Roland Thaxter

[illegible]
May 1885.

1

Scopelosoma [illegible]

[illegible] twigs

April 22 and subsequent days. Eggs also on Strawberry and other plants. Flattened inferiorly with a circular superior depression from which radiate beaded ridges. Large transverse diam about .6 mm. Color straw color changing to reddish and black as larva develops.

Eggs Hatched May 4 et sq.

Young Larva. Livid yellowish-green with superior and anterior blackish tinge. Head large - jet black. Prolegs and in some specimens feet: black. A frontal black shield or seg. 1. Spun half together like a tortrix. After feeding - color light green with a few blackish marks. A few colorless hairs. L. 1.5 mil. When mature indications of a dorsal subdorsal and lateral stripe. Color light green darker anteriorly; head small. Makes itself a case either under bud or between the ribs of the leaves like a tortrix. Sticky hard to handle. Turns brownish yellow before changing skin. Raspberry, cherry & gooseberry.

After 1st moult May 15. — 11 days.

Above dull purplish darker in the subdorsal region tinged with green. Below dull yellowish. The dorsal two s. & and a sub-stigmatal lateral line whitish, the S.ds faint and less clearly marked especially the inferior of the two. Stigmata and seiff. tub. blackish and indistinctly ringed. A few whitish mottings above below. long. lines. ~~Feet~~ legs and prolegs. black. Head and anterior shield. Length (mature) 6 mm.

After second moult May 22 7 days

Much as before the markings more distinct especially the dorsal and lateral lines and the set. tubere. Purple shades most prominent in region of stigmata. L. 10 mm

After third moult May 28 4 days.

Markings as before but more distinct esp. the sub. stig. line which is faint on 3 anterior segs. Two white ringed set. tub. placed diag. anterior → inf. post. very distinct. 2 similarly placed in dorsal region lat. to dorsal line somewhat less. so. Others indistinct. Legs with an external pinkish shade and a few black pts. Prolegs black. Head and anal seg. light brown. Color above (and below on 1-3) dull rattan with purple tinged w. green esp. dorsally. Below light green w. a violet of purple below the stigmatal line on each segment. Dorsal line w. a bluish tint. L.

rep. by 1 on 123 and 1 placed diag. on 224

After 4th moult June 2 1903

Marked as before but less distinctly: colors more dull and ground color darker.
L. 26 mm

After 5th moult.
June 8

Mature Larva.

Dull blackish, w. a bluish, green tint, mottled, with lateral dull purplish tinges. Dorsal streak indistinct bluish white somewhat irregular. ~~Dorsal and~~ sub.d. lines broken but ~~quite~~ tolerably distinct the ~~upper~~ superior edged above and below with blackish. Lateral streak ~~clearly wh~~ white w. a bluish tinge. Stigmata black. Set tub. fine black pts ringed with bluish white, more below the lat. line more distinct. Head blackish aut. light shining brown post. The superior s.d. line cuts the ~~black~~ frontal shield very distinctly. Form stout ~~tap. slightly~~ head large L. 35-30 mm.

2

Scopelasoma Walkeri.

Eggs laid as in preceding species and both these and the young larvae indistinguishable from it.
Eggs hatched May 5.

After first moult May 16

Not distinguishable from (1).

After second moult May 23

(Somewhat darker and more tinged w. dull purple head much darker. Lower sub lat line much less distinct. But varies to No 1 almost.) Not separable

After third moult May 29.

Not separable Somewhat darker less distinctly mked dorsally than No 1.

After 4th moult. June 5.

Much darker dorsally than No 1 being a rich almost black purple: the s.d. lines hardly visible and the d. line faint: the lateral line heavy and clear contrasting white ~~on 22~~ tinged w. purple. Sct. tub. smaller than in 1. inferior purplish shades more pronounced frontal head blacker ~~feet~~ legs white

After 5 moult June 10

Much richer than 1 or 4.

Above velvety black purple tinged w. green ~~and~~ the dorsal and sub. dorsal lines barely indicated. Lat. lib. barely visible except under glass above the lat. line which is clear contrasting white (dif from 4 in being white and 1 in being heavier and much clearer without bluish tinge) somewhat oblit. on 2 3 4 11 12. Frontal plate ~~shield~~ having. sup. s.d. line clear & contin-uous it tinged w. yellow. Beneath bluish green. Sub lateral (and ventral on 1-4) pink shades. L.

Form as in 1 a little stouter.

Head as in 1 but more broadly ~~[illegible]~~ post. w. light brown.

Scopelosoma vinulenta

Egg laid as before.

Hatched May 9.

Young larva as in 12 perhaps a little lighter. but varying in shade.

After first moult. May

~~Much as in~~ light green. with little purple lateral shading

Head black lighter

After second moult.

Purple shades now in 1-4 confined to the region included by the lateral and superior subdorsal line. The inf. s.d. line. hardly visible. Dorsal portion distinctly blue-green divided by a dorsal line more continuous and larger but less contrasting than in (1) tinged w. green: ~~[illegible]~~ light green. 10 mm.

Head light brown dark ant.

After 3d moult.

Much as before the purple duller and clearly defined Dorsal and lateral lines more distinct. Head shining brown. inf. s.d. line only indicated by a few scattered mottlings in the purple.

After 4th moult

Darker ~~and brighter line over~~ dor
the dorsal parts slightly tinged w. purple
Lat. line very ~~heavy~~ distinct contrasting
above beneath light bluish green ex. 1-4
tinged w purplish S.d. only indicated ex. on 1-2-3
else as before. 25 mm ~~Head~~ dark shining red brown

5th moult June 13.

Mature Larva

Dorsal parts dark olive green somewhat
mottled. tub distinct. Beto. s.d. cup. and
lat. dirty wine color inf. s. d. line
marked by a few dots. Dorsal l. lin
distinct suffused w. purplish Beneath livid.
1-4 red purple else as before. pleps dark brown

+. Scopelosoma 3-stigmata.

Eggs as in No 1. Laid May 5th et sq.

Young Larva does not differ from No 1.

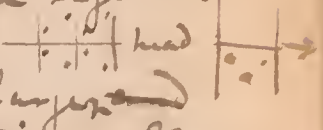
After first moult. May 16. 11 days.

Not separable from No 1.

After second moult. May. 22.

Not. sep. from No 1. L. 11.

After 3d Moult May 28.

First sign of a decided difference from No 1. Colored similarly but noticeably more ~~richly~~ brightly. The lines and spots more distinct. ~~The~~ A white ringed tubercles in the dorsal region lying beside the doors. line and placed  and differs from 1 decidedly ~~the upper being~~ larger ~~and distinct the lower small and indistinct~~. Else as in No 1 same ots. L. 15.

After 4th moult June 3

Lighter than No 1 more clearly marked: the sub. tub. above mentioned of the same sign but both much larger than in No 1. The lines clear but moderately heavy 25 mm.

After 5th moult. June 8.

Mature Larva

Much like (!) and readily mistaken for it but differing in the richer red purple color more indistinct d. & s.d. streaks color more uniform appearing frosted when wd at longit. The most noticeable difference is in the lateral band which becomes much broader post. and tinged w. orange yellow. On the frontal shield the sup. sub.d. line does not extend ant. to head and is much less distinct. The ut. tub. under a glass are ~~smaller~~ somewhat larger.

Entered earth June 16

5.

Scopulosoma devia.

[illegible] Hatched May ~~[illegible]~~

Young larva milky (head black, legs prolegs, shield on 1 and 12 black. L. 2 mm

After 1st moult. May ~~[illegible]~~

Milky white clearer than before black parts contrasting; velvety hib. black. A faint purplish lateral and dorsal tinge L.

After 2d moult May

Much as in vinulenta (comm 225.) but paler.

After 3d moult.

~~Lighter~~ Paler than any of the other species but nearest vinulenta from which it differs decidedly, by a lateral distinct subdorsal line and by the absence of purple shades on segs 1-3 except just above the lat. white line: dorsal surf. light ~~of~~ bluish green mottled with whitish. Lower parts very light. Prolegs only, black shield black

After 4th moult June. 10

Very like vinulata but much paler. Above greenish white w. a bluish tinge mottled with darker olive shades. Dorsal and sup. sub. dorsal lines distinct (the latter slightly larger and very dist. in frontal plate) both edged w. darker olive shades and contrasting the opac region betw. the sup. s.d. and lat. lines is dark dull olive green tinged w. purple and darker infer. and w. a few white dots. Subtrac line somewhat broader than vinul. but less clear slight purple tinge at base of prolegs which are black. Head much lighter than vinul. and w. black frontally

After 5th moult June 15.

