[For the Scientific American].

THE LANTERN FLY.

[By Edward C.H. Day, of the Schoolof Mines, Columbia College].

We recant fully and without condition, our heretical doubts of the scorpion's suicidal performances. We have received ample proof that, when he finds escape impossible, the scorpion hurries himself out of existence by means of his own sting, and we give credence to the strangest fact of all, that he does so especially when under the influence of alcoholic liquors! J. Parish Steele, in the *American Entomologist and Botanist* for June, is our authority for the last statement, and he adds that the Tennessee boys know scorpions consequently as "Teetotalers." This must be deemed conclusive evidence of scorpionic fortitude and virtue. Good reader, forgive us for having expressed the doubt; we ourselves have never had the opportunity of tempting the scorpion in his native haunts, and were dubious on what we supposed good authority, deeming it better to state our uncertainty than to retail a story, the antiquity of which was no guarantee of its truth. In fact, it does not appear to us even now quite clear that the scorpion designedly shuffles off this mortal coil. May it not be that in mortal agony at the approaching flames, from which it sees no escape, or at the irritating effects of the alcohol, it strikes convulsively with its tail, and stings itself without intent. We are inclined still to acquit the scorpion of being a *felo de se*, but as only laboring under temporary insanity.

Be this as it may, the really interesting fact remains incontestably proved that its poison is death to the scorpion itself; a fact, however, that is implied in what we already knew, that it is fatal to its fellow scorpions. But what are we to say of the insect now before us—the Chinese lantern fly (*Pyrops candelaria*), or of its American representative, the great Surinam lantern fly (*Fulgora lanternaria*)? Are the odd-looking membranous extensions from the heads of these creatures really luminous? Or are the statements from which the above names are derived but the baseless fabrics of a strange delusion?

About one hundred and seventy years ago, an enthusiastic lady and her two daughters spent three years in the unwholesome climate of Surinam, drawing figures of the remarkable insects of that region, chiefly in illustration of their metamorphoses. "Crazy women," we fancy we hear some money-making old cynic remark. "Much better have done something useful." True, sir, these ladies probably did not make a good monetary speculation of the undertaking for themselves or for anybody else; but it is to such enthusiasts as these that the world is indebted for much of that natural knowledge which helps so greatly to elevate and purify the groveling, grasping tendencies of this too practical age. Such workers as these may be but the hod-carriers and bricklayers of science, but without such patient gatherers of facts, the architects, the great generalizers of scientific truths—such as Humboldt, as Faraday and Bunsen, as Tyndall, as Lyell, as Cuvier and Darwin—could not carry on the building of that glorious edifice of knowledge wherein we read each day more clearly the material works of the Creator by the light of the all-wise laws that control them. Therefore all honor to the name of Madame Merian and her daughters; and would that we had more such ardent admirers of nature and of its marvels and beauties!

On her return to Europe, Madame Merian informed the world that the lantern-fly gave such a brilliant light at night as to surpass the luminosity of all known fire-flies, circumstantially stating her own observations on it. Some subsequent and credible observers have confirmed the fact in terms as precise; others, however—and these, too, like Madame Merian and her corroborators, had lived in the regions where the insects occur—just as positively denied that the insects ever gave any light at all. Even the natives of the countries flatly contradicted each other on the point.

The Chinese species has had luminosity attributed to it, and it is represented as luminous in the accompanying engraving taken from Prof. Blanchard's work; but competent observers have not merely questioned, but have given the statement a distinct denial! One would imagine that these savans were medical experts giving evidence in a lunacy case! What are we to believe amid such conflicting statements? With Kirby and Spence, we agree, "that negative evidence ought not hastily to be allowed to set aside facts positively asserted by an author who could have no conceivable motive for inventing such a fable;" and we the more readily assent to this rule in this case because a far more incredible tale of Madame Merian's, after having been long discredited and positively denied, has, within the last few years, been confirmed by the disinterested evidence of living and most trustworthy eye-witnesses. We would rather suppose that these insects are only luminous at times or under certain circumstances, or, as others have suggested, that it is only one sex that is luminous, and that the ladies who originally made the statement had the good fortune to see a phenomenon which other observers have failed to witness, than believe that a number of respectable individuals have foolishly united in maintaining an unmeaning falsehood. We may ask, how many persons who have turned up out of the ground the grubs of our common fire-flies could tell us whether they were luminous or not?

The lantern flies, whether rightly or wrongly so named, are no relatives of the European glow-worm, of our own "lightning bugs," or of the larger tropical fire-flies; these all belong to the order of beetles, whereas the lantern fly is a bug in the strict entomologist sense of the word.

The bugs are subdivided into two groups, both characterized by a mouth adapted to both piercing and suction, but differing in the characters and arrangement of the wings.

