

Entomology.

An Ivy Borer.

J. M. W. Crowther, of Belleville, sends us a chrysalis, with the following communication:—"I send herewith a remarkable-looking insect, taken from the stem of an ivy plant some four days ago. When found it was moving its tail from side to side, in a quick, jerky way. It is alive now, and probably will be when it reaches you. Can you tell me its name?"

Ans. by E. C. F.—The specimen referred to above is the chrysalis of a small moth, probably of the family *Agrotidae*, whose caterpillars bore into various plants and live upon their pith. A familiar instance of an insect of this kind is the currant-bush borer (*Egeria typhaiformis*, Linn.), which proves at times very destructive to the shoots and branches of both the black and red currant bushes. The moth is small, with partially transparent wings, and may often be seen basking in the sunshine on currant leaves in the early part of the summer. The species of the specimen before us we cannot tell from the chrysalis, but we shall be able to determine it when the moth comes out in the spring. The loose way, however, in which it was packed, allowing it to rattle about in the box while travelling by mail, makes us rather doubtful as to its ever reaching the perfect state. A little cotton-wool would have rendered it secure.

Variation in the Numbers of Insects.

There are many insects—for instance, the notorious army-worm of the North (*Leucania unipuncta*, Haworth)—which only appear in noticeable numbers in particular years, though there are enough of them left over from the crop of every year to keep up the breed for the succeeding year. There are other insects—for instance, the cankerworm (*Anisopteryx verata*, Peck)—which ordinarily occur in about the same numbers for a series of years, and then, in a particular season and in a particular locality, seem to be all at once swept from off the face of the earth. These phenomena are due to several different causes, but principally to the variation and irregularity in the action of cannibal and parasitic insects. We are apt to forget that the system of nature is a very complicated one—parasite preying upon parasite, cannibal upon cannibal, parasite upon cannibal, and cannibal upon parasite—till there are often so many links in the chain that an occasional irregularity becomes almost inevitable. Every collector of insects knows that scarcely a single season elapses in which several insects, that are ordinarily quite rare, are not met with in prodigious abundance; and this remark applies not only to the plant-feeding species, but also to the cannibals and the parasites. Now, it must be quite evident that if, in a particular season, the enemies of a particular plant feeder are unusually abundant, the plant-feeder will be greatly diminished in numbers, and will not be able to expand to its ordinary proportions until the check that has hitherto controlled it is weakened in force. The same rule will hold with the enemies that prey upon the plant-feeder, and also with the enemies that prey upon those enemies, and so on *ad infinitum*. The real wonder is, not that there should be occasional irregularities in the numbers of particular species of insects from year to year, but that upon the whole the scheme of creation should be so admirably dove-tailed and fitted together, that tens of thousands of distinct species of animals and plants are able permanently to hold their ground, year after year, upon a tract of land no larger than an ordinary State.—*American Entomologist*.

Loss by Insect Depredations.

The *American Entomologist* asserts that one year with another the United States suffer a loss from the depredations of the insect tribe to the amount of \$300,000,000 annually. This seems an enormous amount; but when we consider the number of enemies which vegetation has in the bug or insect family, and the rapidity with which each saps the life of a plant, or the fruit which it produces, the sum, large as it is, will not be deemed an extravagant one. Alluding to these insect depredators, *The Entomologist* says:—"Turn them which way they will, the agriculturists and horticulturists of the Northern States are met by plant lice, bark lice, May bugs, rose bugs, weevils, cut worms, caterpillars, palmer worms, canker worms, slug worms, and leaf rollers;

and at periodic intervals the army worm march over their fields like a destroying pestilence; while in Kansas, Nebraska, and Minnesota, and the more westerly parts of Missouri and Iowa, the hateful grasshopper, in particular seasons, swoops down with the western breeze in devouring swarms from the Rocky Mountains, and like its close ally, the locust of Scripture and of modern Europe, devours every green thing from off the face of the earth.

How SPIDERS BEGIN THEIR WEBS.—Early in the spring of 1866, while arrangements were making for photographing a live male of the *Nephila plumipes* (the so-called "silk spider of South Carolina"), the spider, after having several times traversed the circle of wire on which it was, suddenly stopped, took a firm position at the top of the frame and lifted the abdomen, pointing it towards a large skylight which occupied the middle of the ceiling, a slender, shining thread was seen to shoot forth from the spinnerets which occupy the end of the abdomen, it seemed to have a black, rounded extremity, which advanced through the air rather quickly for a few inches, but afterwards more slowly and steadily, and with an upward tendency, but always in the direction of the skylight. When it had reached the length of five or six feet, I allowed it to become attached to my coat, the issue ceased at once, and the spider, having attached the end of the line, turned about and began to put upon it. I now broke it off near the wire, and, believing there was a current of air toward the skylight, I blew gently upon the spider from various directions, and found that it always pointed its abdomen in the direction in which I blew, and that the thread was emitted in the same direction. So that while it seemed to have the power of projecting a thread for a short distance, yet it always availed itself of the prevailing current of air.—*B. G. Wüder, with "American Naturalist" for June, 1868.*

Poultry Yard.

Houdans.