Mature Larva. (See Cat. superior.)

6. Calocampa nupera

Eggs laid in patches on strawberry vine. flattened

Hatched May 7. Young Larva 1st Stage.

Light purplish blackish posteriorly. body sparsely covered with blackish ~~and dark purplish~~ w. a few black setiferous tubercles. Head light brown dots. Beneath greenish. Setae moderately long curved - black. Feet - black. Prolegs greenish. After eating, bluish green black tub. very distinct.

Second Stage. May. 17.

Dark green above light green tinged w. yellow below. Dorsal o. d. and broad lateral whitish streaks. Black dots as before but distinct. Head light brown numerous black dots. Very slender 10 m.

Third Stage May 26. (6th Jul)

d. 2 s. d. & pro lat creamy [illegible]. Above tinged w blackish. Head thickly mottled w. brown dots w. a dirty color. patch. Else as before. 15 mm. Black dots very distinct but broadly ringed w. whitish

4th Stage June

4th Stage June 1st.

Much as before colors and contrasts more distinct. The larva in this stage acquires the use of the two pr anterior pairs of legs previously rudimentary. Specimens vary much in intensity of color some having the superior edging of the lateral line almost black. Black dots hardly visible rings broader.

5th Stage – June 5th

Lateral dorsal and sub. dorsal lines creamy yellow the first contrasting strongly with a black sup. edging. Stigm. tinged w. orange. varies from almost black green above to light grass green. On each side the dorsal line are 3 contrasting white dots the middle one placed internally except on 1 (now) and 12 (1) on 223 the central dot is moved post. opposite the post lat. spot. One or more white dots on each eg. below sd. counting in some. Head light green w. brown mottling.

6th stage June 10.

6th stage of S. Devia)

Marmorata but a blacker looking larva. A broad dorsal black band mottled ill defined attenuated intersegs and including the hardly visible light dorsal streak, conspic. on anal seg. Rest of d. surf. greenish grey & black mottled Sup. s.d. broadly edged w. black but very indistinct conspic. on anal and 1st seg. Lat line clearly defined white w. a few black mottlings below this lat. by black mottling to legs. Beneath light greenish plays black head ant. blacker than vinulenta

7. ~~Calocampa exoleta.~~

~~Eggs on Juglans Hatched May 8~~

~~First Stage.~~

~~Not separable from Juglans except that when somewhat grown the black tubercles are much less distinct than in Juglans.~~

~~Second Stage May~~

No 7. Marasmalus ventilator.

Eggs laid on sumac. June 5. Cream color soon changing to reddish by the appearance of numerous reddish dots.

Hatched June 10.

Light green or dirty yellow green with black tub. Brown black tapering lines. 4 dorsal 2 s.d. and 2 ~~l~~ l rows. Head jet black. Legs and prolegs blackish at base. Frontal shield black. Stout 3 mm. Legs normal 5 pairs 3 prolegs.

Second Stage June 15.

Light yellow with the intestine and contents showing through. The sub. d. rows of spots most conspic. a fine light line passing upon the upper ~~out~~ lateral. Each row of spots (exc dorsal) includes two on each segment. Head greenish yellow with a lateral ½ circle of closely set black dots. Legs light green. L. 4.5 mm. Short tap. post. Head somewhat retractile.

Third stage June 20.

Powdery greenish white. all the dots but the sub. dorsal and and sub. stigmatal are hardly visible the latter very large and contrasting the sub. stig. spots on 2 & 3 smaller and placed sup. forest. a large ~~of~~ lacking anal segm. gamboge yellow blotch between the two rows of spots on each segment. Head greenish yellow. Row of spots on lat head as before. ~~Legs~~ and legs light green. Else unmarked. Short and tap post. normal. L. 7 mm.

4th Stage June 24.

As before wholly spots larger [illegible]

5-15 [illegible] 2d Mature Larva.

Spots much larger and reduced to a s. d. [illegible] two on each segment the ant. about 2x as large as posterior, and a stigmatal rod each spot round including a slipna[illegible] anal plate and frontal plate of 1 black the latter terminating laterally and anteriorly in two black dots. A black dot at base of ex. front pair lips and two of prolegs. a large black lateral rectangular patch on head largest diam. transd. the as before. A fine white lateral stigmatal line.

Mature July 3d went into moss July 5.

Sabocampa vinitia.

Homoptera minerva.

Eggs laid on maple and willow May 29. Flattened finely not deeply ribbed dark robins egg blue.

Hatched June 7

First Stage

Dark rather dirty green. The 7 posterior segs dorsally and dirty reddish s. 84. dirty yellow. A broad lateral dirty whitish band. Ventral p. dirty reddish head light brown with a few hairs and several contiguous dark lateral dots. Body covered sparsely w. fine black set. Tubercles marine, very short stiff hairs. Legs (3 pairs) and prolegs light straw color

Second Stage. June 11.

Dull blackish green. Sub dorsal region of the 9 post segs dull reddish (glass) and indist. light lateral s. lat & 2 s. dorsal. and a darker dorsal line. Black points as before - Head mottled hairy. L. 15 mm.

Third stage June 14.

Somewhat darker than before else same. 19 mm

4th stage June 19.

Packardia geminata?

Eggs laid June 20 oak.

Hatched July 2d. 12 days.

No 9. Crociqrapha Normani

Eggs on ~~strawberry~~ oak May 30. sq.
Light grass green a short time after deposition a reddish blotch appears at upper pole which is encircled by a similar red band this not completely.  Eat chickweed readily; but fed on oak.

Eggs hatched June 5.

First Stage. Jn. 5.
Light grass green: paler inf. Large black retif. tub. bearing black armed horns 2 subdorsal placed longitud. the post. placed externally another placed anteriorly beto. the s.d. and l. regions a lateral pl[illegible] centrally. Head light straw color with a lateral black patch. Prolegs and legs light green w. basal blackish tinges. L. 4 mm.

Second Stage. June 9:
A dorsal sub.d. and broad lat white line else as before 7.5 mm.

Third Stage June - 11

Bluish green above; space betw. s.d. and lat. much darker than dorsal. Lines more distinct edged w. darker green, lat. gen. double. Head light green tinged w. brown w. numerous small brown dots and two large lateral black patches. Set. tub. white ringed. 13 mm

4th Stage June 14.

[illegible] dorsal [illegible] w. [illegible] the lateral line distinctly double except intersegmentally. 21 mm

5th Stage June 20

Reddish brown dorsally variegated a pair of trans. dorsal black dots on each seg. dorsal line blackish edged s.d. region blackish mottled darker inf. conts. lat double line which is tinged w. yellow. s.d. line moderately distinct. 2 black sub lat dots placed diag. sup → post. Stigmata blackish. Bluish shades set. lat and at base of pro. Head light brown w. large double median transverse patch and dark brown lat mottlings. 26 mm.

6th Stage June 26.

Malum Lanoa.

As in preceding stage: the markings ill defined and the larvae shading from reddish to yellowish. Diam 36 mm.

10 ~~Homoptera 1-lineata~~

~~Eggs laid June 1. Color like No 8. Willow -~~
~~Hatched June 9.~~ ~~First Stage~~
~~Dark green ant. last 4 segs tinged w. yellow~~
~~a lateral and 2 subdorsal whitish streaks~~
~~else as in minuta -~~

Second Stage. June 12

~~Paroxyna~~
~~On elm June 17. Body black.~~

Lophodonta angulosa -
Eggs laid June 30. on oak hd. Jul 6
Yellow green dorsal parts, dull red a s d and broad
~~wide~~ lateral line dull red, stigm. black. Head & feet black
anal lap elongate

2'stage 1st moult - Jul 13.

Light bluish green above with a somewhat wrinkled appearance. 2 s.d. light streaks = an indef. yellow ~~dorsal~~ lateral band. S.l. part extending to lys, dull red with light points. Head and prolys black. An elevation on dors. 11. Elongat. last 3 segs raised. 13 mm.

3'stage. 2d moult - July - 19

A clear bluish green dorsal line on either side a broad bluish white band. a narrow sub. dorsal bluish white line edged above and below w. bluish green and also an inferior irregular finer broken. A clear greenish yellow stimulat. line, edged above w. dull red. Sub. lateral irregular dull reddish marks. a 2-tipped prominence on 11 tipped w. red. Stig. green. plys black lys. w. an ext. blackpatch. Rest without elevation, body. L. 18.

4th stage. Jul. 24 24.

