lying down. In attempting to remove it with their teeth, the nose had become attached to their sides, and death from starvation was inevitable.

Wounds from the *Agave* or *Mescal*, and the *Yucca* or Spanish bayonet, plants of which are numerous everywhere in Arizona, differ from cactus wounds in this: the long, smooth, hard point is thrust into the flesh easier, and to a greater depth, usually; but having no barbs, it may be at once withdrawn entire. Not so with cacti. The loose sheath of the spine remains in the wound, and generally all of the brittle spine enters the flesh.

Not until four long hours after, when all except one of the obstacles that interposed between us and the summit had been surmounted; not until discouragement, induced by that forbidding barrier, prostrated her utterly—did my wife give way to the pain of the accumulated hardships of the trip, sink down upon a rock, toss her hand about to mitigate the throbbing pain, and moan audibly, while tears suffused her cheeks.

And what was that forbidding barrier? An abyss two thousand feet deep, and twice as far across, that everywhere separated us from the main mountain, no intimation of which had been conveyed to us up to the last moment, when we found ourselves standing near the verge.

There was no help for it. We must return, baffled. Beneath us yawned the chasm. Beyond, and far above, stood the guardian pinnacles, between which lay the narrow saddle through which we could not pass that day. For it was now three o'clock, and we had neither food nor blankets with us for passing the night on the mountain.

To the west, a ridge running parallel to ours could be seen, leading away quite to the base of the pass. "Too bad!" we both exclaimed, "that we could not perceive this from the plain below."

Baffled, dejected, wounded, and prostrated, how supremely miserable we were! But there was no time to waste in recuperation. To reach our cave before dark, it was necessary at once to commence the descent of the mountain. We took a direct course, that often led to the verge of precipices whose presence could not be seen from above; and our haste often subjected us to impalement upon the spreading points of the Spanish bayonet, or to fresh contact with the dreadful cacti and cat's-claw.

When near the base of the ridge, we slid down a chute of dissolved rock to the ravine below. Here we found that floods had channeled a narrow passage along the ravine, and polished the floor as smooth as glass; and at every decline had formed pot-holes with revolving bowlders, some of which were several feet deep, and still partially filled with stagnant, filthy water, that only tempted our thirst. We had to pick our way, as best we could, down these declines, often compelled to slide, not being able to hold fast, even with our hob-nailed boots. Twilight closed in early, for the deep ravine was on the east side of the ridge.

One after another of these sliding descents had to be taken, for there was no retreat, and no chance to flank the enemy. At last we came to a declivity of twenty feet direct, with a large caldron of yellow, grimy water at its base. This would not do. We would be drowned, perhaps, if we had the hardihood to jump so far. Vainly we sought for crevices in the walls, that would admit fingers and toes for scaling our environment. Very few bushes there, that dared to look over the wall. At length, with my long-handled pick, I succeeded in bending a bush down so far that my wife could reach the limbs and hold them until I could seize the larger part, pull myself up, and help her to a place of comparative safety again. The danger of our situation had induced such exertion, that perspiration wetted us as thoroughly as though we had indeed plunged into the pool; and now the wind of nightfall, rushing in a gale down the cañon, chilled us to shivering specters.

Fortunately, the wall was splintered, affording narrow shelves, along which we groped, helped by shrubs and tufts of grass, to which we clung—after examination for cacti. Soon the way became easier, and it was plain that the cañon was opening out on the desert. A few minutes' scramble, and a horse track imprinted the soft soil;

and a few steps farther, a trail. How we jogged along now, scarcely noticing our heavy bundle of plants, and the full sack of fern roots! How soon we became insensible to saber-wounds and imbedded cacti! How soon we forgot the dangers past, and fell into joyful conversation concerning the new plants met with! The little spring of pure, sweet water was directly on our way to the cave, and every drop was delicious.

Of course, the day following such an adventure finds one too fatigued and sore for extended excursions, so we spent it drying out our plants, completing notes of localities, attending to the multifarious details of camp life, and preparing for the next day's attempt; for, though baffled, bruised, and routed so thoroughly during this attempt to reach the pass, we were by no means disposed to relinquish the project. We had discovered the way to do it, the proper ridge to follow, and so diligently prepared to commence the ascent at an early hour next morning.

Being a longer ridge, and rising a thousand feet higher, the obstacles, dangers, and trials were proportionately greater. Again we were defeated, and by a similar chasm. From its top, however, we made sure that the next higher ridge to the westward led without a break to the pass, and two days afterward we climbed *its* rugged sides.

Will the reader believe it?—*that* ridge also terminated in a narrow, beetling bluff, as high, to be sure, but still widely separated from the near pass by a sheer rock cleft of fifteen thousand feet.

Surely, we conclude, the sacred heart of the "Saint of Sienna" is securely defended by a palisade of bristling peaks.

This third failure disheartened us. It seemed vain to spend more than two weeks' time, or to try more than three of these innocent-looking ridges.

