

**Always bring this Book.**

*Descriptions*  
*of*  
*Lepidopterous Larvae*  
*continued from*  
*BLUE BOOK*  
*158 to 196.*

**RHINEBECK, N. Y.**



on dorsum, yellowish beneath, with many black spots. Spines & cervical spot black & furnished with fine hairs. Legs spotted <sup>with</sup> black. Length 8 mm.

Moult Jan 3 Head white, marked as before a few black hairs. Body white, many rather large black spots. The bases of subventral spines & spiracles surrounded by orange. Spiracles black. Venter greenish. Tip of thoracic feet black, abdominal semitransparent greenish orange, with 2 black marks, claspers whitish. Spines as before, black. An elevated black spot above base of each thoracic foot. L. 15 mm.

Moult Jan 6 Head as before, a black line on posterior portion, concealed by joint 2. a few short black hairs. Body white as before. The spots are a dorsal row & 5 alternating rows on the sides the last subventral. Venter greenish. Leg dull orange with black marks. Length 20 mm.

(Pupa (lyt) Jan 10) with appendages & flanges as described by W. H. Edwards.  
Imagines

*Heleconia charitonia*.

Copied Apr 22 '90

Copied Dec 18 '90

159

Hesperiid larva on *Alternanthera*  
*flavescens*, Palm Beach, Dec 27, 1889.

When young make house as *E.*  
*justens* but turns the part under  
usually. Large, spins up several  
leaves. Head as large as any part  
of body. cordate, dull black, closely  
covered with short white hair.

Palpi & mouth brownish & pale. joint  
2 is very small, not more than half  
as high as head, thence the body  
thickens to about joints 8 & 9, then  
tapers somewhat to extremity. It is  
of about uniform width except joint 2  
which is very narrow. Body has a  
slight subventral fold. Upper half  
of joint 2 covered by a pale brown  
conical spot. Body dirty greenish  
yellow with many pale yellow spots  
segregated to form an obscure S-d  
line. & dark dorsal shade.

Pupa enclosed in a leaf by few threads  
Cremaster fastened in some transverse  
threads. Resembles in shape pupa of  
*Eudamius*. Eyes prominent pilose, a  
brown elevated spot above them  
back of antenna case. Color dull  
yellow, covered by a white bloom  
Cremaster flat & hairy.

Imago Jan 14

*Phobocia hayhurstii*.

160

Newly hatched? on notched leaf  
weed, Palm Beach, Dec 27, '89. Egg eaten.

Larva. Long for thickness, all semi-  
transparent whitish, green food  
seen through. Length 2 mm. Retracted  
1st seg. Spins some patches of web on leaf.  
Moult Dec 30 Same. Black s-d spot on  
joints 3 & 4. Length 8 mm.

Moult to joint 5 Same. Eyes & jaws brown.  
Spots on joints 3 & 4. Length 18 mm. Has  
row of s-d diffuse red-brown spots  
nearly connected to form bands &  
brown marks on head. J. Jan 9 in  
silk, spinning up leaf. Pupa Jan 11  
Slender, head rather small. Light  
brown red, cremaster long thick  
dark brown spine.

No imagines

161

On *Leptotaria* sp. Dec 28 '89 Palm Beach  
Head orange red, paler in the sutures.  
Band above mouth white, eyes  
black, mouth brownish, a few black  
hairs. Body orange, a large irregular  
black patch centrally on each seg.  
extending over dorsum between the  
stigmatal bands, largely replaced  
by 8 white spots, 2 dorsal of which the  
anterior is longitudinal, the post.  
transverse, & 3 in s-d space, following  
around the edge of the black patch.  
The spots are smaller and less  
separately defined at the extreme  
segments. An interrupted white  
stigmatal band. Black & white  
spots in subventral space. Thoracic  
feet black, ringed with white, and  
abd. outwardly black. Venter with  
transverse yellowish streaks. Each  
seg. has 10 elevated spots in two

alternating rows bearing a single long white or black hair. But spots in subventral space carry 2 or more hairs. Length 23 mm. On Jan 5 spun considerable thin web of white silk in center of which pupate Jan 6. Pupa depressed behind thorax, abdomen arched. Wing cases prominent posteriorly. Abd. punctured. Wing cases very slightly creased. Color light shiny reddish brown, marked with black on antennae cases, leg cases and on veins of wing cases, on collar & 6 streaks on thorax. A somewhat irregular transverse band on each abd. seg. connected subdorsally & avoiding the black spiracles. Crenate. several long spring hairs set rather far apart.

