

thin shade during the middle of the day, but not more than is found necessary to prevent the leaves scorching; give air daily more or less according to the state of the weather, syringe freely overhead at the time of closing the house, but not oftener even in the hottest weather, for when carried beyond this it is a practice which I may here allude to as highly injurious to all but a very few exceptionally moisture-requiring subjects; it excites undue growth at the expense of substance and solidity in both the leaves and shoots. Stopping of the single shoots, that each will be so far be composed of, must needs be regulated by the purpose the plants are wanted for; if to cover an end wall in a span-roofed house, or to occupy several rafters in the roof, it will be necessary to pinch out the point of the shoot once or more, so as to induce the production of several growths to fill the space required; but if to be grown as these plants sometimes are, where space is limited, lengthways of the house, over a path where one or two branches are trained to wires as near the glass as the rafters will permit, they will only require stopping so far as to furnish the few growths needed. In this way they will flower freely, but have not so nice an appearance as when occupying a position where the blooming shoots can hang down in a looser manner. By July another shift will be required; 12-inch pots by this time will not be over large, and as soon as the shoots have attained sufficient length the plants may be put in the positions they are intended permanently to occupy. If to be

Planted out, the border in which the roots are to be placed should not be too large, or it will be difficult to keep the plants within bounds. The bottom must be well drained, with the requisite egress below for the water to get away. This is a matter that frequently does not receive sufficient attention, from a supposition that the surplus water that soaks through the soil in the process of watering will find its way off; yet such is by no means the case, as after a time the under surface gets almost impervious to water, and the roots, which, with free-growing plants like these Passifloras, are produced in quantity, and lie thickly in the bottom of the pot, tub, or border in which they are grown, as a natural consequence, if stagnant water exists there, rot, causing the unhealthy condition the plants are often seen in. From 9 inches to 10 inches depth of soil will be enough for the roots to ramble in, using it moderately rich, and containing enough sand to keep it quite porous. The shoots will require constant attention until they have filled the space they are destined to cover, keeping them trained to the supporting wires, and taking care that the lower portion is sufficiently clothed first, or it will be difficult to accomplish this afterward without cutting the plants back, and beginning the work anew by inducing the production of a fresh lot of shoots to cover the space that in the first instance they should have been trained over. It should ever be borne in mind in the cultivation of these climbing plants, as also of such as are of a twining habit, that they have the greatest disinclination to extend downward except in the case of the flowering terminal shoots which often are found in a hanging position; but the strong growths made early in the season, require, at the least, to be kept in a horizontal position, and do still better where they can ascend. So apparent is this, that it may be noticed where a strong shoot happens to lose its hold of the support to which it was clinging, and thus hangs with its point downward, that it makes little progress afterward, generally breaking out another growth at the highest point where bent, leaving the pendent portion in a half starved, dwindling condition. Were more notice taken of the habit of climbing and twining plants, and their natural requirements kept before the eye of the cultivator, there would be much fewer failures with them. After the plants have filled the position allotted to them, little more training will be required than a regulation of the shoots, so as to prevent their getting entangled in masses, cutting in yearly after the season's growth and flowering are completed. When there is an apparent exhaustion of the soil, it will be best to meet this in two ways by removing a few inches of the surface in spring before growth commences, replacing it with good new material, and also by the use of manure water, which the plants will take in a somewhat stronger state than weaker growing subjects; by these means they will keep on in a healthy condition for many years. When the roots of Passifloras are confined to pots or tubs, it is necessary that these should be large, and that as much of the surface soil as can be should annually be removed and replaced with new, well enriched with rotten manure; this, with the help of manure water given regularly through the growing season, will keep them in a thriving state for three or four years, when they may be headed back, and after they have broken into growth partially shaken out and the soil renewed. This will impart to them the requisite vigor to grow and bloom for a few more years, when the operation may be repeated, or their places supplied by young plants which, from their freedom to strike and grow, there is little difficulty in getting up to a large size in a short time. The most suitable kinds for general cultivation are:

*P. quadrangularis*.—A strong growing kind, with broad, massive green leaves, and blue, green, and red flowers. Jamaica.  
*P. quadrangularis aucubifolia*.—A variegated leaved form of the above with handsomely marked foliage.  
*P. Buonapartea*.—A strong growing, large leaved kind, with blue, white, and red flowers.  
*P. amabilis*.—A free-growing, handsome variety from South America, bearing scarlet and white flowers.  
*P. kermalesna*.—This is a handsome kind that branches freely, and produces its crimson flowers in abundance.  
*P. princeps*.—A handsome, moderately vigorous kind with scarlet flowers.  
*P. Decaisneana*.—A fine free growing kind.  
*P. alata*.—A handsome free-growing sort, with blue and red flowers. West Indies.  
*P. cardinalis*.—A very handsome kind, with bright effective flowers produced freely. Suitable for a large house.  
*P. fulgens* (Tacsonia Buchanani).—A strong growing handsome plant, with bright scarlet flowers.  
*P. Loudoni*.—A moderate grower, bearing handsome purple flowers, produced freely.  
*P. edulis*.—This is a strong growing sort, with white flowers, in addition to which it bears edible fruit. West Indies.

*Insects*.—Passifloras are not more particularly subject to insects than the generality of heat-requiring plants, yet where these parasites exist they will live on them, especially mealy bug, which must be sought for at the base of the leaves and in the crevices of the bark on the mature stems and half ripened shoots; also, the syringe can be freely employed, which will be a means of keeping them under, still further aided by strong washings with insecticide when the plants are at rest. Scale removed by sponging, and should thrips or red spider make their appearance a free use of the syringe will be the best remedy.—T. B., in *The Garden*.

#### REASONING POWERS IN THE CAT.

My brother-in-law, Mr. Benjamin Hall, had a large emasculated cat which showed some characteristics which may be worthy of record.

He was much attached to his master and followed him in his walks about the fields after the manner of a dog. On one occasion he was thus conducted to a considerable distance from the house into the prairie, where a considerable number of the spotted prairie gopher had colonized, invited, no doubt, by the favorable condition of the soil for their burrows. The cat soon captured one of these, which he brought to his master, whose caresses and commendations seemed to be highly gratifying to him. The cat then made a breakfast of his capture.

Very frequently after that the cat would resort to this favorite hunting ground, but would never eat his game on the spot, but would bring it home and exhibit it in triumph, and, after being duly caressed, would quietly go to some convenient, retired place, and make his meal.

But all this shows strong attachment and a love of approbation in a high degree.

On another occasion this cat showed a much higher degree of intellectual endowment. One day he followed his master among some trees. On the outer end of a bough a young robin was observed about twelve feet from the ground. The bird was soon observed by the cat, who deliberately surveyed the situation for a few minutes and then stealthily repaired to the foot of the tree and began to ascend it on the side opposite the bird, completely concealing himself from the bird till he reached a large limb which projected out over the bird. Slowly and cautiously he crept along the upper side of this limb till nearly over the bird, when he gave a spring, caught the bird in his flight, and lit upon the ground and ran away with his prize. He had been often reproved for catching birds; so, as if conscious he had done wrong, he did not present himself for commendation as he did when he had caught a gopher. Plainly he had learned something of the principles of right and wrong. In the capture of the bird he executed a deliberately formed plan, which manifested a very considerable degree of reasoning powers beyond that of inherited habit.—J. D. Caton.

#### [PROCEEDINGS OF UNITED STATES NATIONAL MUSEUM.] LUCILIA MACELLARIA INFESTING MAN.

By FRED. HUMBERT, M.D., F.C.S.

I SEND you herewith a gag or screw fly (?) as known here; they are in alcohol, or alive in a green bottle; some of the maggots are also in alcohol. I wish you would hand this species to your entomologist for a minute examination and its proper name, as I cannot find a full description of this insect and its habits in any books in my possession. The following is part of an essay penned in 1876 but not published, which, with the history of this fly, will explain itself:

A farmer's wife, thirty-five years of age, was attacked on Monday, September 27, 1875, with a headache and a flushed face. She staid at work, expecting a malarial chill, an affection prevailing at that time in the neighborhood. From this time the pains in the region of the frontal cavity at the base of the nose and below the eye, extending to the right ear, increased. At times the pain was more severe than at others, but it never entirely left. This pain was described as preventing hearing and breathing, and so excruciating that at intervals, day and night, her cries could be heard at a great distance from the house. Tuesday evening blood mucus began to run from the right nostril, which was somewhat swollen, the swelling extending on Tuesday over the whole right side of the face. On this day, the fifth of the complaint, four large maggots dropped out of the right nostril. When I was first called to the patient, Monday, October 4, only the right lip and nostril were swollen, the acrid discharge having somewhat blistered the lips below. After each discharge the maggot dropped from the nostril, until the twelfth day, one hundred and forty or more maggots having escaped. The majority of the maggots were three-quarters of an inch in length, there being only a few which seemed a line or two shorter; they were of a yellow hue, conical shape, and having attached to one end two horn-like hooks. The patient recovered fully.

Monday, September 18, 1882, I saw a patient, in the same neighborhood as the first, suffering from the same malady. At that time two hundred and eighty maggots had been discharged, and at the close of the illness over three hundred. There was a swelling on each side of the nose, with a small opening to each. I lanced these openings and more maggots came out.

In the Indian Territory the so-called screw fly laid its eggs in the nose of man. In 1847 I heard of several deaths of men and children in Texas, near Dallas. The gag fly was common in the American Bottom forty years ago. It laid its eggs in the noses of cattle and in the ears of horses and deer, but never in the human nose. The fly that I send is about four times as large as the common fly. Head a dark, glistening green; a bronze face, very lively in appearance. Is it the same that they called in Texas or Indian Territory the screw fly, or is it the gag fly seeking a new field?

The patient of 1875 is now alive and well. The second case occurred two years ago near Collinsville, in this county, and proved fatal. The third patient, above named, is getting well. The fourth is reported from Georgia; the patient died.

The first case which I had under my charge was the first which ever occurred here. The eggs must have been deposited in the nose several days before the fifth, the day the maggots dropped out. On the eleventh day all were discharged. I secured live maggots at that time, September 18, 1882. I put soil in an open mouthed vial and dropped the maggots on it; they crawled in the ground in about five minutes. I covered the opening with white damastis and hoped that the next year the fly would come out of the ground. But on October 6, or the twentieth day, the vial had fourteen living flies. So, reckoning from six days before the pain commenced for the laying of the eggs, to the twelfth day, when the maggot discharged, making eighteen days, and to this adding the twenty days during which the grubs were in the ground, we have thirty-eight days from the time the fly laid the egg until a new generation of flies is produced from them.

You may think I have dwelt too long on these cases, but if you had to stand at the bed and had seen the suffering and despair of the patients and found that the worms were eating them up, you would not think so.

Respectfully,

FRED. HUMBERT, M.D., F.C.S.

Alton, Ill., October 7, 1882.

P.S.—All these cases occurred in the month of September.

#### REPORT BY C. V. RILEY.

Prof. Spencer F. Baird, Secretary Smithsonian Institution. SIR: The insect referred to in the accompanying communication from Dr. Fred. Humbert, of Alton, Ill., is the *Lucilia macellaria* of Fabricius, the injuries of which to different animals are well known in the South and West, where the larva is called the "screw worm." I have repeatedly endeavored to obtain the true parent of this worm, and have published in reference to it in the *American Entomologist*, 1880, pp. 21, 203, and 275. Dr. Humbert's communication is most interesting, but the specimens yet more so, as the flies he forwards are the first that have positively been bred from the larvæ known as "screw worms," and they confirm the above determination of the species. The larvæ agree with others which I have from Texas, taken from the root of the ear of a hog which had been bitten by a dog. In De Bow's "Industrial Resources of the Southern States," vol. i., is an account of its occurrence in remarkable numbers in the Southern States in 1834.

It is an interesting fact concerning this insect that it also occurs in the Eastern and Middle States, but that in these States we rarely hear of its injuries to man or to domestic animals.

Carbolic soap is considered an excellent preventive in the Southwest, and, according to Prof. J. Parish Stelle, who made the experiment for me in 1880, pyrethrum blown upon the sores will induce the worms to issue forth and leave them.

Respectfully,

C. V. RILEY, Curator of Insects.

Smithsonian Institution, Washington, D. C., Nov. 9, 1882.

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