Lateral (stigmatal) line very distinct edged above and below w. red. A long. sub stigm red slash on 1-Pq and. Above bluish (green) white a dorsal blue green line. 2 s.d. white lines edged w. blue green. Prolegs black. Legs green. Head blue green w. darker mottling. Prom on 11 as before

27 mm.

5th stage July 29. Mature Larva

Lateral yellow band more heavily edged w. purplish red 2d s.d. line = long. yellow spots. A number of yellow spots on inf. surf. Red slashes less conspicuous on 1-Pq and 11. Small bifid prominence on 11 orange. Stigm yellowish. Head green mottled w. bluish white edged (externally &) inferiorly w. yellow.

Cocoon in moss Aug 8.

No 11 Mamestra rosea

Eggs laid June 9. white w. a bluish tinge.

Hatched June 14.

Rather rich yellow green. A row of s. d. almost d. black set. tub. (brain, black short hairs) ~~set~~ longit. 2 on each seg. 3 sim ~~sys~~ tub. placed lat on each seg, post. 2 ant transv. 2 on 1-3 all placed ~~laterally~~ transv. head light green brown somewhat mottled and w. a lat crescent of 4 black dots closely set. L. 4.5.

2d Stage June 20.

Black tub. minute. Color less vivid. A dorsal. 2 sub. d. and a lat. light streak. Else as before. Under 9 mm.

3d Stage June 26

As before but the lines more distinct 2 of w. dark green. Lat. heavy: Apple green 15 mm

4th stage June 30

No 12. Euvyja Lunaria

Eggs laid June 9. Cup shaped, olive green with a corona of white dots and a central apical green spot.

Hatched June 24! 15 days!

Heliocampa maculata

Laid July 11.

Hatched Jul 20

No 13 ~~Glyphisia 3-lineata~~

~~Eggs laid June 10.~~

Apatela Lobeliae

Eggs laid. June

Hatched June 22

Light green, Legs 1, 3-4, 7, 8, 11 pale and purple dorsally. Numerous long black hairs. Head light green w. a few brownish marks.

2d Stage June 25.

[illegible]

3d Stage June 28.

A dorsal yellow line broken on 4, dors. 1 3 4 7 8 11 dark brown somewhat mottled: intervening segs yellow lateral portions yellow green: sel lib. brown mottled a broken s.d. yellow line. Hairs long black ex. lateral grey. Head yellow w. two ~~superior~~ anterior frontal squarish black spots and two larger ~~inferior~~ anterior ones

9 m.m.

4th Stage July 1.

5th st. Jul. 5.

6th stage Jul 9

7th st. Jul 14

Marasmalus histrio

All stages found on sumac July 16. '13.

~~[illegible]~~

Light yellow green without visible marks tapering post. L. 3 m.m.

2d stage

Greener anteriorly and more bunched. A faint s.d. and l. line. A few faint whitish dots scattered over body. Head yellow green ~~on a pale crescent of black spots~~. L. 5 mm

3d stage

Longitudinal lines, and dots distinct. Body much swollen anteriorly somewhat like papilio L. 9 mm

4th stage

More distinctly marked and darker green the same L 15 mm.

Mature larva 5th stage.

The sub dorsal (almost dorsal) lines heavy indistinct on the most anterior segments. A faint ill defined stigmatal yellowish streak. Stigmata light orange. Body sparsely covered with flat whitish or yellowish prominences of irregular size and shape. Apple green strongly tinged w. yellow anteriorly. Legs pale and head green. Attached anteriorly: tapering post. £ 22

Cocoon in leaves of blackish silk.

Chaerodrus propinquilineus

Laid 10?

Hatd Jul 19

Very like dimidius but much darker
light green much darker resp. a d. d. row
of large clear red spots about on 11 12
Each seg. w. a large brown row of set
tub.- of which the red. spots are on heavy
very long hairs. Rest ex on 1/, 1, 1, 2. short
thick latter long. a somewhat indist. d. d. and
lat. yellowish line. Head livid w. a few
reddish palatus. L. 2.5 mm.

2d stage July 24

Much as before darker w. blackish anterior
rings. 4 mm.

Ich Thyzura indentata Pack.

Found singly in cases on willow. Will eat poplar. Very like strigosa but the yellow warts more conspicuous. Markings much as in strigosa but less distinct and this varying considerably seldom never as dark as strigosa type. Separable at once by its black stigmata and brown head the head of strigosa invariably black even in the white examples. Cocoon Sept. Imago May-June. 2d brood Aug. Head sometimes nearly black but dull black. Stigmata invariable 13 examined.

Heterocampa "Bumma"

Ld Jl 11, Hd 19. Egg light bluish green -

Dull reddish brown w. many fine longit. lighter streaks. indist. dorsal yellow shadow. esp on 11. Head dull black. A pair of remarkable 3. branched ~~toothed~~ projection from ant. 1 the branches curved and ~~[illegible]~~ spiny: these proj. connected by a shorter on 4 & 11 12 a pair of similar unbranched projections there on 5 the shortest. L. 4 ½

2d Stage July 23.

Red brown variegated with yellow. A dorsal yellow line ~~[illegible]~~ widening into a lozenge shaped patch on 4-9 and again widening from post of 5 to anal lips — mottled w. red: a wedge shaped red patch on 11. 12. dorsal - Head rank red. 9mm.

L. 8

3d stage July 28.

Lozenge patch clears and larger creamy with somewhat intricate fine red figures. Dors. l band broken ~~post~~ on 8. Remaining portions marked w. intricate fine alternating red and yellow which is longitudinally wedge shaped patch on 11-12 & slightly ~~[illegible]~~ ~~[illegible]~~ Head & legs mottled red & yellow and [illegible] 16 mm

4th stage Aug 3

As before: the red predominating, and the posterior wedge shaped patch indicated by two converging (post.) red lines. A faint broad sub. stig. line

5th stage Aug. 9. Mature larva. 23 mm

The typ-larva is green –

Heterocampa Manitoria

Laid Jl. 11 Hd 20.

Light green with a much broken dorsal red band. A pair of projections on ant 1 red & yellow at base. Anal pair of lips dorsal as in cerura red and bright yellow alt. retractile L. 6 mm to tip tail 10.5 mm

2d Stage Jul 25th –

Dorsal band continuous, edged w. yellow, enlarged centrally on each segment noticeably on 5 & 10 ending on ant 1 in 2 red lines Faint very oblique lateral lines from a s.d. yellowish line from ant. of 1 seg. to the ~~[illegible]~~ s.l. portion of the 2d posterior to it. 2 or 3 dull red dots. Head yellowish.

3d stage Aug. 1.

Dorsal line heavily contracted intersegmentally broadly edged w. yellow. Body covered w. minute black points. A lateral stigmatal row of red spots edged w. yellow, pair 3 wanting in many as 4 6 9 11 those on 4 & 5 generally double. Head triangular, green edged w. red and bottom w. yellow. Tail shorter L. 16 mm Tail 5 mm

4th stage Aug 8 –

Much as before: the diag. streaks more distinct and the lateral red spots less frequently present

5th Stage Mahum Canon Aug 17.

Light apple green often tinged with blue a clearly defined heavy ~~white~~ cream or reddish dorsal line. (the lateral red spots rarely present (in none of this brood). showing a tendency in some specimens to enlarge or segs 46 10 11. Varies very much. In some broad mottled w. pinkish in others fine and nearly white. Head more broadly edged the oblique dash (passing thro stigm) on 3-4 most comp: greenish yellow all. The 8 oblique dash passes down and back to the anus in a substigmatal heavy greenish yellow streak. Tails yellowish white to pink 5 mm

Powdering of dark dots on inferiorly and near the dorsal line. 40 mm more or less varying much in size. Rests exclusively on underside of leaf. Turns dull pinkish purple before making a thin cocoon near the surface of the ground in which it hibernates till the middle of June. Imago appearing in July.

Nonagria subflava

Larva and pupa in nodes July 25.
Dull white tinged with bluish green, some made green from stems
without marks except a few small brownish set tub.
marking, with short colorless hairs: 1 larger than the rest
just post to stigm. on above stig and 2 dorsal
pairs the post. external to the anterior on 2-3
a transverse row of 10 besides the post stigmatal
stigmata white black ringed. Frontal shield
dirty light brown inflected post and ext.
head light shining brown w. darker mottlings
very small. Very long and slender L. 50 mm
diam abt. 4.5 mm.

