and though the finest specimens are found in low ground, as "Old Elm" at Paxtang, with a diameter of almost five feet, others like the Elm at State Street entrance to the Capitol grounds, Harrisburg, live in entirely changed conditions without evidence of deterioration. The State Street Elm has a diameter of three and a half feet, and stands in what was originally swampy land. In 1785 it was already a large tree, and was one of the landmarks in laying out the town of Harrisburg. It has long since reached its maximum height, and tree has endured everything that a street-tree has to suffer, yet, in spite of escaping gas, encroaching pavements, dust, blizzards and electric lines, it is still a beautiful tree and dignifies the entrance-way it adorns.

The great Elm at Dauphin, known locally as the Seven Brothers (see page 213), also belongs to the low-branching class, and with a circumference of twenty-four feet and a spread to branches of almost a hundred feet, is one of the most notable trees in the lower Susquehanna Valley, and if a single tree probably the largest. Its local name refers to the main branches of the tree, and not to the trunk, which, if compound, is formed of not more than four boles. Those who have known the Dauphin Elm longest, however, consider it one tree, and state that they have seen a distinct increase in its size during their lifetime.

The Elm stands on the river-bank, midway between the lower bridge and Franklin Canal, on the north side of the river, at this point only a hundred feet apart. The crest of the bank is about thirty feet above low-water mark, and the tree-trunk, which extends from near the crest some distance down the sloping bank, has pronounced differences in form on the upper more protected side, and the lower side, exposed to direct sun. The lower divergence of branches occurs on the side facing the lock, where the branching begins two feet above the ground; on the river-side the lowest divergence is four feet above the base of trunk. Owing to the peculiar features of the ground and encroaching foliage of trees on both sides of the highway, it is impossible to get a good view of this remarkable tree when it bears its great canopy of leaves. Through the summer its crown rises, dome-like, above the surrounding mass of foliage, and may be distinguished from points on the opposite shore of the Susquehanna River, here almost a mile in width.

The picturesque beauty of the Susquehanna at this point, with the bold cliffs of the Narrows below, and the wide bays of the river running inshore above, is too well-known to call for any description, but the traveler by rail goes faster and faster through this part of the country, and the real Susquehanna is almost a sealed book, except to railroad engineers and travelers with the application of electricity, travel upon the canals following its course becomes once again a possibility.

The Dauphin Elm has been held in grateful remembrance by thousands of men and animals who in the more than sixty years of the canal's existence have enjoyed a brief rest in its shade, as they batted on their weary march from the mountains to tidewater. Besides this army of humble-folk, many well-known travelers passed beneath the Elm in the twenty years when packet travel was the ordinary means of transit through this part of the state, and Dickens in his American Notes has given his impressions of the journey.

The immediate surroundings of the Elm suggest a consideration of the present status of trees, especially of the commanding size. They appear to have no rights that any one is bound to respect, and yet there is nothing unattractive in the idea that persons in districts where they receive a certain amount of consideration. It is not an exaggeration to state that generally in the rural districts, the difficulty of seeing all of a tree is in direct proportion to its size. A tree of medium size will serve as a prop for the corn, and in the case of a Chestnut whose crown and blossoms I saw last summer and supposed it to have a trunk somewhere, the visible connection between the spreading limbs and the ground was formed of several agricultural implements, a broken wagon, some railroad ties and a stable door. The ordinary treatment of trees at present depends entirely on the point of view, and this matters of greater importance than trees is largely a matter of condition and education. A man has an undoubted legal right to cover his own trees with barn doors, if he feels so disposed but, with the growth of sentiments such as were expressed at the Forestry meeting recently held at Philadelphia, it is reasonable to suppose that the time is passing quickly when a stately, beautiful tree, such as the great Elm, will suggest itself simply as a way station for tools, or as the party wall of a henhouse.

The photographs of the Elm and the Dauphin Chestnut (page 214, No 421, GARDEN AND FOREST) were taken by Mr. George Roberts, of Harrisburg, Pennsylvania.

Ann Arbor, Mich.

M. L. Dock.

The Flora of the California Coast Range.—II.

The rivers of western Mendocino County run a short course to the sea, the larger ones rising in a high barrier range, which, running north and south, divides the county. Their course cuts through high mountain chains clothed densely with Redwood forest. The ranges decrease in height as they approach the river, and in the last few miles of their course the rivers are tidal canals hemmed in by steep slopes covered with Redwood, Fir, Abies grandis, and western Hemlock. Groves of Alder, which here reaches its best development, are found in the few narrow bottom-lands. The underbrush is varied and luxuriant. Pusias not everywhere, and the common brake, Petras aquilina, attains giant proportions, sometimes forming dense masses eight feet high. From the tidal rivers the steep slopes rise for half a mile and suddenly open on small rolling table-lands, locally called barrens, or, very appropriately,하여야. These barrens, found between the larger streams along the coast, are sometimes four miles wide, while at some points they cover only a few acres. They are all of the same altitude and geological formation and appear to be the remains of an extensive table-land, through which the streams have furrowed out their present courses.

