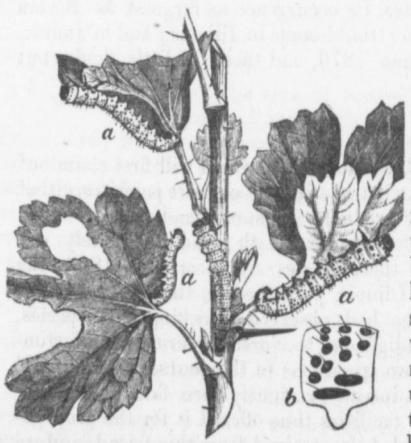
had been the work of a single insect who had exhausted her stock before the third leaf was covered. On counting these we found there were 101 in all. Having just then caught one of the parent flies, a female who was hovering about as if looking for a suitable place on which to deposit her eggs, we squeezed some eggs out of her body, and comparing them with those on the leaf, found they were only about half the size, showing that the first must have grown considerably after being laid, and that they were probably nearly ready to hatch. In about three hours afterwards we observed that several of the young larvæ had come out of the eggs, and placing the leaf under a microscope, had the good fortune to see some of them escape. The egg consisted of a thin elastic membrane, sufficiently transparent to give a dim view of the enclosed larva. The black spot which is placed on each side of the head in this species served to determine the position the creature occupied. It was somewhat coiled up, and resting on its side, with its jaws against the side of the egg not far from its extremity. We could not perceive that it had any other means of rupturing the egg than by its mandibles, which were working visibly within. In a short time the egg was ruptured, and the head of the larva protruded from the orifice. Withdrawing its two front feet from the egg, it seized the leaf on which it was placed, and by raising up its back and working from side to side, it soon worked itself out. The time occupied in the escape, from the first appearance of the head, varied from six to ten minutes,—for several of them were watched throughout the process. The egg was so thin and elastic that it yielded readily to the motions of the body, and adhered very closely to it, contracting and shrivelling up as the body was withdrawn.

The duration of the egg stage is probably from a week to ten or twelve days, depending on the weather. When the young larva comes out of the egg, it does not eat any portion of the empty shell, as is the case with many caterpillars, but sets to work at once to eat the leaf on which it has been placed. When first hatched, it is about one-twelfth of an inch long, with a large head, of a dull whitish colour, with a dark round spot on each side of it, and a few short hairs. The body, above and below, is whitish and semi-transparent, sometimes with a slight greenish tinge. At first they eat small holes in the leaf, as shown at 2 and 3, in figure 27, varying in size, and they feed in company, from 20 to 40, on a leaf; hence the leaf on which they are placed is soon completely riddled, all its soft parts being eaten out, and nothing but the skeleton framework remaining. Soon, however, they increase in size, and parting company, spread in all directions over the bush; and now they grow still more rapidly, first becoming green, then changing to green with many black dots, and finally reverting to plain green again, tinged with yellow at the extremities, just before the change to chrysalis takes place.

Fig. 28.



When from one half to two-thirds grown, they are extremely voracious, and will, when numerous, often strip an entire bush in the course of two or three days. At this period of their growth they are well represented in fig. 28. During the short period of their caterpillar life, they outgrow their skin several times, which, when it becomes uncomfortably tight, is shed and replaced by an inner and looser one. When they attain full growth, they are fully three-quarters of an inch long, and when they undergo their last moult, or change, they appear, as before stated, in a plain green garb tinged with yellow. Their main business now is to look out for a suitable place in which to pass the chrysalis state, when they will remain for some time—usually from nine to twelve days in summer—in an inactive state, unable to defend themselves from enemies. Sometimes they fix on a spot among dry leaves or rubbish, on the surface of the ground; at other times it is said they go under the ground; and again, we have often found their cocoons attached to the stems, and sometimes to the leaves of the bush on which they have been feeding. The locality having been fixed on, the larva begins to contract its length, and to spin a cocoon over itself, which, when finished, is nearly oval, smooth, of a brownish colour, and papery texture; and within this it changes to a small brown chrysalis, from which the fly escapes