

two larvæ are placed on the same leaf, one always takes possession of the extremity, often with something of a contest and knocking of heads together; but the other will presently be found on one edge excavating on either side of a narrow strip which is to constitute the base of the perch. This is bound and lengthened with frass and serves every purpose.

Both these species of larvæ have a habit of accumulating little scraps of leaf at the base and under side of the perch till quite a packet is formed, and this is rolled back as the substance of the leaf is eaten so as to be close to the cut edge of the leaf. This edge, in willow, is kept nearly square, a section being eaten from one lobe and then a corresponding one from the other. In beginning on a fresh section, the larva lies diagonally across one corner, the anal legs clasping the base of the perch, and its head will strike the side of the leaf about two tenths inch above the corner. It eats a canal nearly perpendicular to the side and towards the midrib; not all at once, by any means, for this is the result of several meals, in the intervals always returning to the perch. When the rib is reached, the larva then begins to feed on the lower side of the canal next the rib, and to keep the slender and unsteady bit of leaf in position it spins guys from the end and edge to the solid leaf opposite and to the rib. As the feeding proceeds and a considerable triangle is held only by a narrow strip, which diminishes at each mouthful, more guys are put out, and, at last, when the triangle falls, it is held by the threads and swings to the base of the perch. If not, it is soon brought there by fixing one thread after another from it to the rib and leaf till it is pulled to its place. Here it is bound loosely. As other bits are added, there comes to be an open packet, held together by simple threads, and of about one tenth inch diameter. In the two younger stages this is moved along as the larva feeds, and is always kept close to the leaf, partly by pushing, what is gained at each effort being secured by threads, or it is rolled by attaching successive threads from the farther side to the leaf and rib till the mass is turned over. After the second stage the packet is left behind, and no additions are made to it. I was at first puzzled to account for this construction; but happening to see one of the caterpillars back down the perch and drop its excrement directly into the packet, it occurred to me that really this was the magazine whence the larva drew its materials for lengthening the perch. On pulling some of the packets apart a few grains were always found in them. This I believe to be the use of the packets, and without some contrivance to catch the frass, it is difficult to see how