A CORRESPONDENT in the *Journal of Horticulture* gives the following account of his experience with Houdans:

I have reared an average of nine chicks from every sitting of thirteen eggs during the past two seasons. Some breeders would call this good luck, but in my opinion it is what any person by the commonest attention might do with Houdans in the most limited space for rearing chickens.

I reared all my birds in a sandy yard for the first three days, giving chopped egg boiled hard, with bread crumb and lettuce, and after the third day their staple food was middlings and lettuce, with an occasional handful of shelled oats. With this food, supplied little and often, the birds grew with wonderful rapidity, and an aptitude to make flesh is a strong argument in favor of the breed for table purposes. Its flesh is delicate, tender and nutritious. My Houdans hatched in April were fit to kill a month before Dorking chickens of the same age, but, unlike other fowls, the hen birds are the most rapid of growth, and when only a few hours old may be distinguished from the cockerels by their superior vigour and larger crests.

As layers the Houdans will hold their own against any fowls with which I am acquainted; their eggs are large, of a fine rich flavor, and equal in weight to those laid by the famous Spanish.

The Houdans never sit, which is another strong argument in their favor; for cooping, and all its attendant trouble, are thus saved, and these birds, after a couple of days rest, recommence laying, whereas clucking hens are the pest of the amateur's life.

The Houdan is gentle, very tame, and of a contented, stay-at-home disposition; not at all a dainty feeder, and not addicted to scratching. As a proof that fanciers are becoming alive to the increasing popularity of Houdans, I may point to the fact that the late National Poultry Company at their sale obtained £8 10s. for their prize cock and hen, which was the highest price paid for any two birds amongst the eight hundred sold.

PRECOCIOUS PULLET.—A poultry fancying friend writes:—"I have a 'Buff Cochins' pullet, bred from the pair that I got from you last fall, that laid her first egg before she was five months old. What do you think of that? Can you beat it? Rather precocious, don't you think? She is one of five that I have bred this summer, and I think the rest will follow her example pretty soon."

Stock Department.

Estimating the Weight of Cattle by Measure.

We are greatly obliged to a subscriber from Athol, who points out an error of a decimal point in the rule given in our issue of Oct. 15, for finding the weight of cattle by measurement. The rule was taken from *Stevens' Book of the Farm*, a standard authority, which gives the divisor as 7344. Our correspondent objects to even that number so corrected, and writes as follows:—"The rules given by you are modifications of one in common use, viz., *Multiply the square of the girth by five times the length, and divide the product by twenty-one.* The quotient is the weight, nearly, of the four quarters in imperial stones of fourteen pounds avoirdupois.

The data from which the rule has been calculated is, that it has been found by experiment that the weight of a bullock, divided by the product of the square of the girth behind the shoulder-blade into the length from the shoulder-blade to the buttock is = 3½ lbs. avoirdupois = $\frac{5}{8}$ of an imperial stone.

If the cattle be very fat the four quarters will be $\frac{1}{2}$ more, and if very lean $\frac{1}{2}$ less than that obtained by the rule. The four quarters are a little more than one-half of the weight of the living animal. The skin is $\frac{1}{8}$ and the tallow $\frac{1}{8}$.

The divisor in the first rule is incorrect in the digits composing it, as well as in the decimal, as may be seen from the following deduction from the last rule given

$$W = G^2 \times L \times 5$$

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Reducing the girth and length in the numerator to inches, it is necessary, in order to preserve the value of the fraction, to multiply the denominator by the same numbers; hence we get

$$W = (g \times 12)^2 \times l \times 12 \times 5$$

$$= \frac{12 \times 12 \times 12 \times 21}{(g \times 12)^2 \times l \times 12}$$

7257.6

Therefore the divisor in the first rule should be 7257.6 instead of 7344. The former will give nearly the same result as that obtained by the other rules.

The decimal .238 in the second rule is obtained by reducing the fraction $\frac{5}{8}$ to a decimal, and as it is not finite, the result is not so correct as that obtained by the use of the primary rule; besides, any person versed in the simple arithmetical rules will have no difficulty in solving mentally such problems, who might be perplexed in having recourse to decimals to arrive at the same results."

Weaning Colts.

G. S. Y., of York, writes—"SIR: The way I wean a colt is not like your correspondent who signs himself H. P. I get the colt to eat oats well, when the mare is feeding; and when it will do that well, there is no danger of its losing flesh. If it does, it will soon pick it up again. When the colt can eat oats, let it be loose in a stall, away from all the other horses, quite out of hearing. After it has been away about a week, you can do anything you like with it; turn it out in good pasture with other young things or old things, if they do not kick; but do not let it see its dam, or any other mare that has had its colt taken away, or it will be very likely to try and jump the fence, and probably hurt itself."

EXTRAORDINARY FIG.—Perhaps one of the largest pigs in England, if not in the world, is now the property of Mr. Lloyd, of Bredon, Worcestershire, who purchased it of a neighbour, when two months old, at 1s. 6d. This wonderful animal is now 22 months old, measures 9 feet 6 inches from end of nose to tip of tail, 5 feet round the neck, nearly 9 feet round the body, and stands 4 feet high. *Mark Lane Exp.*