Imago Jan 19

*Deiopeia bella*

BB161A On *Sophora tomentosa*. Head black, a few white hairs. Body orange few long white hairs from black elevated spots surrounded by white, gathered together subdorsal & 2 subventral cervical spot & anal plates marked black & white. Joint 13 has dorsal, s-d & subventral connected by white. Feet black, abd. outwardly. Moult Jan 2 As BB161 but head still black and orange down dorsal line, dividing the spots & stig. band yellowish white. Web Jan 12 (no pupa)

BB161B On same plant. Head black, body greenish. Web, but no pupa. (from memory)

vars of preceding?

W! *Meayna reversalis* H.S.D.

Apr 9 1900

162

Partly curls up leaf & red-stem-orange leaf  
& spins web over the top. Palm Beach Dec 28/89  
Head orange, palpi whitish; jaws eyes &  
ends of palpi black. A few rather long  
pale hairs. Body tapers posteriorly,  
semitransparent shiny dull greenish  
showing the inside parts, with a s-d. &  
stig. orange yellow bands. Cervical spot  
nearly white with many irregular  
black spots. On joints 3 & 4 are a pair  
and on 5-12 two pair of black spots  
in s-d. sp. edged with white leaving  
centrally a white spot in which  
is an elevated black spot bearing  
a fine white hair. On 12 is a  
single dorsal black spot with a  
double crescent white mark and  
the anal plate on joint 13 is like  
cervical spot; On joint 2 and stig.  
are a few black spots and 2 ant  
on 4 in stig. sp. There is a row

of similar black white edged spots  
above stigmatal line and 2 in sub-  
ventral space, the upper row of which  
is doubled on joints 3 & 4, placed at  
stig. line, the bases of the legs are  
similarly ornamented & there are  
corresponding spots on the legless segs,  
supplemented by 2 small black ones  
on the venter. Thoracic feet black. L 30<sup>mm</sup>  
Cocon Dec 31 spun in leaf several  
thicknesses of web. Pupa antennae case  
extend beyond others over abd. sep-  
arate from it. Pale brown, cases  
darker.

(No imago)

Food plant 'fiddle wood' Citharexylum villosum  
(det. by Mr. F. Kinsley)

Moth Bred by Mrs. Slosser and presented  
to me April 23 1896. Cat. no. 12109

{ Mine Miami Fla. Jan 1898. Out Feb 26 1898  
2 Cat. no. 14919 Epi. mellicaria

Scut

163

See Insect Life vol II, page 361  
On rubber tree, Ficus pedunculata, at  
Palm Beach, Fla Dec 29, 1889. Mature.

1 Young. Molt Jan 16 Mature. Head 3<sup>mm</sup>

2 Young Head 1.7mm Molt Jan 29 Hd 2.2<sup>mm</sup>

Molt Feb 4 Hd 3<sup>mm</sup> Coon Feb 16 Pupa Feb 12\*

Found several larvae and made

1st stage Hd. .4	3rd stage Hd. .7
2nd stage Hd. .5	4th stage Hd. .9

Larva (A) 1st stg Hd. .4 Molt Feb 21 Hd. .5

Molt Feb 24 Hd. .7 ~~Molt Feb 24 Hd. .7~~

Molt Feb 27 Hd. .9 Molt Mch 2 Hd. 1.2

Molt Mch 7 Hd. 1.6 (dead)

