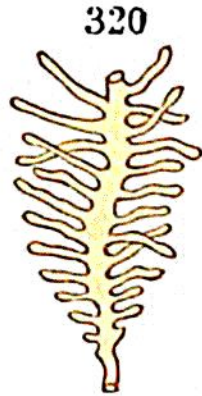


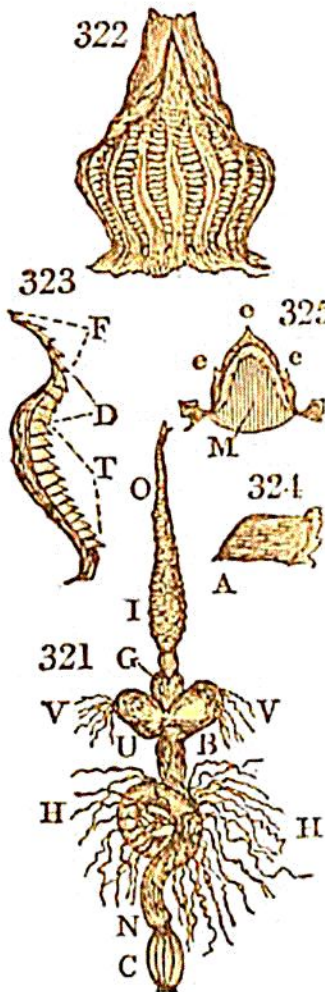
and capacious canal for their assimilation; as is shown in Fig. 319, which represents them prepared in a manner similar to the former. In this herbivorous insect, the œsophagus (o) is, as might be expected, very short, and is soon dilated into a crop (r;) this is followed by a very



long, wide, and muscular stomach (s,) ringed like an earth-worm, and continued into a long and tortuous intestine (i, i,) which presents in its course several dilatations (c, c,) and receives very elongated, convoluted, and ramified hépatic vessels (h, h.) Fig. 320 is a highly magnified view of a small portion of one of these vessels, showing its branched form.

these vessels, showing its branched form.

In the alimentary canal (Fig. 321*) of the *Acrida aptera* (Stephens,) which is a species of grass-



hopper, feeding chiefly on the dewberry, we observe a long œsophagus (o,) which is very dilatable, enlarging occasionally into a crop (r,) and succeeded by a rounded or heart-shaped gizzard (g,) of very complicated structure, and connected with

two remarkably large biliary pouches (v and b,) which receive, at their anterior extremity, the upper set of hepatic vessels (v, v.) A deep furrow in the pouch (b,) which, in the horizontal position of the body, lies underneath the gizzard, divides it apparently into two sacs. The intestinal canal is pretty uniform in its diameter, receives in its course a great number of hepatic vessels (h h,) by separate openings, and after making one convolution, is slightly constricted at n: it is then dilated into a colon (c,) on the

* The figures relating to this insect were engraved from the drawings of Mr. Newport, who was also kind enough to supply me with the description of the parts they represent. Fig. 321 is twice the natural size.