

white and brown, 5, 7 and 9 being brown, the rest white ; feet and pro-legs green ; head ovoid, black-brown, shining, with some short black hairs. Duration of this stage 4 days.

After 1st Moulting.—Length .16 inch ; color greenish-brown ; there now appear seven rows of large branching spines, one dorsal and three lateral, besides an additional row of minute similar ones over the legs and feet, as with all *Grapta* larvæ, and these spines are found at every stage to maturity ; the dorsal row begins on segment 5 and ends on 12 ; the first lateral row begins on 3 and ends on 12 ; the second lateral row begins on 3, but is omitted on 4, and ends on 13 ; there is, however, on 4 a spine between second and third laterals ; the third lateral row begins on 5 and ends on 12 ; these spines are all long, irregularly tapering, shining black, and the tips of both spines and branches end in a black hair or bristle ; all rise from light yellow tubercles and are yellow about half way up ; on 12 and 13 they are almost wholly yellow ; on the posterior end of 12 is a row of four small spines, and on 13 two small ones between the large laterals, and others, also small, behind ; on 2 is a collar of small spines arranged two on either side the dorsal line, and behind and between these one other ; also two lower down the side ; head obovoid, bilobed, brown-black, shining, with black hairs ; on each vertex a compound black spined process. To next moult 3 days.

After 2nd Moulting.—Length .24 inch ; same shape and spines generally the same, but longer, as are also their branches ; many of the latter end in white hairs ; the first laterals on the even segments 4, 6, etc., to 12, have the lower half the spines and the tubercles yellow, the odd segments have them dull yellow ; for twelve hours after the moult the color of body was largely yellow, but changed then to brown, with whitish cross lines ; head as before, the spines on vertices longer ; on the face many simple conical spines, white or yellowish, with concolored hairs. Duration of this stage 3 days.

After 3rd Moulting.—Length .5 inch ; color glossy black from 3 to 11, crossed on the posterior half of most of the segments by three white, sometimes gray-white, lines ; the broad ridges on which the spines stand are marked from 5 to 11 by white or sometimes gray bars or stripes obliquely forward, from the dorsals forming a V to each spine ; from first and second laterals one bar to each spine parallel to the arm of the V on either side ; the spines are long and slender, those of dorsal row longest ; the dorsals and first laterals on 4, 5 and 6 are honey-yellow, the former to