Larva (B) 4th? stage Hd. .9 Molt Feb 21 Hd 1+

Molt Feb 24 Hd. 1.6 Molt Feb 28 Hd 2.3

Molt Mch 6 Hd. 3 (dead)

width heads by calculation:—

①.40 ②.53 ③.69 ④.89 ⑤ 1.16 ⑥ 1.6 ⑦ 2.2 ⑧ 3<sup>mm</sup>

\*Imago Jan 13

Scopsis edwardsii

Scut

164

See Entomologica Americana vol. II, pg. 141

Spring on Carica papaya, Palm Beach  
Dec 30, '89. Eggs; young larvae. A mature

larva Jan 2, pupated soon and gave

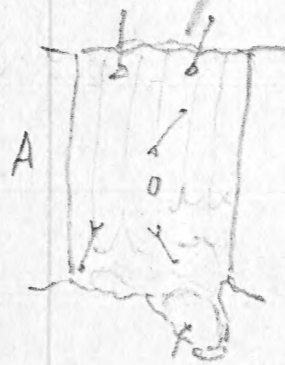
imago Jan 26. Egg hatched Jan 4,

Molt Jan 8, Molt Jan 12,

Molt Jan 17, Molt Jan 24, Mature.

Pupa after Feb 1 and Imago Mch 11.

Dilophonota edwardsii





165

On *Melottaris glandula*, Palm Beach  
Dec 30 '89. Spins kind of house. Head  
pale green, the  $\Delta$  plate long. Mouth  
whitish, eyes black. Body shining  
leaf green with s-d white line.  
Spines small, whitish.  $L$  13 mm  
The body is rather short and fat,  
cylindrical; but tapering, most  
decidedly towards anal end.  
Furnished with a few short hairs.  
Pupa (BB169) Head jointed, smaller  
at neck, narrower than body. Eyes  
somewhat prominent. Body slender  
cylindrical, tapering to cremaster, <sup>while is</sup>  
flat below, rounded above; of nearly  
uniform width but rounded at the  
end, with a bundle of spines  
fastened in silk of cocoon. The  
antennae & legs cases form a flat  
projection beyond the wing cases  
separated from the abdomen

extending nearly to the last abd.  
segment. Body minutely wrinkled,  
wing cases nearly smooth. Color,  
light brown, last seg nearly black.  
Cocoon of silk in a rolled leaf.  
Imagines Cat. nos. 4516, 4518, 4529.

