

## COLLECTING SNAILS IN THE SOUTHWEST

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The intended purpose of this effort is to show the way to the Great Southwest—the collector's paradise, the explorer's dream—to picture its accessibility, its comforts, with a mere suggestion of its delights and great possibilities—to offer encouragement to the hungry seeker and point the way to a possible remedy for those who complain of the decadence in natural science.

Commencing either south or west of Kansas, the abrupt change in both animal and plant life has a beginning. To the scientific gent who desires to add to the store of knowledge, or carve for himself a name in an enduring form, here lies the territory inviting his energies. A railroad ticket for a round trip from Chicago to Los Angeles, or San Francisco, or both, good for four months with convenient stop-overs, commencing about July first, has been costing about \$70.00.

Better groceries and supplies can be purchased at most any town or switch at eastern prices, and transportation rates by auto, wagon or pack animals, are reasonable and the walking good. The packer or teamster is a guide also, with an understanding of the trails and water supply, whether American or Mexican.

Do not look for a servile person, dancing around to collect your coats, hat, goloshes and tips, for he is a free American, a much self-respecting citizen, good as any man. He may wear goatskin chaps and perform Buffalo Bill stunts, but probably not. The average will be a plain, practical helper,

with less eccentricity than the every day corn husker. Treat him as a fellow citizen, sensibly, with an open mind, and by all means let him boss the transportation, do the cooking and select the camp sites. I have traveled more than thirty vacations in wild places after this good health, by wagon, canoe and pack train, and sometimes alone and on foot, and do not recall an unfortunate experience or a seriously cross word.

And the scenery I have met, and the floral displays, and the beauties of landscape plots, just as nature left them, is something not to be described in words, by myself. "Pray, pray without ceasing," my parson says. I do—I pray for the Southwest the day long and dream more prayers by night. At my only meeting with Dr. Mearns, old and feeble, tears came instantly to his eyes. "Oh, I want to go to Arizona so bad!" he said, and it is ever so. The traveler who has left the railroad, caught the incense of the desert or camped in the forested hills, ever longs to return. He will dream of the strange katydids fiddling in the night, the sweet notes of the canyon wren, the brilliancy of the trout in the mountain parks, and the flaming skies of dawn and sunset.

Unless one is a student of plant life, or the train should pass through canyons, it may not be a pleasing prospect to the collector from a car window. Perhaps should he stay over but a day or two the spell of the mountain, the lure of the desert, would not be overwhelming. It is to sleep in the open, to dig, and reflect, to climb and ponder, to muse and dream week after week and month after month that works the spell.

The first comers in the Huachuca mountains, and the Chiricahuas, found two snails in each range. I have assisted in finding forty new to science in one and nearly as many in the other. Lemmon camped one summer in the Huachucas and returned for other visits. He did not find all the ferns in the range, but found more than his successors have rediscovered.

Here are probably more beautiful and exclusive ferns, cacti, agaves, than in any other part of the nation, and ever will be, unless Mexico by vote comes into the Union. For the collector in botany, conchology, archaeology, mineralogy—birds, reptiles, insects, watermoles, and the student in astronomy, and the experimenter in arid agriculture and horticulture here is the ultima thule.

Leave the train in southern Arizona and the explorer may pass through a different society of plants, a different association of birds, reptiles and rodents every half hour through the day. With plants the Yuccas will probably be the main feature, near the tracks, and may be a low growing species, or tall, or both. Something happens with soil or drainage perhaps and the next society along the trail will be a thicket of mesquite or cat-claw no larger than gooseberry bushes, or it may be a forest of the same with trunks from one foot to five in diameter, and ninety feet in the diameter of shade. Then a meadow perhaps where the haymakers with mowing machines gather profitably a wild harvest. As suddenly a wide belt of creosote brush may cover the ground. The mesas slanting down from the base of the mountains have the great collections of Cacti and of many families. The base of the mountain itself is the home of the Agaves, perhaps the low growing forms of but a few inches in height, or the larger with a flower stalk of thirty feet and one hundred pounds of bloom. Perhaps half a dozen species, low and tall, and here too, the giant cactus, occasionally sixty feet in height, with forty branches. The ferns have their beginning here also with perhaps half a dozen species, the societies changing in the ascent to the peak as rapidly as the desert vegetation has changed below them. *Cheilanthes Wrightii* the first and *Pteris aquilinum* of the western form, the last.

These mountains from the railways may seem mere hills of naked clay, but if from eight to ten thousand feet above the sea they are heavily forested. At the base the Desert willow, cotton wood and sycamore hug the streams, with junipers, pinyons and manzanita on the hill sides. The madrone, walnut, oak with a shade perhaps of one hundred feet, and alders as high, appear in the next zone and then, last of all, the yellow pine, Douglass fir, blue spruce, a dozen or more cone bearers in all. Here in fact is the ideal forest, with trunks eight feet in diameter and branches one hundred feet above, so dense the sun is a stranger.

In no public park have I seen the equal of the natural park effects in the canyons, along the river banks and upon the table lands at high altitudes. But the changing order does not end with mere elevation. The south side of a mountain is unlike the north side; the east side of a canyon has a different

tree association than the west. In bird societies and reptiles, no two canyons in my experience, were alike. In half a dozen years no cardinals were seen and then three species appeared in the same canyon. No rattle snakes were seen and then five species were obtained in one season and there are as many more to get.

It is no exaggeration to say that every plant or creature west of Kansas is different from its kind eastward. The oaks, the pines, and spruces, the ravens, flickers, black-birds, blue birds, humming birds, quail and robins, the gophers, squirrels, snakes, toads and fishes, the insects good, bad and disgusting. The English sparrow and the house fly seem cosmopolitan and it is possible that the crow and bittern and some of the swimming birds are also nation wide.

No sightseer has been disappointed with the Grand Canyon, it is claimed, and not to be wearisome or wasteful of time it may be well to snub off with the prediction that no explorer in natural history will be disappointed with Arizona. This state is the high point of the southwest. Here from the four winds the orders and races meet. Very few pass over.

I have seen enough of the southwest to realize that comparatively few of its secrets are known to me. Here may be found the highest peaks of the states and the lowest valleys below the sea level, and both in the same county. One may travel in one day on foot from a torrid climate to the cooling breezes of the northern lakes. Here apparently may be found all known varieties of land, soil and climatic conditions, and then some. If one in this generation volunteers to tell the whole story of the southwest it will be well to hold his case over for further consideration.

This much is known that for the explorer the weather at an elevation of eight to twelve thousand feet is perfect, from the first of June till October. If there is dampness it will be but a shower. In winter the lowlands are comfortable. The field of research has not been exhausted. The pioneers are hospitable and helpful. Come on in—the water is fine.