These barrens are an interesting field for botanists, and from an aesthetic point of view most picturesque. They are slightly uneven, breaking into awakes at the sides and bordered by an irregular line of forests. On the ocean side the land drops by heavily wooded slopes and gullies until the point is reached where it is so uncertain and away into rocky bluffs, and the skeletons of the older lands are seen in islets, rocks and reefs far out to sea. Fogs roll inland over the barrens and the air is always fresh and moist. Everywhere are masses of trees and thickets, with occasional open groves of Pinus muricata, the prickly pine, the black trunks of the trees rising fifty feet high, with scanty leaves, uneven limbs, and shrinking inland from the prevailing ocean winds, the cones of many years still clinging to them; or, perhaps, all life gone and the skeleton only adorned by the ever-lasting open cones.

In the lower areas, which are so flat that the water stands there in pools in the winter, and where the scanty covering of pesty soil above the impervious clay would seem incapable of supporting life, there are thickets almost impenetrable of the north coast Cypress, Cypresella Goueniana, slender, straight, cone-covered, and mingled with them the north coast Scrub Pine, equally slender and straight. When this dense growth reaches a height of ten feet perhaps a bush fire will sweep through it, leaving a denuded space or skeleton stems, and the fire which consumes the thicket opens the cones and sends the hard grains to the sea. For some years tobacco has been raised at the foot of these little trees fruit when a foot high. Dense tracts of them stretch monotonously away in every direction. The overflow from brackish pools and from dammed springs gathers along the sides in swales with deeper soils and in small
Plant Notes.

RUBUS DELICIOUS.—This Rocky Mountain Raspberry, or Bramble, as it is often called, is one of the most beautiful as well as the most hardy of shrubs which bloom in May, and yet it is comparatively little known to cultivation, although it was discovered by Dr. James, the surgeon of Long's expedition, as early as 1820. This year the flowers opened the first week in May, and although the flowers of all shrubs forced into bloom by the unseasonable weather have been unusually beautiful, the long arching branches of this Rubus are still well furnished with the clusters of the large white blossoms. These are pure white, saucer-shaped, resembling small Cherokee Roses, and nearly two inches across. The plant, when left to itself, has a low, somewhat spreading growth, and old plants assume something of a straggling habit. This is obliterated by cutting back the branches after the flowering season, and it becomes a stout, well-shaped shrub, with light brown or gray bark and leaves on long slender red pedicels. The fruit, which does not form abundantly here, is by no means delicious, as it is usually would indicate, but consists of three or four dry and almost tasteless carpels, although some improvement might be made in it by selection. The plant is best raised from seed, as it is rather hard to propagate from cuttings. Its perfect hardiness and the beauty of its flowers make it a most desirable shrub.

IN SUSHANA.—The Wild Iris is found in Mesopotamia and Central Asia, and is one of the introductions of recent years. Like the other Oncocyclus Irises, this is a spring-flowering plant, and coming from a country of rainless summers, it naturally becomes dormant soon after flowering and sends its flower stalk to life again when the fall rains begin. I. lifina var. minor and I. Sushani, the best known of this section, especially in the form of the flowers, the falls being lance-shaped and the standards being oval, not orbicular, as in I. Sushana and most other Oncocyclus Irises. Like other Irises of this section, it has scanty, narrow and dwarf foliage, and the characteristic coloration of narrow veins on a ground of contrasting color. In this case the veins are purplish brown on a yellow or greenish yellow ground, a combination familiar in some Cypridipediums, and altogether quiet, dainty and indescribable. Of course, language always fails to give any adequate description of the colors of flowers, especially when there are unusual shades of primary colors, but it is quite as important to know the infinite varieties of forms which give individuality to every Iris. Altogether, I. lifina is well worth growing for its distinctness and beauty of form and coloring. It has been nicely with Mr. Gerard, who, after many experiments, has finally adopted the plan of culturing it by the method of culture worked out by Herr Leichtlin. The rhizomes, which are reliably hardy, should be dried off a few weeks after flowering and kept perfectly dry until late in the year. These Irises are treated in Mr. Gerards garden as if they were hardy bulbs whose leaves are not frost-proof. After ripening them up they are stored in perfectly dry earth in a cool cellar and planted out at the end of November, at which time the ground is too cool to encourage growth. Planted out in a perfectly open border, without protection, they make no growth until after early frosts are over, and if they were properly grown the previous year their flowering is a matter of course. This season the plants have required artificial watering, as there has been practically no rain here since March. Every one who has bought Oncocyclus Iris roots, especially of the new kinds and those which have been collected, has been struck by their apparent weakness, and this suggested to Mr. Gerard that it would be well to grow them on so as to secure stronger plants. The result was strong roots, but no increase of flowers, so that with his present experience he is not prepared to say that strong roots and abundant plant foliage are conducive to successful flowering. On points like this however, it is not well to be dogmatic.

NICOTIANA AFFINIS.—This Tobacco-plant has probably in most places superseded the old scentless white-flowered

The Pitch Pine is our most cheerful tree, especially in the early year when it is full of light, in perfect harmony with the yellow earth and the spring sun, and warms the landscape with its vivacity. Yet men cut down these trees and set imported Larches about their houses.—Therian.