*Margaroma infimalis* n

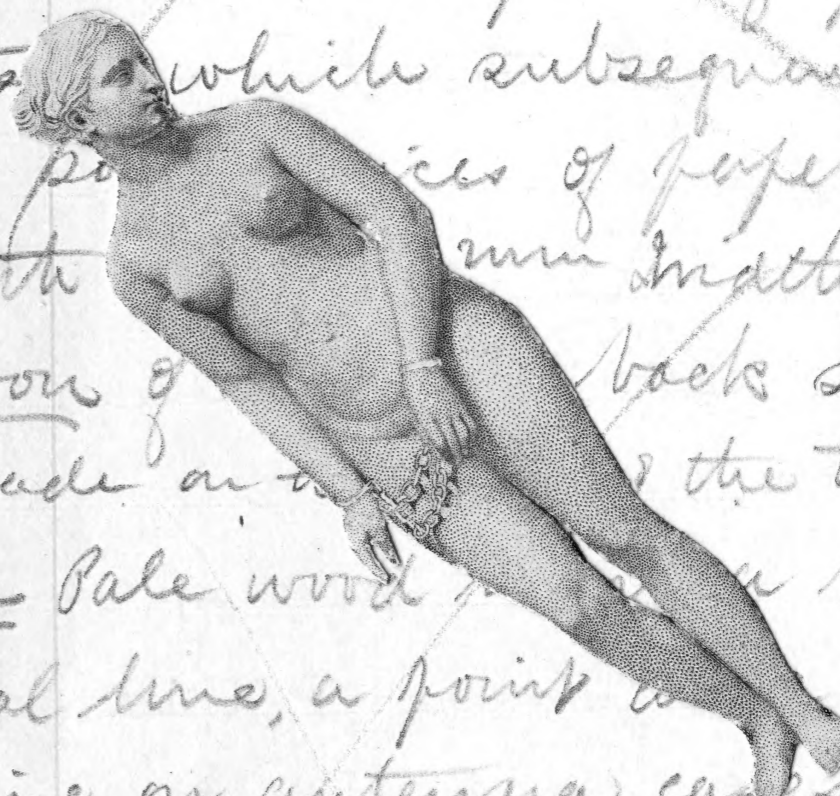
166

Leontine eating into head of weed  
 of BB160, Palm Beach, Dec 30. Feet on  
 joints 2, 3, 4, 10 & 13. Segments projecting  
 laterally as in *Eugonia armantaria*  
 color yellowish green, minutely  
 granulated. Joints 5-9 have s-d  
 & j13 dorsal, a brown excrecence,  
 resembling dead skin. Length 4 mm  
 Molt Jan 2 Same, but lateral process  
 are green branching spines and  
 dorsum is much roughened. Next  
 day the lateral processes had same  
 brown wrinkled appendages of  
 varying length & detachable.  
 Molt Jan 7 Same. Creased & granulated  
 Length 8 mm. (dead)

BB166A On weed Jan 28 Head pale brown,  
 minutely pilose. Body as in above  
 but light brown with black shades  
 & interrupted dorsal line. Two  
 reddish points ant. on joints 3-9

& 13. Body minutely granulated; other  
 elevated reddish spots laterally  
 & fine hairs. Joints 5-9 have sub-  
 dorsal processes. composed of pieces  
 of dead leaves etc. The larva  
 applied several pieces of green leaf  
 to its body which subsequently withered,  
 also pieces of paper from label.  
 Length 4 mm width head 1 mm  
 Cocoon of [unclear] back spun together  
 & made on [unclear] the tumbler.  
 Pupa Pale wood [unclear] blackish  
 dorsal line, a point on each eye,  
 a line on antenna [unclear] eyes  
 blackish. Indistinct brownish shades  
 & spots on pupa. Cremaster spinose  
 Length 8 mm.

Imago Feb 18 Cat. no. 4581



166

Geometrid eating into head of weed  
of BB160, Palm Beach, Dec 30. Feeds on  
joints 2, 3, 4, 10 & 13. Segments projecting  
laterally as in *Eugonia amarantaria*  
Color yellowish green, minutely  
granulated. Joints 5-9 have s-d  
& of 13 dorsal, a brown exuvence,  
resembling dead skin. Length 4 mm  
Moult Jan 2 Same, but lateral processes  
are green branching spines and  
dorsum is much roughened. Next  
day the lateral processes had some  
brown wrinkled appendages of  
varying length & detachable.

Moult Jan 7 Same. Crused & granulated  
Length 8 mm. (Dead)

BB166A On weed Jan 28 Head pale brown,  
minutely pilose. Body as in above  
but light brown with black shades  
& interrupted dorsal line. Two  
reddish points ant. on joints 3-9

813. Body minutely granulated; other  
elevated reddish spots laterally  
& fine hairs. Joints 5-9 have sub-  
dorsal processes, composed of pieces  
of dead leaves etc. The larva  
applied several pieces of green leaf  
to itself which subsequently withered,  
also some pieces of paper from forked.  
Length about 12 mm. In the head 1 mm  
cocoon of stuff on back spun together  
& made on the side of the tumbler.  
Pupa Pale wood brown, a blackish  
dorsal line, a point above each eye,  
a line on antenna cases & eyes  
blackish. Indistinct brownish shades  
& spots on pupa. Cremaster spinose  
Length 8 mm.

Mag 6 Feb 18 Cat. no. 4581

167

Noctuid on weed, Palm Beach, Jan 6, 1890

All legs present but walks as if sitting as  
looper. joint 12 enlarged as in Noctuidae.

Head, triangular, plate & mouth plate  
dull white; rest a black band edged  
with brown & white small lines which  
extend down side of head. Palpi pale  
whitish. a few black hairs.