Larva enters about a foot from the base of reed
and eats its way down to base. Returning it
enlarges its burrow to within about two inches of
its entrance hole and ~~spins a fine web~~ after
eating, a oval hole in the side of the reed large
enough for the ~~larva~~ moth to escape then it
spins a ~~fine~~ web at the summit of its
burrow diagonally across it so that the moth the

Carlodargs ~~[illegible]~~

~~Eng[illegible] [illegible]~~ July 26: N. Buffalo Lo Aug 20

~~Monagria oblonga etc.~~

Arzama ~~diff sp?~~ dubia obliquata -

Before last moult. ~~Below bird whitish~~ -

Dorsal region dull reddish with a central olive tinge. Lateral parts lighter reddish. No stigmata black. A few dorsal blackish shades on 1-3 and two elongate black stigmata on the post edge of 11 placed transversely. A longitudinal somewhat irregular sub dorsal furrow placed slightly diagonally on each segm. Two sub. lateral furroughs (longitudinal) and a transverse posterior and less noticable anterior furrow on each segment. A ventral ~~heart shaped~~ transverse depression on each segment. Frontal shield light brown w. central whitish line and two anterior whitish depressions. Head dark shining brown. A few minute y black points scattered on body bearing minute black hairs. A circle about anus somewhat longer. Flattened tapering slightly and elongate. Vio much less so than Arbflava to which it bears little resemblance.

Furroughs under glass entirely in many animals. Black surface finely wrinkled

Mature Larva

More flattened than before. Color dead bluish black with a very faint tinge of reddish dorsally. Lighter beneath. No body to color. Head almost black mahogany, also frontal shield. Anatomy of legs shows up. Stimuli on seg. 11 very intensely ~~probably~~.

Feeds in stem of Typha burrowing into base of reed.

Sphida obliquata ?

In pickerel weed. Hardly separable from the above average smaller with a tinge of olive green. A hundred found Sep 18 - 20 also in burr reed. Same anatomy (curious arrangement of bladder like trachea) Eats in leaf stems and plant stems: might have found hundreds.

Apatita occidentalis.

On apple. of the lobelian group the larva having the same habit but only approaching the same coloring in its early stages. Mature larva restson twig. under glass seem to be powdered w. black pts.

A broad dorsal bluish black band ending in a large hump on seg 11. Edged and ext. w. deep black. On seg 4-10 inclusive is a peculiar ⬡ shaped ornament. consisting of a velvety black ground in which are included six spots two placed longit. forming a dorsal row of dark orange spots (~~about~~ connected on 9:10) two burnished blue black spots placed externally to the posterior end of each anterior orang spot. And externally of all a straw colored spot forming a s.d. row. A broad s.d. pale lilac band broken by the dorsal ornament and a much narrower and less bright

supraspiracular one. Whole lateral portions very pale purplish thickly powdered with black atoms (under glass). A yellowish tubercle bearing several brownish hairs just above behind and below the black stigmata and another much larger one at base of legs. A fine central dorsal yellowish line on 1-3 and a transverse row of yellowish tubercles (also on 12), bearing long yellowish brown hairs those on 1 projecting horizontally forward. Head dull red post ~~fading~~ blending into dull black and: an arrow shaped anterior mark. Prolegs black. L. 35 mm. Cocoons Sept 20 – 31. 7 specimens on apple.

Determined from drawing sent by Riley -

Heterocampa guttivitta.

Eggs light-bluish green. June 15th. Hatched 27.
Feeds on oak, apple, walnut. (in nature)
Dull red with an ill defined yellowish dorsal patch on 9 & 11. Two 4-branched spinous projections placed sub-dorsally on 1 and a sub dorsal row of 2-jointed spines on Seg. 4 & Most posterior Pair, each having a fine hair at apex. 3 mm.

2° Stage. July 2d.

Dirty reddish greenish yellow on last two segs.
A sub-~~lateral~~ dorsal greenish yellow line. All spines gone except two points on s.d. 1. 8 mm.

3° Stage. Jul. 6.

Yellowish green with red tinges. A s.d. yellow with white band broken on 6 by a reddish mark running onto first pair of legs. A red mark runs diag. up and forward from ~~the~~ 4th pair. Last pair of legs red. Various reddish marks dorsally. 3, 4th segs. much mottled with red. Head greenish in a double red brown line from

jaws to apex on either side. Usual habit of heteroscampha. L. 12 mm

4E July 13

Varies from dark apple green to reddish a s. lateral cream colored band gen not ext to 1 a red dorsal band on 2 & 3 including a fine dorsal white streak. The band in some specimens splits on 4 and extends posteriorly enclosing the usual large red dorsal patch on 5, 6, 7 which in some specimens 1st pair of legs and in others as far as by s. d. line below which it does not extend. The red dorsal marks are mottled and deeply notched ant. & post more so ant. wh ext back to the middle line following the cream color which may extend forward in a loop to 3. Some specimens have various lateral red marks and a stripe of white streak showing in others. 2 short dorsal projs. of 1 edged w. cream color a diag red mark extend to 4th pair legs. lateral [illegible] below 1 & 2 11. and a red

mark running down and forward to 3 [illegible] profile. Subject to great variation in [illegible] of red. Head large w. a triple band of black yellow & red laterally red being External 20 mm.

Apatela spinalis.

Egg laid on glass. June 15. Hatched June 30.

Young Larva. Light greenish with a row of large, dull red, stiff. tub. placed transversely on each seg. bearing long blackish hairs. Those tubercles on 4 7 8 much larger bluish and forming transverse red patches. A Red mark on 11. Head dull red. L. 2.5 mm.

First moult July 5.

Stout. dull green the reddish blotches larger confined to dorsal & sub-dorsal regions in S. & 2d reg. colorless & yellow. Buff brown black long & stout hairs head & w. darker mottlings — 4.5 mm

2d moult July 10.

Brighter green — Beneath yellowish. Blotches ~~not~~ much less ~~as~~ well marked as before the S.D. & D. tubercles post & surrounded with irreg. blackish mottlings: forming an irregular & ill defined dorsal & S.D. band —

3d moult – July 16.

The dark patches predominate having ~~a~~ lateral sub d. and slender dorsal bands. The two former including on each side post 3d a black tubercle – The tubercles bear very stout black hairs among shorter whitish ones and form with the irregular reddish black mottling ~~be~~ which connects them longitudinally a ~~tolerably~~ well defined dorsal and broad s.d. band. Head yellowish with a post. superior black crescent or crescent shaped ~~spot~~ mark. Beneath greenish yellow. a few dots laterally – 2 or 3 yellow ~~patches~~ spots in post portion of s.d. ~~of~~ greenish line –

4th July 20

Varies from a form wholly blackish with linear whitish mottlings, a whitish lateral and barely traceable sub-d. line with black head obscurely mottled to one in which ~~greenish~~ yellowish white predominates the lateral and s.d. bands being very distinct: with a few black points beneath. There is a fairly well marked dorsal stripe contained in the broad mottled black and yellowish dorsal band. A band similar to this separates the s.d. & lateral lines: head strawy color w. a few black points. Both forms densely clothed with stiff whitish bristle like hairs each tubercle

~~[illegible]~~ varies towards longer & shorter (black hairs thus the most). L. 11 mm
In some specimens the s.d. band has shades of orange and brighter yellow tint posteriorly.
5th month July 25.

Varies somewhat tho' not much in shade. Bluish black mottled with whitish lines and dots, lighter beneath the. S.d. and lat. lines clearly marked in most the former often indistinct and varying in shade from cream color to orange: not traceable on anal segs. the lat. line well defined varying from cream to yellow this is sub-stigmatal. Stigma white black ringed. Head black generally w. two sup. ~~and~~ yellowish brown patches. a frontal ∧ mark. Short tap. post. L. 18 mm.

6th month July 31, Malden Lawn.

Black with an orange substigmatal band which varies in individuals and is hardly noticeable in some in none it very conspicuous. Stigmata contrasting white else entirely black. Hardly separable from noctivaga to which it shows this sp. very closely related. Differs in the absence of any signs of s.d. marks on post segs. and by the absence of any intermixture of finer hairs with the dorsal tufts. 28 mm. Short tapering post. of Bombycoid type. Spins cocoon like this 2 noctivaga Aug. 9 1884 — period 55 days for egg to exit.

Imagos in Boston May 23 1885

Apatela superans.

Egg on glass - June 29.

Hatched July 6. Fed readily on poplar.

Somewhat slender. Light green w. tufts of stiff blackish hairs. On 1.4.7.8.11 a transverse dorsal & s.d. band of warty prominences. Head greenish yellow, hairy with a few brownish spots. Sct. tub. black small. L. 2.5 mm.

First moult - July 13

Pale bluish green. No dorsal warty prominences blackish, and forming enlargements of two dorsal rows of pairs. A sub. dorsal row of blackish tubercles and two smaller lateral ones. Head greenish with large reddish black patches. L. 4.5 mm.

