

with spines, and allowing the parts of the perfect insect to be perceived. In some kinds

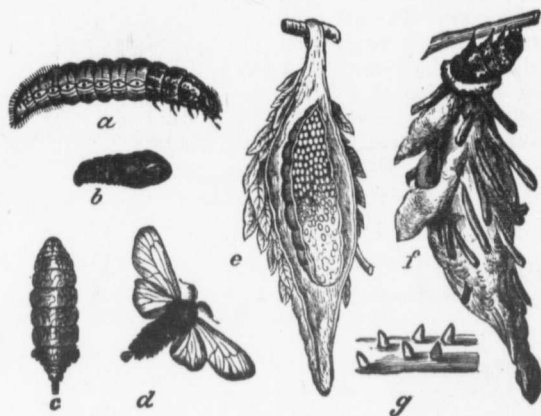


FIG. 28.

the abdomen is moveable and this character is oftenest seen in the moths, in which the chrysalis is mostly protected by a cocoon, (Fig. 29), of varying shape, thickness and construction. In the butterflies the chrysalis is

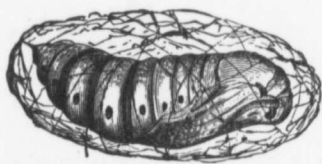


FIG. 29.

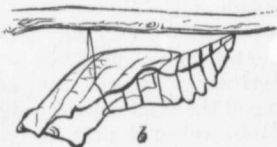


FIG. 30.

usually naked, (Fig. 30a), and variously fastened to some object, either hanging from a little button of silk head downward, (Fig. 31), or with the addition of a girdle, (Fig. 30b), when the position is reversed, while sometimes the caterpillar enters on its transformation without protection of any kind (Fig. 32), except what is adventitious and accidental upon the surface of the ground. The Hawk Moths or *Sphingidae*, generally penetrate the earth itself, transforming into the pupa in a cell formed simply by the movement of the body packing the clay together. The wood-borers form a cocoon with the aid of bits of the wood itself variously and curiously wedged together. All these statements are made from my own observations.



FIG. 31.



FIG. 32.

In the perfect state butterflies and moths agree in the coiled-up tongue, by means of which food is taken up in a liquid state by the insect. Many moths have the mouth

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