Body above spiracles pale yellowish  
brown much mottled & shaded  
with dark brown, mainly arranged  
in subquadrate alternating confluent  
patches. A distinct dorsal line  
& a pale yellow interrupted line  
edged with dark brown, on joint 12  
appearing as pale brown spots edged  
with white. In 5d sp. 3 white spots  
per seg. the middle one largest, and  
above spiracle a yellow spot. On  
joints 2, 3, 4, & 13 these spots assume  
more the shape of a transverse

line & are all small & white. Cervical  
shield spotted with white. An irregular  
white stigmatal line edged with  
brown. Spiracles black with white  
center, resting partly in broad pale  
ocherous white substigmatal band  
mottled faintly with brown. Two rows  
of whitish piliferous subventral dots  
on 5-12, only one on 2, 3, 4 & 13, that on  
2 large & elevated. Venter dull pale  
brownish, marked with dark brown.  
Slight spots on legless segments.  
Thoracic feet blackish. Length 25 mm.  
Cocoon in ground Jan 10 (No paper)

168

Egg laid by ♀ *D. berenice*, Palm Beach  
 Fla. Jan 11, 1890 about noon.  
 Conoidal, vertically ribbed and  
 finely transversely striated.  
 Color cream white.

*Danaus berenice*.

[168 169 all 165]

170

On pepper grass seeds, Palm Beach Fla  
 Jan 11, '90. Head & thoracic feet black.  
 Body pale whitish brown, paler at  
 spiracles & venter. Four rows of black  
 elevated spots bearing long black  
 spines in s-d, space, stig. sp., stigmatal  
 and subventral sp., the last two  
 only slight. Length 6 mm.

Pupa Jan 15 By cremaster in side on  
 side of tumbler. projecting. Head  
 small, eyes prominent, thorax  
 sloping abruptly to head. Body  
 slender & flexible, 3 flat thin eleva-  
 tions over head. Cases forms a point  
 separated from abdomen. Thorax  
 hairy, color dirty yellowish white  
 greenish on cases; brown stripe  
 down side.

(21-1-90)

copied Mech 29, 90

171

See Canadian Entomologist vol. 21, pp. 211  
Hesperiid larva allied to Eudamius  
on mangrove tree (Rhizophora mangle)  
Palm Beach to Figulus Fla. Jan 14, '90.  
Later seen near Lake White Sulphur  
& at Jupiter. Builds house like E.  
protus. At last stage spins  
together two or more leaves.  
Larvae were found 2.5 mm head,  
3.8 mm head, & 6 mm head, the  
last mature. Also pupae and  
hatched egg shells.  
Imago Jan 17 (pupa) and others.

Erycides batabano

172

Leucocetia arcaea? on weed Palm Beach  
Fla. Jan 18, '90. Head black upper part of  
 $\Delta$  plate <sup>labrum</sup> narrow plate, <sup>antennae</sup> palps & lower part  
of mouth, with post. part of head, yellow  
a few hairs. Width 2.5 mm. Body mottled  
with black & yellowish the latter color  
bright in dorsal line & wide stigmatal  
band, elsewhere dull & grayish.  
Warts as in Arctiinae, two in subdorsal  
space (row 0 & 1) and on legless segs  
below (row 2) black, the rest orange. Hair  
thin, fine, long & black. Legs black, the tips  
yellow. Spiracles white. Length 37 mm  
Molt Jan 20 Head same, width mm.  
Body black, mottled paler s-v & venter  
Hair from s-v. warts brown. Spiracles  
white. Thoracic feet black & white;  
abd. black, claspers whitish. Other  
wise as before. Cocoon Jan 28. Imago  
Feb 18 ♀

Leucocetia arcaea.

173

Spring on tomato vines, Palm Beach, Fla  
Jan 18, '90. Head, round, green of leaf,  
slightly greened. Mouth & palpi pale,  
eyes black 3. Width head 7 mm (2nd  
stage before 4 mm) Body same green  
light yellowish on dorsum with  
many small white speckles,  
sometimes obsolete. Annular  
On joints 5-11 oblique lateral lines,  
white, edged above with short trans.  
black streaks, one between each  
annulet. These present also on  
dorsum continuing lateral lines  
except that joint 5 has them  
also and on 12 they are absent  
but the line continues white to  
horn. Horn curved, dark purplish  
red, bluish at base, length 8 mm  
spiracles white, surrounded by a  
narrow black line & pale blue  
oval, a dark shade outside,

and crossed by a pale red band  
with spot centrally. The one on j. 2  
plain, all marks fainter, black  
spot absent. Thoracic feet white  
ringed with black; abd. yellowish  
Subventral space & venter with  
black streaks in the folds. Length  
of larva 80 mm.