Second Moult July 17 (Thursday)

Bluish green

A dorsal white line. Large, lozenge shaped patches on 4 7 11 extending somewhat to middle of adjacent segs. except posterior on 4.

A smaller, somewhat melanic, lanceolate

Setae 22 R (dorsal) The dorsal line runs thro' all [illegible] and is edge more or less continuously & uniformly w. same color. The upper subdorsal rows of tubercles beginning at 4 are broadly edged with white. Head whitish w. 4 and 2 post black patches and a post sup. wh black dot. Tubercles black bases long & spaced. [illegible]

3d Jul 22.

A broad dorsal reddish brown band terminating on 11 in a much containing a ~~[illegible]~~ fine not well defined central dorsal streak which is continued beyond 11 to anus in brown. The s.d. white line sufficiently clear, partly containing the upper row of tubercles which are large round polished & black smaller & less clear on 2, 3, 10. A very fine whitish stipulated streak. The remaining parts blue green w. black tubercles of varying size having a few hairs those of the 2 and 22 post segs (dorsally) very long. Palps on head larger. 11 [illegible]

4s Jul 25.

The larvae (4) did not flourish after this moult and died without growing much. Seem to be delicate and need fresh air.

Orgyia definita Packr.

Body & ordinary tufts.

Infld as in "leucostigma". Pale straw yellow.

The dorsal long pencil on 11 black with a basal sheath of straw colored fading into pale brown hairs.

The wedge shaped tufts on 4-7 incl. bright straw yellow: the two middle ones (sometimes all) a black crescent post. & and a black median dorsal stripe from the post. one to the pencil on 11.

This median stripe often confined to straw yellow

~~The other tufts~~ The pencils on 1 black.

The other tufts and portions of body including head and body pale straw ~~color~~ yellow.

September 4. on oak & various other plants.

Imago September 9.

~~Darkodes Brassicae~~ = Agrotis monochromatica Hb. - with cut sunflower readily. All but 3 died from improper food.

Eggs July 13 Hatched July 25th. Fed on sunflower did not flourish on this would eat burdock, chickweed etc.
Dark apple green yellowish posteriorly, head light-brown - with blackish spots. A few black set. Tubs. Dearing night earwig colorless Larvæ. Last 3 pros. Pupa. only perfect - Eggs 2 pupæ colorless L. 2.5.

Fed on sunflower -

Apatela dissecta

Found about Tomoult on maple (rubra) Image in May.
Sept. 4, 1884 - on Cutts Hand.

~~Ground color light yellow tinged with purple above. d. & s.d. = So that the d. and s.d. regions clearly marked off from the others. d & s.d. regions clearly defined from the rest.~~ Body crossed by light yellow transverse lines which form a network laterally and are strongly tinged with purplish dorsally & s.d. These alternate with the regular transverse bands which are black d. & s.d. and dull greenish in the lateral & ventral regions where they form meshes with the yellow ones. There are two rows of dorsal tubercles with dull coral red. Each row ~~being made up of~~ two tubercles on each segment. The anterior ~~set~~ larger and set slightly nearer

the smaller transposition the larger & shorter stuff black matter

the median dorsal line, except on
segs 2-3 & 11 ~~where the two are placed~~
~~transversely~~, and ~~the last seg.~~ when
the ~~larger~~ smaller tubercle is wanting.
~~These tubercles are somewhat dull coral red and bear short stiff black bristles — the larger about 6 the smaller 4.~~
~~There is also a~~ ~~except~~ and seg.
1 where there are 4 small yellow
tub. (8 in all) (brownish yellow at their bases)
on either side of a median dorsal bluish
white band: the anterior pairs being
a single rather long, white, ~~bristle~~ the
posterior pairs a shorter black bristle.
In the dorsal space between the 2
anterior dorsal tubercles on each seg.
are two conspicuous somewhat
irregular black spots formed from
the interruption of the transverse

strap

Black bands - the patch about the tubercles are strongly tinged w. red purple - There is also a sub-d. row of orange red tubercles bearing two or 3 long ~~yellowish~~ whitish hairs and ~~also~~ several ~~tubes~~ yellowish tub in the lat. 2 s. l. regions bearing shorter whitish hairs - Stigmata black. Head yellowish freckled w. yellow brown and a few darker patches. Lips & prolegs yellowish - L. 25 mm. Rather slender tap. slt. post. Rectus head bent round like funerulis or ornatus -

Spun Sep 11.

The color and ornamentation of 2 d. bears a superficial resemblance to Alypia and Eudryas.

Macronoctua onusta

larvae in roots of iris. Amapo Sept. 18.

"Arctian" – Seupis fulvicollis –

Found resting on grass at Kittery Point, Me. having hibernated. April 25, 1883.

Body black with with sub dorsal and sub stigmatic creamy white, rather narrow bands the latter ending on seg 10. A median dorsal row of nine pairs of jet-black tufts from seg 4 to 11 inclusive three on 11 placed longit. the rest transversely. The sub dorsal region is occupied by tufts of yellow hairs with a few black ones mixed in especially ~~below~~ next the stigmatal region which is clothed with ~~wh~~ black tufts. The Posterior segments together with the sub-stig are clothed with whitish tufts. The thorax and segs are clothed partially w. black band to white. Head dull shining red w. an ~~anterior~~ large central black Δ. Neat and legs dull coral red. prolegs black. Stout L. 30m.

Easily mistaken for Halisidota maculata minus the pencil tufts – Eat grass and spun May 1.

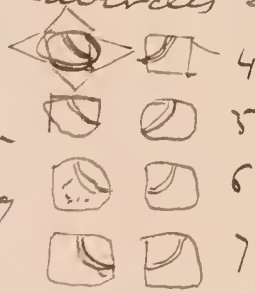
Changed May 7. Imago May.

Argyia definita

Eggs Sept. 1884. Hatched May 31. 89.

out of Egg.

Dirty straw color. a dorsal double row of tubercles which are blackish on 4-5-6-7 especially and slightly on 9 10 11 a sub. d. row w. minute black pts at base of hairs bejining with a very prominent tubercle on extra side of seg. 1. Hairs of above slightly tinged. Lateral and lower tubercles smaller bearing shorter white hairs.



S. d. and d. Ex. 4-5-6-7 brown very low, hairs twice as long as larva when hatched.

2.3 m m.

Scopelosoma transversa

Larva on Hamamelis virginica. June 15?
at Malden Mass.

Color pale gamboge yellow running into more or less livid white between the segments. The first, and last two segments entirely livid white. Legs & prolegs livid. Stigmata white, black ringed elliptical. A few very minute bristly hairs arising from faintly indicated (~~[illegible]~~ dark) points. Head shining very slightly tinged and mottled with light brown. A singular looking saw fly like larva. resting with the head bent down side as in Skylina to which it is probably allied and curling up when handled 30 mm. Only slightly hairy. Cocoon not below on surface of earth June 24.

Reared at 98° abt. for stages. Larva B.

Acronycta

Near noctivaga larger.

Jn 19. Six eggs. 4 hatched 27-8

{Period fr. hatching of eggs. 26-7 days
Larvae were reared in water box in water
fed to last stage.

1st stage. Segments 1.4.7.8.11 colored dorsally a dirty shining reddish brown, the color extending down to the lateral region, seg 2 more yellowish lighter. A double dorsal row of large flat conical haired tubercles thus on 2 5-6 9 dirty brown bordered with dull whitish patches on either side. The corresp. tub. much smaller on 10 large on 11 and stiff haired. Lateral and ventral regions dirty white. The sub dorsal regions of the uncolored segments dirty yellow brown. Head dirty dull red brown, lighter anter. Dark hairs blackish pro curved s.d. reduced shortish lateral still shorter nearly straight stigmata black light ringed. Hairs under higher power flecked w. whitish. Anal seg. dirty whitish with darker tubercles. L. 2.5. mm. Brunnosa type.

2d stage - July 1.

The red brown stain duller and more extended laterally on all the segments. The light portions less marked and encroached on by the red, less on dorsal 10. The whitish portions dirty greenish, less well marked. ~~Head~~ Else much as before the hairs shorter and stiffer in proportion. L. 5 mm.

3d stage July 4.

Colors more suffused darker: the dorsal light patch on 10 better defined, and darker. Less ill defined lateral light streak.

4th Stage July 8.

