

MR. ANDERSON—I have been interested in what has been said and cannot add much. Today the Oak Tree Caterpillars are hard to find and I have no doubt their natural enemies are checking them. Fungus diseases play an important part in the natural control of insects.

MR. WILSON—In 1900 we had a severe infestation of the Cutworm, *Peridromia saucia*. Following this outbreak 90% were parasitized.

MR. ANDERSON—Yes. That was a severe outbreak. Daylight habits were adopted by the larvæ although a noctuid.

MR. BUSH—They could be heard feeding.

DR. HADWEN—I hope to have some slides to show tonight of the mite parasitism of Horn Flies.

NOTES ON XANTHIA PULCHELLA, SMITH.

This species appears to be increasing in numbers in the Quamichan district of Vancouver Island. Five years ago odd specimens only were taken, whereas in 1910, 11, and 12, it was not unusual to see five or six in an evening at "sugar." A female thus taken on October 9th, 1911, laid eggs about October 15th. The ova were deposited in batches and clusters in a chip box. Color at first greenish yellow, changing after a few days to a light grayish brown. Eggs round, with base slightly broader and top somewhat flattened. Surface shining, well sculptured by lines running from base to top where they finish in a well pronounced micropyle. Hatched February 25th to March 5th, 1912. Young larvæ with jet black shining head; body with series of spines. Head the broadest; body tapering posteriorly fairly evenly. General colour a dirty white with faint indications of lemon colour. For half the length from the head there is a distinct lavender shade which fades away gradually towards the tail. Eggshell not eaten. The young larva rests on the two anal pairs of legs and with head in the air. As soon as the young larva begins to eat the lavender shade goes and the colour becomes a uniform glaucous green. From a number of plants presented to the larvæ, rose was chosen, but chickweed and another kind of weed were nibbled at. The appearance of the larva changes considerably after the first moult. The black shining head gives place to a green one, and three whitish stripes appear, running the entire length of the body—one in the middle of the back—the others a short distance away on each side—the three enclosing the dorsal area. The spines not so conspicuous as in the first instance. They are emitted from small warts—two above the legs, two between first white line and the median line, and the same of course on the other

side (taking each segment across). General colour a lighter green. The larva continues to be of a light green until nearly three-quarters of an inch long. At this stage the larva is semi-transparent, of a yellowish green colour, with five white lines running the whole length of the body. The middle line in the centre of the back is quite narrow but distinct. The side white lines are more conspicuous and contain the spiracles. They are margined on the upper side (immediately above the spiracles) by a green line somewhat darker than the ground colour. There is a fainter white line between those just noted. This is edged on both sides by darker green. The central white line also has a green edging. In the next instance the larva presents a complete change. It then becomes a dark velvety brownish green with very conspicuous markings. These markings consist of dark (almost black) V-shapes on each segment—each V being cut through the angle by the middle white line. The middle white line shows very distinctly; the spiracle white line also survives, but the intermediate lines have entirely disappeared. Head light brown. The segment next the head is dark with two white lines, between which are two white dots. There are also white dots on each segment transversely, arranged differently on the 2nd, 3rd and 4th segments. After these there appear to be four dots on each segment. There are also single short hairs on each side of the centre line on each segment. The latter description was taken May 1st, 1912).

As the larva grows larger the greenish tinge goes and the prevailing colour is various shades of brown. At this stage my larvæ were very voracious and the sprigs of wild rose supplied were soon stripped. All the larvæ had gone into earth by May 12th. The pupæ were kept indoors, so the dates of emergence of the perfect insects (August 17th to September 5th) are earlier than usually occurs in the natural state. In this district the wild moths appear from about the middle of September to the middle of October.

As the species seems to be local and not generally known, perhaps a description of the perfect insect may be acceptable.

Expanse 32mm. Primaries narrowish with outer margin slightly hollowed below apex; general colour a rich red brown with purplish tinge; basal area purplish brown (broadest in middle) edged outwardly by a light line followed by a darker transverse anterior line; then follows a lighter area commencing at the costa where it is as wide as the basal patch, broadens out to take in the orbicular and extends to the lower part of the reniform, from which point it contracts until it reaches the inner margin; the lower half of this area is ochreous and more shaded than the upper; it is bordered outwardly by the transverse posterior

shade of darker brown which surrounds the reniform and throws it up in strong relief, especially at the lower part where it is conspicuously white; between the t. p. shade and the subterminal line the band is slightly lighter and more purplish; in this band, where it touches the costal margin, are three minute wedge-shaped ochreous marks; the outer edge of the s. t. line is fairly parallel with the outer margin, only somewhat wavy and notched; the s. t. line is thin about the centre but thickens out slightly to the anal angle and more so towards the costa where it forms a darkish, somewhat triangular, apical patch; next comes the outer band; this being of fairly uniform width and lighter than the general ground colour (and more ochreous) forms a rather striking feature in the markings; fringes plain and of ochreous olive.

In some specimens a whitish dash sprinkled with rosy scales runs along the costa from the thorax to the orbicular stigma which it includes; the orbicular is small (occasionally almost obsolete) and, when present, outlined in white; the reniform, long in shape, is outlined in white, the lower part markedly so as already mentioned, the upper part being filled in with ochreous. Secondaries plain, of a rosy brown, lighter than the primaries; there is an indication of a discal mark; this is more distinct on the under side. Thorax purplish brown, slightly crested along central line; collar and head more ochreous. Body purplish brown, shading off lighter towards thorax. Palpi clothed with hairs; eyes smooth. Under side a rosy ochreous with costa and outer band of primaries strongly ochreous. Antennæ simple in both sexes.

A variable species within certain limits. General appearance of sexes similar, except that the females are perhaps in the majority of cases more strongly marked than the males.

G. O. DAY,
Duncans, B. C.

NOTES ON *SCHIZURA UNICORNIS*, SMITH & ABBOT.

Perhaps some of those present may have noticed on their fruit trees a curious looking caterpillar, remarkable for two strongly contrasting colors, besides other peculiarities of shape. The segments between the head and a kind of double pointed hump on the third segment are a light green color, almost transparent, the rest of the body being different shades of brown and pink. There is also a conspicuous white V-shaped mark in front of the anal hump. A brownish-purple narrow band connects the head with the first hump. This marking shows strongly against the green of the first two segments already alluded to.