Pupa "handle" touching middle  
of cases. Imago

*Plegethonius carolina*.

174

See Insect Life vol. II, pg 360  
On oleander, Palm Beach, Fla.  
Jan 20, '90. Hd. 2<sup>mm</sup> Stage before, Hd. 1.5

174A Eggs on oleander Feb 1, '90.

Hatched Feb 6 Width head .4 mm (?)

Molt Feb 11, Head .9 mm.

Molt Feb 17 Head 1+ mm

(same as BB 174)

Imago (174) Feb 13

Heads by calculation —

① .5, ② .8, ③ 1.1, ④ 1.5 ⑤ 2 mm.

*Synantusoides epitais*

175

Noctuid hibernus in grass with head  
against ant. abd. fed. Palm Beach Fla  
Jan 24 '90. Rests curled up. Thoracic  
feet well developed, their bases elevated  
abd. only on 9, 10 & 13. Last seg. tapering;  
body nearly uniformly cylindrical.  
Head elliptical but broad at vertex,  
dark velvety brown, mid  $\Delta$  plate and a  
border to it extending from palpi  
& following central distance to touch  
body, white with a few little brown  
streaks. At sides of head, especially  
in a stripe covering the eyes the  
brown is much replaced by white  
mottling; eyes black, palpi white  
mouth parts semi-transparent  
whitish. Width 3.5 mm. Body pale  
whitish ochre with broad s-d band  
of pale brown, a narrower subcentral  
one somewhat darker & a linear  
central band, almost black,



These marks are all traversed by several geminata, narrow, wavy & uneven lines above darker brown lines, especially prominent in s-d space & above spiracles. Ped. of 5 & 6, 6 & 7 the s-d band is interrupted by a velvety black spot with white shades at its edges which extend on dorsum. At these points the wavy lines are more distinct. Spiracles small, dull black. Feet streaked with dark brown. A number of small white & black piliferous spots. Few hairs on head. Walks as looper. Length 40 mm.

(on papaya)

176

Egg on *Carica papaya*, Palen Beach Fla Jan 31 '90. Nearly hemispherical but slightly conical. Base flat. Color pale whitish yellow, shiny. Diam. 7 mm. Laid on underside of leaf in small lot not touching. Hatched Feb 3. Head shiny pale whitish, mouth brown, eyes black. Width .8 mm. Body contracted. Ped. segs. pale whitish with long whitish hairs arising from concolorous warts? Length 2.5 mm. Head in vertex of egg when hatched. Eat shell.

(reared on papaya & other plants)

Can cut  
26 18  
1894  
177  
not published  
MS 724 1913  
Copied  
6/13/90

Egg 1894 in Columbus Fla, Feb 1 '90  
Irregularly spherical, the base flattened  
vertically striated, the apex broadly  
irregular near vertex where they meet.  
Color pale yellow. Diam. about 1/8 mm  
Laid in a flat mass, touching.

Feb 5 hatched as larvae Head round  
brownish. Body semitransparent whitish  
with purple tinge. Small black spots  
over body. Thoracic feet black; abd. only on  
9, 10 & 13 well developed, conspicuous with  
body length 2 mm ~~width~~ <sup>4</sup> about.

Would eat only grass. Began to eat Feb 7,  
when grass was given. Larva found seen  
through. Eat upper part of blade. As stage  
progresses cervical spots brownish, others  
are narrow brownish s.d. lateral, st. &  
subventral lines. A few small hairs.

Feb 10 Head semitransparent, almost  
colorless, but with a red disk large eye  
black pins & many, a brown line at

side. Width <sup>.6</sup> 7 mm (?) Body green, a distinct  
lignose stigmatal line with 2 pure above it  
fainter, one s.d., the other in st. space &  
1 below it in s.v. space. Few short black  
hairs. Feet all concolorous with body. 24 mm  
Eat the whole blade - walk as loopers.