Briefly Black tufted with a few lighter and more slender hairs intermixed. ~~Exp. post for 4 seg.~~ A well defined sub-stigmatal orange yellow band slightly suffused post. and obliterated anteriorly. 2 well defined very elongate (bright) orange yellow spots on d or nearly s.d. 10. Tubercles on 11 prominent. Body dull black the tubercles pore interse. Lateral line broken by det. tub. on each seg. Head coarsely mottled 10.5 mm.

5th Stage. July (Sec. Am.)

All the tubercles narrowly ringed with whitish and the blackish portions dotted and mottled sparsely with whitish. The lateral s. stig line more heavy-orange. Under portions mottled w. yellowish. Dorsal patches on 10 clearly defined-orange. Head nearly black w. few mottlings and two divergent ant. light lines.

L. 14 mm.

6th Stage. July 13-14.

Intermixture of finer light hairs on 5-9 ~~divide~~ sep the ~~ant.~~ dorsal and s.d. of these segs in 3 of the larvae quite abruptly from the segs ant. & post to them; in one the gradation is more gradual. The segs ant. & post to these (5-9) have also an intermixture of similar hairs which are smoky almost black. These hairs have a viscous look and not straight & rigid but tend to curl and are thickly set with sharp-pointed projections also not rigid often bent

The coloring is as in previous stage: the ground color a clearer black the tubercles not ringed: the lateral line heavier the stigmata more distinct & contrasting white. Head blacker. A few black hairs on seg. 2 much longer than the rest. Legs and prolegs black. Yellowish mottling of under parts more distinctly yellow.

Apatela non noctivaga.

Mature Larva. July 18.

~~Infirst~~ Anterior and post. dorsal tufts not defined by the color of the fine hairs. These latter all more or less tinged w. smoky blackish the less posteriorly (ant. 11). Body color less clear black. A suff. manifest dorsal velvety black band ~~or~~ varying much in distinctness and hardly extending anteriorly beyond 4th s. The two dorsal or sub. dorsal ~~yellow~~ orange patches on 10 distinct; in some continued anteriorly on each segment by a yellowish orange shade gradually dim appearing anteriorly (not beyond 7 in either) the 4) Sub stigmatal orange band varying in distinctness. Sub. not ant. to 4. Stigmata clear contrasting white. Head mainly black shining; jaws white. plp black (Tubercles much lighter shining) ... δ_5

Spun July 24 & 25 — cocoon of blackish silk.

Orgyia definita Pack.

Tufted as in "leucoigna". The long pencils black
the posterior are sheathed with pale straw colored hairs
wedge shaped dorsal tufts on 4-7 inclusive bright straw yellow.
and their tubercles generally only the two middle ones,
sometimes all more or less ringed with black the rings
connected by a dorsal black band which runs post to
the post pencil. These rings often reduced to mere crescents
post the two middle tufts. Other tufts pale whitish
or straw color. Dorsal band on 8-11 generally distinct
scarcely with dull red blotches ~~repres~~ corresp. to the annular red
spots of (leucoigna) but often almost entirely suffused or
obliterated w. straw yellow. ~~Body~~ a. 5 d 2 lat rng. straw yellow to greenish
yellow with more or less distinct green s.d. & stigmatal green
and a few irreg. transv. green lines. Stigmata white black ringed. Lower portions
light green to yellow green. Head & legs straw color.
Imagines July 20 - 30 + ♀♂ - 16♂ 12♀ or more.

~~Euphorion 3. lineatus~~

Macronoctua onusta

Larva in stems and rootstocks of iris versicolor fed 27.

Near Dorbyn – but slender w. larger head

Above reddish and dirty white the reddish tinge being concentrated in a s.d. band fairly defined inf. thorax 2 or 3 segs almost wholly reddish above – laterally and venter. dirty white stigmata blackish well marked. A few minute tubercles bearing short hairs a stig 2 sub. stig rows somewhat larger rounded flat grayish. Shield yellow brown with a clump of darker points on either side. anal seg. dirty brownish – Head almost chestnut brown shining. Short ant. tap slightly prolar.

~~[illegible]~~

~~[illegible]~~

~~July 27 [illegible]~~

Glyphisia 3-lineata

Matin lv. Color blue green. A single sub-dorsal heavy clearly defined yellow band from head to anus the included dorsal surface bluish white. edged ext. w. dark green. A sub-stigmatal whitish line on 1-3. Stigmata yellowish. Head lip and prolegs green. 2.30 m. matin slender near Lophodonta more slender tapering more anteriorly. Feeds on populus (tremuloides). ~~cocoon~~ - 40-50 mm -

Spins fairly firm cocoon.

Geometrid

Feeds on raspberry. Salmonier Newfoundland Aug. - went into earth J Aug. 25

Dark green above light below somewhat variegated with lighter lines under glass. An indistinct narrow dorsal dark tinge. On segs 4-10 incl. a dark salmon yellow ~~patch the~~ dorsal patch the vary posterior, ~~and~~ broadly edged ext. with purple, the patch on 11 ill defined and united with that on 11 by a dorsal purplish line. Anal plate purple. A stigmatal whitish line edged below w. dark green and stained & mottled with purple on 1-3 and 9-10. Legs & prolegs w. a few reddish dots: head green w. 5 ~~ocelli posterior~~ powdering of reddish mottling in ant post bands. Slender. Few short colorless hairs. ~~S.~~ 11

On Abies at Salmonier N.F. found the same at Mt. Drosnt. Rests on under side of twig.
Color bright spruce green, a heavy median dorsal and sub-dorsal white clearly defined line. A heavy stigmatal band narrowed or broken between the segments forming a series of pointed ovals one on each segment the upper and rather smaller half red purple the lower white shading to yellow; on 1-4 these form a tolerably dist band. A rather heavy green yellow line at the base of each leg and proleg. Legs & proleg reddish, head green. Stigmata light brown bisected by the red and white fields which are clearly defined from one another in a straight line. L. 1 30mm 1 rather stout. Slightly tapering. Entirely earth Aug. 9.

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prob Andela acronyctoides
Head mottled whitish & brownish with black points
a light line from bas. across thorax  L. 28 mm
all died.

Salmonier Aug. 16 Larva prob Cucullia?
Dead black a dorsal row of orange roundish spots 30 on 2 & 3 2 on the rest and forming a continuous line on posterior 12 and anal seg. A stigmatal row of irregular orange patches. Black post. each spiracle exc. on 1 where it is a little and on 2 & 3 where it extends nearly across the segment. T. large 45 mm stout tap at apex. Head legs proleg and spiracles black. Colors were prob. all bright when newly hatched.

Morphocoris Walk.

4 found on spruce at Salmonier. N.F. Aug 15 '65
Resting on upper and lower surface of twigs - extended s.d.

A very difficult larva to describe with definitions General color a rusty brown varying to almost black and white in two your per ones. A median dorsal whitish often tinged with rusty, line, expanded between segs and contracted in their middle portion when it passes between two wartly sct. tubercles having black and brownish hairs & various lengths (posterior and external (s. dorsal) tubes: another somewhat larger tubercle is situated bearing somewhat longer ~~These tubercles alone occupying~~ on the last and on the 2d & 3 segments the first mentioned sct being absent except for a minute sct. tubercle in corr. position on s1. The s.d. tubercles of 1 bear short stiff thick black pencil tufts and those on 2 2 3 are larger than the other posterior ones except those on 4 and 11 which bear pencils similar to 1 but longer (nearly twice as long) about 2 mm. Another ~~round~~ tubercle just above each spiracle also a ~~smaller~~ one just behind and a smaller behind the 3 half encircling the spiracles. Lastly one at base of each leg. The region about the ~~spir~~ tubercles is translucent and its pale rust brown color gives the yer color to the lower yer ones this region was almost black the tubs only being dark chestnut br. A stria ital band wholly interrupted by the warty region ran by a series of somewhat crescent shaped marking cream colored arising just below each spiracle running anit. sup. to next anit. seg. then outward & runs anit. inf. This creamy mark is broadly edged w. black with whitish and the cream colored [illegible] which it partly encloses contrast. Dorsal and s.d. interseg regions strewed [illegible] with blackish and dirty whitish. Below dull brownish with black tinge. [illegible] marks. Legs light brown w. black patch at base. Prolegs brown large.

over

Plusia moneodon Grote

Egg laid on Blazing Star (Liatris
Hatched Aug. Round on sunflower after 3rd stage ..) Aug. .