The squash bug (not the various beetles so miscalled, but the *Coreus tristis*) will give you an example of the one group; its anterior wings or "wing cases," when at rest, lie flat on the back and across each other; when spread out you see that the basal half is thick, opaque, and colored, while the outer half is thin and translucent. Hence the name of *Hemiptera* or "half-winged" applied to the whole order. In the second group notice the cicada, commonly called the locust; the wings here lie on the sides of the body, sloping like the roof of a house, and both pairs when opened are evidently translucent over their entire extent. Hence these are termed the *Homoptera*. Excepting the curious projection from the head of the lantern fly you will see that it is not unlike the cicada, and they are closely allied homopterous bugs. The cicadas are characterized in one sex by possessing a drum-like organ, by means of which they produce the well-known stridulating sound, "the so-called song," as Vander Hoeven quaintly remarks, "which is peculiar to the males, whence Xenarchus extolled the fortune of these animals, whose wives are dumb." In the lantern flies this drum is absent in both sexes, and if the auditory organs of these bugs have susceptibilities at all akin to our own, we suspect that the females rather rejoice in possessing silent husbands

Otherwise the cicadas and lantern flies are closely related families, in fact, some authors make them subdivisions of a single family. They are mostly inhabitants of the hottest climates, and the lantern flies are especially remarkable for their large size and striking coloring

THE CHINESE LANTERN FLY—*Pyrops candelaria.*

The South American fulgora is between two and three inches in length, and its wings expand more than 5½ inches. It has a large yellow eye-like spot, ringed with black and white bands, on each of its hind wings. The Chinese species is a smaller insect, but still sufficiently conspicuous, and, wanting the eye-like spots, is marked with greenish bands spotted with black upon a yellowish-fawn ground; so that, even if it be not luminous, it must be a remarkable insect, from its grotesque form and peculiar garb.

CURCULIO EXTIRPATION POSSIBLE.

Under the above heading, we recently copied from the St. Joseph (Mo.) *Herald* some details of a new method of catching curculios. We have since then seen a commentary on the same article in the *American Entomologist and Botonist* for June, in which the editor of that journal says: "We are really sorry to damp the ardor and enthusiasm of any person or persons when enlisted in such a good cause, but truth obliges us to do so nevertheless. Of course curculio extermination is possible, but not by the above method alone, as our Michigan friends will find to their sorrow. For a short time, early in the season . . . we have succeeded in capturing the curculio under chips of wood and other such sheltered situations; but we have never been able to do so after the fruit was as large as a hazelnut, and the little Turk had fairly got to work."

A passage from *Moore's Rural New Yorker*, of January 28, 1865, is furthermore quoted to show that the process suggested cannot be called a discovery. From all this and the general tenor of the article, we infer that it is of paramount importance to the community to have ably-conducted journals on such specialties as entomology; that, as a fact, the extirpation of the circulio is a possibility, and that the process suggested is a valuable aid to this desirable end; and that, if this be only a rediscovery, the fact that such men as Dr. Le Baron and Dr. Hule had not heard of it previously, proves that the original discovery had not attained the publicity it deserved, and we therefore cordially indorse the statement, that "in demonstrating that so great a number of the little pests can be entrapped in the manner described, Mr. Ransome has laid the fruit growers of the country under lasting obligation to him." Finally, we are delighted to hear, on such good authority, that "we are fast becoming masters of this scourge," and that there is at least one insect parasite that has taken up our cause against the foe. Labor on, good entomologists! and find out the secrets of these and similar little enemies of mankind, and we will heartily aid your cause by disseminating the knowledge you acquire as widely as we may, for we deem the subject of insect pests to be the most important question now before the agricultural community of this country.

The Astronomer Entrapped.

We find in a recent number of the *Eclectic* the following amusing anecdote, which occurred some years since at a celebrated observatory in the suburbs of London. A visitor was desirous of observing a celestial object which was nearly overhead, and having the run of the observatory at the moment, he directed the telescope towards the star, set the clock-work in motion, and placed himself on his back in the observing frame attached to the floor of the observatory. This frame is so constructed that the observer can fix the head rest in any position, and as the whole frame revolves round an upright in the middle of the observatory floor, it is easy to place the frame so that the observer can look in perfect comfort at any object on the celestial vault. In the present instance, as we have said, the observer lay on his back, the object being nearly overhead. But while the frame remained, of course, at rest, the clock-work was slowly driving the telescope after the star, and as the star happened to be approaching the point overhead, the eyepiece of the telescope was being brought continually lower and lower. Intent on observing the aspect of the star (a celebrated double) our astronomer failed to notice that this movement of the eyepiece was gradually imprisoning him. His head was fixed by the head-rest, and the eye-tube was beginning to press with more and more force against his eye. The telescope was a very heavy one, the very slowness of the movement made it irresistible, and the observer's position prevented him from helping himself. Fortunately his cries for assistance were quickly heard, the clock-work was stopped, the head-rest lowered, and the prisoner released; otherwise he would undoubtedly have suffered severely. He would, in fact, have had as good reason to complain of his telescope as the celebrated astronomer Struve had in the case of the Pulkova refractor. "which," Struve said, "was justly called a 'refractor,' since it had twice broken one of his legs for him."