It is inferential that they all end in spires, like the *yucca*, *agave*, and *cacti* that clothe them. Breaking camp, that is, packing ourselves again with our effects, we returned to the stick-and-mud cabin; and, as soon as a conveyance could be obtained, to the city. A conference was at once had with Colonel Poston, and General Rice, gentlemen interested in certain mines on the north side of Santa Catalina, and a plan was soon formed to assault from that quarter, as it was reported to be less steep—in fact, that animals could climb up, if led judiciously.

So we took the stage for a ride of forty miles around by the west side to Oracle Camp, where we stopped and botanized two weeks, learning the situation, inquiring for information, and completing preparations. From here we pushed on farther round to the east on foot, our things packed on a "burro," until we reached the lone house of Mr. Stratton, a stock man, whose family, a sprightly Bay State lady of excellent education, with two bright little girls, had not seen the face of another white woman for eight months.

Having long desired to go on a hunting expedition, Mr. Stratton regarded this as a good provocation; and the next morning he equipped us with large American horses, and himself guided us, rifle in hand, as much to defend us against roving Apaches, as to bring down the deer that might be started from their coverts. On the way, we reached, little after noon, a valuable copper mine, since sold for $28,000, where I found an old friend, Oscar A. Hyatt, in charge. At once he stopped all work, and gave us assistance to continue the journey the next day. As for that day, we must go no farther, but share his quarters, and partake of hospitality tendered in true miner's style. It was the first time a white woman was seen upon the mountain, and the miners celebrated the event by a social visit in the evening to the superintendent's cabin, where we were domiciled.

From Copper-mine Camp, which lies in a little valley, a trail has been made up the steep mountain beyond, for a short distance, to get mining timbers. Along this we walked our sure-footed horses, sometimes on the shelves of jutting ledges, alternately of lime and granite. Soon the trail gave out, and dismounting, each led his horse by the best way to be found, often being compelled to

turn about. Mr. Stratton had never been up so high before, but his experience in mountain climbing enabled him to select a passable course; and so hour by hour we toiled on, occasionally to a short level space where we could rest and breathe a moment by riding.

On the way up, we passed the two species of juniper found in the South: one with thin bark shredding off in long strips; the other with thick, persistent bark, deeply checked into squares, like a white-oak. Mistaken for the latter, and so uncollected until lately, is a beautiful new cypress, which the sharp-eyed Mr. Greene detected on the San Francisco Mountains, and has named *C. Arizonica.* Near the summit, a pretty little pine comes in from Mexico—*Pinus Chihuahuana*—about ten to twenty feet high, and with smooth cones, like boys' tops. Just where the brow is reached, and the desert vegetation is left, another pine sends its long arms over the verge. Though it closely resembles the yellow pine of California—*Pinus ponderosa*—yet the leaves looked peculiar. I seized a branch, and shouted, "All hats off!" The leaves are in fascicles of fives, instead of threes as in yellow pine, and this character distinguishes the new *Pinus Arizonica*, for which I had been so long in search. This was the precursor, a specimen product of the storehouse about to be opened to us.

Tall trees standing in solid array, grass-covered hillocks dotted with radiant flowers, long vistas, barred with light and shade, leading to secluded dells, rushing streams, and distant banks of snow; startled deer fleeing before us, like sheep; squirrels stopping head down upon tree trunks, to question the intruder; fresh bear and lion tracks deeply indenting the moist ground across our course; turkey and parrot feathers scattered about—it was a most enticing game-park for sportsmen, and a very paradise for botanists.

Mr. Stratton's rifle rang on the air, but ineffectually this time, for our noisy approach had driven the deer too far away. Mule tracks soon were met with, and following them around a hill, a column of smoke, then a rude cabin, came joyfully into view. In response to our hail, a grizzled hunter came forth, with a startled look that changed to amazement when he perceived a lady dismounting. This was the retreat of two hunters, for a long time lost to the world; enterprising men, who had conceived the project of making a flume, and sending lumber and wood, some day, down into the desert.

Here was a wonderful *denouement* to our expectations—a park, a conservatory, a museum, a cool retreat, and a hospitable hunter's cabin! Mr. Stratton was nearly as overjoyed as we. Having but thirteen cartridges at the start, he killed ten deer. He hung one up by a tree one night, intending to bring it in next morning. A lion helped himself to it, in his absence; the lion being so large that he carried it away in his mouth, raised so high that the full-grown buck dragged neither feet nor antlers on the soft ground.

Wild turkeys were killed that weighed forty pounds; a drove of fifty birds being seen almost every day. A new species of parrot that feeds on pine seed, as evidenced by the crushed cones, was heard chattering among the tree tops. As they are short-winged birds, it is supposed that this species is limited to this park. Wildcats, wolverines, and animals unknown were reported by the hunters.

Of the many adventures we had, our discoveries, collections, and observations continuing through three busy days—three red-letter days—I will not attempt description. Suffice it to say, perhaps no more vivid and pleasing contrasts, no more new and valuable floral treasures, no more interesting zoological discoveries, can be met with elsewhere in the large Territory of Arizona, than in this *terra incognita*, this forest in the mountain tops, this museum of natural history, this heart of Santa Catalina.

J. G. LEMMON.