First stage. Elongate. light-green with conspicuous black
ant. tub. bearing each a single slightly curved blackish hair -
The tub. are 2 s.d. the upper anterior. One sup. stigma consid. sup
and slightly ant. each ~~stigma~~ spinach. One stigmatal post. each
spir. One sub. stig. consid below each sp. another post this and
slightly inf. to it. A small ant. at base of each leg -
one median ventral and 3 in position of legs on. 5 6 7 (2 on 4)
On 3 ant and lastly this arr. is somewhat modified. head
green w. a few minute hairs -

Second Stage. As before. Hairs and tubercles no larger
a single s.d. and sup. stig. whitish line - less slender
Aug. 24. Hairs of head arising from very black points -

Third stage. S. dorsal line widely double and c. of
2 fine white streaks in the contained dorsal space. Supra
stig. line distinct. All have wavy irreg. outline -
Head tinged w. yellowish - S.

Aug. 28 - (in pocket) Fourth Stage. As in 3 but with the two dorsal lines
clearly defined running ant. to inner s. ds. starting nearly
together on seg. 2. Other lines heavier & more clearly defined w. very
wavy outlines the two dorsals and inner s. ds sometimes joined by
fine lines. A few white marks and traces of a line between
outer s. ds and lat lines. Tubercles also white. Head
tinged w. brown. 12 mm.

5th Stage Sep. 1 – As in previous stage. The lateral line more distinct the others somewhat less. Tubercles broad, white ringed L. 20 mm.

6 stage. Sept 5th. – Malina larva.

Bright pea green. ~~Four whitish dorsal stripes of long outline, first made with one continuous outline, two short sub dorsals wholly divided by~~ A pair of whitish slightly suffused irreg. contiguous often connected exp. post stripes lying either side the narrow clear dark green median dorsal region. A fine but more clearly defined S.d. (the outer s.d. of mw. st) line tinged w. yellowish. A clearly defined narrow stigm. band extending slightly beyond the last spiracle. Head & prolegs green w. brownish yellow ring. Spiracles brown yellow oval black ringed. Sub-tub. as before minute ~~but~~ white ringed. Remainder of body clear green with a few white points and short streaks. Short tap rapid. ant. Head male. 35 mm

Cocoon of fine grayish brown silk very loosely spun in leaf. Pupa of usual phisia shape abdomen slender ~~the~~ polished black brown wing cases tinged w. green. Spun Sep. 11th Imago Sep.

N. C. D. S.

Box 3.

Feeds on many herb. plants.
Found on Helianthus.

Agrotis (Euxoa) astricta Morr.

Eggs laid Aug. 15th. Salmonium N.F. Hatched Aug 24.
(sl. flattened); surface broken by ridges (about 34 nearly distinct at g/lat diam) which arise from irreg. reticulated ridges about apex, formed by thickenings in shell of egg, which also connect the above ment. ridges.

First stage. Livid with green refl. from intestinal contents. a number of clear black rather large tubercles of irreg shape w. each a black stiff cervid hair. There are 2 sub dorsal the posterior slightly exterior (2) a sup. stigma - just above each spiracle. (3) a stigmatal just post each spiracle & a sub. lat, consid below each spiracle
On 2 & 3 there are forms a row of dots the upper sub-median dorsal running down and forward to the stigmatal. with a larger tubercle consid. below and post to this at base of each prolog.
on 1 the brownish frontal plate contains four on either side with a row of them running to base of prolegs from the post margin the middle of these ant. spiracle and ant. the other two.
on 5 3 on either side the median ventral line arranged in Δ the base post and the outer lateral much the largest. On 4 and 2 come to post 2 of these 2. Prolegs light-livid yellowish or brownish ringed or partly ringed with black & w. fine short hairs. Head lt brown w. fine black dots bearing short hairs. Two ant pairs of legs not functional. L.

2d Stage. Color red brown tinged w. dark green ant. A dorsal and s.d. white streak the latter with an indistinct line just below it. A broad creamy lateral band. Tubercl. whitish ringed. Beneath green w. brown flecks. Head tinged w. yellowish. L 6 mm.

3d Stage Lep 3. Much as before the red brown heavier. Dorsal region lighter and redder than rest with some nothing and distinct black dots (tubercles). Lateral band heavier: cream color. Under parts tinged w. red. Head brownish w. black pts. L 8 mm

4th stage Sep 10 As before more clearly marked

5th Stage Sep 18. Lateral band very broad clearly edged above w. pale yellow, the remainder white with red streaks and mottlings. A central dorsal white streak interrupted edged with chocolate brown. Dorsal portion almost salmon red mottled with chocolate brown and whitish spots and streaks. 2 black dots on each seg broadly edged on outer and by w. white. Below this dorsal region up to the pale yellow sub-stigmatal line the color is dark chocolate brown with lighter and darker mottlings almost black about the spiracles and extending into the dorsal region, an oblique ill defined purplish brown dash somewhat above each spiracle extending ant sup. to a tolerably distinct black dot. Legs and prolegs dark brown the latter mottled. Head shining light brown mottled w. blackish a pair of longitudinal black ant. streaks curved slightly inwards.

Plusia Putnami.

Color clear yellow-green. A moderately heavy ~~yellow~~ creamy yellow stigmatal band. 2 fine dorsal and two sub. dorsal wavy lines also creamy yellow with a greenish tinge. The 2 dorsal more distant than the s.d. or than they are fr. adj. s.d. Space betw. outer s.d. and lat. = dors. and outer s.d. no intervening whitish marks. Tubercles very minute black points w. minute hairs. Head and legs green. Elongate sl. flattened. Imp. ant. from about 8. Eggs on grass Sept. 25. Reared in pocket. Fed on plantain latterly.

hoch.

a Soldier red. sehr blutrot grün

Larva Rosii

Near Summit of Mt. Washington on ground.
Arctia like. Short and broad. Body black. Thickly clothed with smoky colored hairs mostly feathered the lateral longest. A distinct sub-dorsal line yellow at base as are also most of the hairs on 1st 3 segments. Lateral hairs also slightly tinged at base w. yellow. Head legs and prolegs black. Cocoon much like Halisidota maculata found on base rock. Lat. Vaccinii sp. reluctantly. Identified from cocoon which leaves no doubt of species.

Feralia pacosa? Grm.

Imago resting on maple trunk April 13. 1890.
New Haven. Conn. (Prospect St.)

Confined with a variety of food plants laid eggs, about 40 in number April 15-17. Food plants Abies

Egg prosport. large, greenish yellow subhemispherical flattened at apex 1x.6, mm. Marked by paral. ridges radiating from the slightly flattened apex where they anast indefinitely, becoming branched on lateral aspect and at the periphery .02 mm apart. connected transversely by fine ridges about .01 mm apart

Eggs hatched April 27-30.
Fed on Abies canadensis buds and young shoots.

1st Stage. Same as moderately black, greenish yellow without apparent markings. Head medium pale brownish black. Skin inconspicuous. Sparsely covered with short stiff hairs. Distinguished by the enlargement of the second prothoracic segment. 5 prolegs. prolegs green. Length 5mm

2d Stage. May 4 moulted. 10mm

Bright green and tinged anteriorly with reddish yellow. A dorsal subdorsal and stigmatal longit. band than on less distinct greenish white the latter broader. Head green. Otherwise as before

3d Stage 2d moult passed May. 7-9.

Brightish dark green. The bands clearly defined the stigmatal heavy creamy white broadly edged above dirty greenish ~~red~~ brown. The 2d w. and sup. prolongs. All bands from head to anus. Length 15 mm

4th Stage 3d moult passed May 11 –

As before but more distinct stigmatal strongly bordered sup. by reddish brown. prolegs reddish 20 mm

5th Stage 30 mm x 4 mm.

Marked as before: healthy clean white dorsal & sub-d. bands constricted or broken intersegmentally. Stigmatal band heavy yellow broken intensely. Broadly edged above with crimson which usually runs down in a point above the Spiracles 5 & 11 when Spiracle is the crimson line. A sub stigmatal band ending on 12 and consisting of a white Spot on each ring (at base of leg and prolegs) Color clear dark green ~~yellow~~ green dirtier, ~~Entered~~ ground May 25 prolegs reddish.

Cocoon cottonaceous pupa in 8 days in 2 leaves. Brought into warm room March 12 began to hatch 1891.

Cerurus

mac Scatiscipta.

Eggs laid 26-29. hatched Aug. 9 +

Egg light-green or milky: ~~subhemispherical~~ broad, dead whitish ~~with~~ having a circular blackish dot at apex with central whitish mark of radiating lines. Surface finely reticulate, the reticulations subhexagonal about 3-4μ diam. Egg 1.2 mm transv. diam. laid with a loose coating of ~~lanceol~~ ~~scales~~ long slender arrow shaped black and white scales.

<u>Young larva</u> <u>1st stage</u>.

