small, pleasantly fragrant flowers borne on a slender scape. It is nearest *B. hirtum*, but neither the pseudo-bulbs nor the leaves are known. The plant was common, and the flowers, which are highly prized by the Shan maidens for ornamenting their hair, were sold in the bazaars, so that General Collett thought it must be known in Europe and was satisfied with bringing away two or three inflorescences.

A new Lily (*Lilium Bakerianum*) may close my remarks on this collection. It is intermediate in character between *L. Dahuricum* and *L. Japonicum*.

Doubtless, a country so rich in ornamental novelties as the Shan States will soon be explored by the collectors of some of our nurserymen.

Kew. *W. Botting Hemsley.*

The Chollas.

ONE of the most characteristic features in the landscape of southern California, especially in the region of the coast, is the extensive, impenetrable thickets of a cylindrical species of Cactus, familiar to all under the Mexican name, *Chollas*. The common Cholla in the vicinity of San Diego is *Opuntia prolifera*, Engelm., which grows abundantly on arid hills or mesas, especially on precipitous cañon-slopes bordering the usually dry water-courses. Chollas Valley, within the limits of the city of San Diego, received its name from the abundance of this plant. It grows from three to eight or ten feet in height, the stems from two to four, rarely six or seven, inches in diameter, and at the base forming a woody stem or trunk a foot or more in diameter.

The plant has never been utilized by stockmen for forage to my knowledge, as has been the case with some species of the genus, and it is quite a formidable task to clear land of this obnoxious plant. The short, stout spines are especially painful and tenacious after they have entered the flesh, and strangers in our land, human and brute, soon learn to give it a wide berth.

The flowers are an inch and a half in diameter, of a pretty wine or pomegranate purple, but are so well guarded by a multitude of formidable spines as to almost repel admiration. The fruit is proliferous, the seed almost invariably abortive.

Professor E. L. Greene records it from the Coronado and Guadalupe Islands, while T. S. Brandegee reports it from the Santa Catalina Island and as far southward as San Ignacio, in Lower California, where, he says, "the plants are sometimes almost spineless." I have not found it south of Todos Santos Bay, Lower California, but to the southward a very similar Cactus appears, identical in appearance, but very distinct in its fruit. I am, therefore, inclined to doubt whether the species which Mr. Brandegee reports or Professor Greene's Guadalupe Island plant, which he says is "smaller than in California," is the same as our San Diego species. The fruit is fleshy, spinous, very rarely containing even a single seed. The perfect seed is much larger than in the above-mentioned Mexican species.

Opuntia serpentina, Engelm., is a slenderer, usually prostrate, species, not gregarious nor so abundant as *O. prolifera*, producing yellowish green, purple-tinged flowers, followed by a dry many-seeded fruit, broadly umbilicated and very spiny. The stems of this plant are seldom more than three or four feet long, an inch or two in diameter, and less woody in structure than the last species.

On the Colorado desert and eastward and southward through Arizona and New Mexico into old Mexico, the species and varieties of Chollas seem almost endless in number. The Indians in the mountains of San Diego County and in northern Lower California formerly planted them above the graves of their dead, and often a valley may be found dotted over with little groups of a slender, erect species (probably *O. Bernardina*, Engelm., ined.) planted by their hands.

One species (*O. Bigelovii*, Engelm.) has been sparingly utilized as fodder for cattle, after the spines had been burnt off, but all the species are very generally detested by all who are brought into intimate relations with them.

San Diego, Cal. *C. R. Orcutt.*

An Insect Pest of Cattleyas.

(*Isosoma orchidearum.*)

THIS insect does not appear as yet to have become common or generally known among collections in this country, and it is well that growers should be on their guard against it, because it seems to have become quite common in Europe, and is therefore liable to be introduced with any fresh importation of the plants.

The pest has appeared in more than one locality and in past years has not been unknown even in such carefully guarded collections as those of Mr. Ames, at North Easton, Massachusetts. A notice of its occurrence in another collection appears in *Insect Life*, vol. ii. (1890).

About two years ago, Dr. C. G. Weld, of Brookline, Massachusetts, imported a lot of Cattleyas from England which at first appeared to start into good healthy growth, but soon proved to be badly infested by this so-called "orchid-fly." The young buds or pseudo-bulbs which would eventually produce the flowering-spikes were noticed to become checked in their development, and upon cutting them open numerous little maggots or larvæ were found in cavities which they had eaten. Some pupæ were also found, and these, together with a few of the larvæ, afterward developed into small, black, four-winged flies.

From an investigation of the history of this insect it would appear that it was first publicly referred to by Professor J. O. Westwood at the meeting of the Royal Horticultural Society of February 16th, 1869, and a brief mention of the fact was given on page 196 of the *Gardeners' Chronicle* for the same year. On page 1230 of the same volume (1869) Professor Westwood gave a slight sketch and a brief notice of the insect, for which he proposed the name of *Isosoma orchidearum*. It is more fully figured and is technically described by the same author in the *Transactions of the Entomological Society of London* for 1882, pp. 322–324, pl. xiii.; and occasional brief notices of the pest have appeared in various foreign journals.

The perfect insect or fly is black, and has clear, shining, iridescent wings. The female is about one-seventh of an inch long, while the male is considerably smaller, being only about one-tenth of an inch in length. The head and thorax are rough and unpolished, the microscope showing them to be covered with tiny pits, from each of which little bristles or hairs project. The abdomen is black, smooth, polished and shining, and is without hairs except on the smaller last segments. The abdomen of the female is pointed and somewhat wedge-shaped beneath, while that of the male is small, being not more than half the length of the female abdomen and terminating bluntly or abruptly. Under the microscope the sexes may be readily separated by the antennæ. In the female most of the joints are about of the same size and shape, being symmetrical and connected together by inconspicuous pedicels; while the male antennæ are somewhat longer, the chief joints being longer and abruptly tapering to a slender neck or pedicel at the anterior ends, and lacking symmetry by being much more swollen on one side than on the other. The whorls of hairs or bristles are very much longer than on female antennæ.

It may be also worth noting that, counting the less distinct articulation in the terminal joints, the antennæ of the females are apparently ten-jointed, while in the males only nine divisions are noticeable.

The legs at the joints are red; the femora or thighs black; the tibiæ or middle portion yellowish or reddish, except on the hind pair, where they are blackish, and the feet (tarsi) are pale or dull white and tipped with minute dark claws. From the specimens collected the females appeared to greatly outnumber the males.

The female is provided with a long and extremely slender ovipositor, which it inserts into the tissue of the plant when depositing its eggs. When not in use, this ovipositor lies quite concealed by a groove and protecting sheaths, and only very careful manipulation with a slender-pointed instrument will bring it into view. In the figure the ovipositor and free portion of the sheaths are shown removed from their closely fitting position along the under side of the body.

The little footless grubs or maggots are white, and a sixth of an inch or less in length when fully grown.

Several of them may be found together, and they change to pupæ, and eventually to the winged state, within the cavity they have made in the Orchid, out of which they emerge through a small round hole in the side. Owing to their small size the flies are not easily detected after they escape, but they have been found resting on the under side of the leaves of the plants.

If this insect once gets a foothold in a collection it becomes a difficult one to exterminate. No means of trapping the flies are known, and the only apparent remedy has been the heroic one of cutting off and destroying all portions of the plants suspected of being infested. The young pseudo-bulbs usually become somewhat abnormally swollen if the maggots are at work within, although the indication is not always a certain one. To cut these young shoots off means the loss of flowers for a year.

It has been suggested that the larvæ could be killed in their burrows by prodding the infested shoots with a triangular dis-