Cervinus 2

Young larvae, rich purple a darker dorsal s.d. and lat. band each more or less edged with yellowish. Tails and horns large, spiny black purple. Ventral surface lighter. Length 5-5.5 mm with tails 9-10 mm.

2d Stage. first moult. Aug. 16.

Reared in a warm room –
Coccinella vinculata

Eggs laid Apr 10 sq. Hatched Apr. 17.

Pinkish or flesh coloured becoming darker .95 mm in horiz. diam subhemispherical coarsely ridged, with fine transverse reticulation. Ridges sub labyrinthiform 20-22 at perimeter .14 mm broad at base. The main ones originating indefinitely near the pettish apex the second many arising either as branches from them or independently brown tissue. Fed on bits of leaves eating out the centre and making a little case.

1st Stage Sept 1

Wholly dirty yellowish sometimes with tinge of reddish. Head shining black sulcate, large prominent plates black also small medium sized with black centre spots and plates black. Legs of normal number (6 pairs) prolegs black. Larva looks like a small tortoise beetle and has same habit of backing in a less degree associated with its feeding habit.

2d stage (moulted Sept. 2 gone)

Moulted before [illegible] direction to greyish. Stigma black legs [illegible] wholly yellowish. Head black.

3d Stage April 25 [illegible] Length

Dull reddish irregularly mottled with whitish or grey [illegible] small [illegible] head shining light brown. prolegs black. a slight dark line [illegible]

4th Stage 1st April 28

Sinopia. 1

Ground color dull reddish, conspicuously mottled with white. Head light-shining brown, edged w. black lat. prot. frontal plate with a  T-shaped yellowish white mark the short-stout vertical part towards the head and sometimes separated from the horiz. so that there appear to be two marks a posterior long transverse one and a smaller anterior opposite its middle just behind the head. Anal plate edged w. yellow with white (cream color posteriorly). Stigma black with central white dot - 2 ringed w. whitish - legs outwardly black. Whips with anterior part of body when distended hiors in case like Xylomyges and resembles Lithosph. & Scopelos. group.

5th Stage 4th molt. May.

Mature larva. Ground color rather dull purplish red the brightness and degree of redness varying in different individuals: body ~~covered with~~ flecked and mottled with ~~wh~~ bluish white in small spots of irregular and peculiar shape. The whole dorsal ~~reg~~ region is more or less suffused with whitish under this mottling the degree of suffusion varying considerably the dorsum of some

individuals appearing almost wholly whitish.
Thoracic shield as before the white patches larger, more
contrasted [illegible] and often extending posteriorly so as to divide
the shield completely by a fine median white line.
Stigmata black with lighter centre. Legs as before.
Spiracle covered w. minute soft tubercles w. short golden hairs.

Entered Earth May 5th having turned almost wholly
green with this obliteration of much of the red ground colour
finally becoming almost wholly green.
Many of these larvae were killed in the diff stages by
Sporozoa Landsbergia = S. globulif. Spag.
The larva when mature still feeds in case below
his leaves and resembles Stylina and Stylopyga
closely. Makes no cocoon, only hard form in
closely. Feeds on herbaceous simple cauly.

1. Apr. 17. ~~2, Apr~~	would not eat	Pyrus	Fagus
2. " 21		Castanea	Salix
3. " 25		Cornus	
4. " 28		Betula	
5. May 1 Mature		Rubus	
5 ~~Entered Earth~~		Prunus	
12 Pupa		Fragaria	
		Carya	
		Rosa	
		Rumex	
		Plantago	
		Corylus	

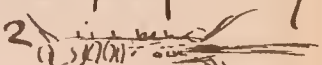
The same larva found in abundance on oaks in vicinity of Station May 13 in various stages

Porogyia

Found on Abies canadensis - Woodbridge Conn June 27/1

Body mottled greenish gray; a black supr. stigm band and a more or less broken dorsal black band more conspicuous on the last 3 segments. Stigmata yellow. Prolegs shining brown head shining dull brownish.

On Seg m. 1 and last sub. dorsal ~~[illegible]~~ long tufts of clavate black scale hairs and a similar dorsal tuft on seg. 12 ~~gray~~ smoky at base. Also similar lateral tuft on 12



A substigmatal and subventral row of greyish tufts each substigmatal tuft with a central ~~[illegible]~~ conspicuous clavate ~~E~~ scale hair. A sup. stigm row of smaller tufts flecked w. white scale hairs mostly. A sub dorsal row of tufts on segments 4-7 fused ~~with~~ so as to form a large transverse smoky dorsal tuft flecked with short clavate clear white scale hairs esp. at outer edges on segs. 2-3 and 8-10 the s.d. ~~scale~~ tufts are largely composed of the same clear white scale hairs with a few projecting grey hairs. On segments 9 & 10 a simple conical and glandular cylindrical body

which is protruded and retracted at intervals.

Ferralia ?

Moth found April 13 resting on maple trunk. Confined with various food plants among the hemlock laid about 40 Eggs April 15-17.

Eggs proport. large, greenish yellow subhemispherical flattened at apex. 1 X .6 mm. Marked by parallel ridges radiating from the flattened apex where they arise independently becoming branched or bifurcate and ultimately .020 mm apart. Connected transversely by finer ridges about .010 mm apart.

Eggs hatched April 27-30

1st Stage. Larva moderately stout greenish yellow without markings. Head pale brownish w. black ocelli. Stigma small. Sparsely covered by short straight hairs. Humped by the enlargement of

The wounded penultimate segment
Legs 5 pairs. proleg green.
Moulted May.
Ld Sleigh.

Marasmalus ventilator Smith.

Eggs on sumac (Rhus typhina & glabra.)
June 5. Cream color soon changing to reddish by the appearance of numerous reddish mottlings. Flattened, slightly pear shaped, with a short apical truncate prominence from the base of which radiate punctate ridges which are intersected transversely by fine ridges. Base large flat, adhering continuously. Size large in proportion to that of imago, the transverse diameter being about .7 mm.

Hatched June 10.

Young larva

Light green or yellowish green, with ~~with~~ black stiff erect tubercles bearing single black tapering hairs — two dorsal, sub-dorsal and lateral rows. Head jet black. Legs and prolegs blackish at base. Frontal plate of seg. 1, black. Rather short. 3 mm., Five pairs true legs.

Second stage June 15.

Light yellowish transparent and showing green of intestinal contents. Two sub dorsal rows of black spots containing the ~~stiff~~ tubercles larger than the others. A fine light line

passes thus the sup. sub-dorsal and lateral rows. Head greenish yellow. Prolegs light green stout tapering posteriorly. Head somewhat retractile

L. 4.5 mm.

Third Stage June 20.

Greenish white with a powdery appearance the black spots with the exception of the sub-dorsal and sub-stigmatal rows are hardly visible: the latter are large and contrasting. The sub-stigmatal spots on segs. 2 & 3 are smaller and placed somewhat superiorly to the rest: lacking on anal segment. A large gamboge yellow patch between the two rows of spots, on each segment. Lip and prolegs light green: ~~[illegible]~~ white. Head greenish yellow. L. 7 mm.

Fourth Stage. June 24.

Much as before with a whitish appearance spots larger, round. Yellow markings more greenish. First pair prolegs and anterior of seg. 1, yellow. Whitish portions broken by green fumosities. L. 13 mm.

Fifth Stage June 29. Mature Larva

Spots much larger and reduced to a sub-dorsal row — two spots on each segment, the

anterior twice as large as the posterior — and a stigmatal row, the spots being round and including the stigmata. Anal plate and postanal plate of seg. 1, black the latter terminating externally and anteriorly in two black dots. A black dot at the base of lips (except last pair) and two at base of prolegs. A large black reclangular patch on head. An indistinct fine whitish stigmatal line. Matured and changed its color July 3d spinning a blackish cocoon in moss July 5th.

This pretty larva is very distinctly marked and its conspicuousness may account to some extent for the rarity of the imago which appears in May and June.

Marasmarchus vistrio Hbn.

[illegible]

[illegible] dorsal [illegible] broken [illegible]
[illegible] irregular whitish flecks
[illegible] down to the stigmata in
[illegible] 7, and broader abruptly
[illegible] 4 [illegible] absolute
leg, eleven abruptly bounded with a
[illegible] spot on [illegible]
an [illegible] which [illegible]
[illegible] black above, stigma
[illegible], legs pale; dull white [illegible] black
[illegible] head [illegible] white [illegible]

[illegible] black set. tubercles [illegible]
[illegible] small [illegible] 4th segs
[illegible] Dorsum
[illegible] Hemlock [illegible]

Kittery Pt. Sept. [illegible]

[illegible]