Feb 13 Head skin pale whitish, 2  
faint brownish bands in front, diverge  
basally; a distinct band at side of head  
covering eyes succeeded by a faint line  
before it. Mouth brownish. Width <sup>.7</sup> 7 mm  
Body grass green with 5 dark brown lines  
on each side, the upper ones fainter, the  
stigmatal very distinct, & the subventral  
diffuse. Between these last 2 is a broad  
white band. Venter more whitish than  
body. Hairs short black on head &  
body. Feet all present but the 2 ant.  
pair of the abdominal muscle less well  
developed than the others and the larva  
still walks with a looping motion  
but less so. Length 7 mm.

Not lost by Riley  
not published  
MS 5218 1893  
Copied  
6/18 '90

177

Eggs on window Sabin Grove Fla, Feb 1 '90  
Irregularly spherical, the base flattened  
ventrally striated, the striae beyond  
irregular near vertex a slightly  
Color pale yellow. diam. about 1/8 mm  
Laid in a flat mass, touching.

Hatched Feb 5 walks as loops Head round  
brownish. Body semitransparent whitish  
with purple tinge. Small dark spots  
over body. Thoracic feet black; abd. only on  
9, 10 & 13 well developed, conspicuous with  
body length 2 mm ~~with head~~ <sup>4</sup> & ant.

Would eat only grass. began to feed Feb 7,  
when grass was given. Green grass seen  
through. Eat upper part of blade. As stage  
progresses cervical setae brownish as there  
are narrow brownish s.d. lateral, steg &  
subventral lines. a pair of mid legs.

Nov 10 Head semitransparent, almost  
colorless, but with a reddish tinge. Eyes  
black. Ant. brown, a brown line at

side. Walks <sup>6</sup> 7 mm? Body green, a distinct  
lateral stigmatal line with 2 more above it  
fainter, one s.d., the others in steg. space  
1 below it in s.v. space. Few short black  
hairs. Feet all concolorous with body. 24 mm  
Eat the whole blade - walks as loops.

Nov 13 Feb 13 Head skin pale whitish, 2  
faint brownish bands in front, divergent  
basally; a distinct band at side of head  
covering eyes succeeded by a faint one  
before it. Mouth brownish. Walks .9 mm  
Body green with 5 dark brown lines  
on each side, the upper ones fainter, the  
stigmatal very distinct, & the cervical  
darker. Between these last 2 is a broad  
white band. Venter more whitish than  
body. 4 pairs of short hairs on head &  
body. Feet all present but the 2 ant.  
pair of the abdominal much less well  
developed than the others and the larva  
still walks with a looping motion  
but here so. Length 7 mm.

Moult 7/17. Head green green shiny, marked  
as before but with the pale whitish, &  
few short black hairs. Width 1.3 mm.

Body green green, a faint dorsal brown  
ish line, not using the front lines of  
head; a pale obscure s.d. & super-sty.  
line each edged with brownish above;  
a broad dark brown s.d. band, and  
below it the sub-sty. band is white.

Thoracic feet semi-transparent, abd.

claspers brownish. Spiracles on 2 & 12  
are white. L. 7-12 mm) At this stage

advances a broad brownish red band  
appears in the center of the white sub-sty.  
band & the other marks become faint  
& 12 slightly enlarged as in noctuidae.

or more darkly. Head very pale whitish  
brown, marked as above. Body reddish  
brown, somewhat mottled with darker  
brown. A prominent dorsal line & 6 faint  
narrow lines between dorsal line & sub-  
sty. s.d. band which is as above.

Moult 7/20. Green form Head very pale  
brownish marked with black in a plate,  
2 broad lines divergent basally & 3 <sup>of dorsal</sup> spots  
at the side, connected by mottling.

Eyes black, jaws brownish, palps pale.

A few hairs. Width head 2 mm. Body pale

brown mottled with dark brown, more  
thickly on dorsal, s.d. & super-sty. lines.

A s.d. row of brown spots, smaller at  
extremities. Faint, narrow, irregular, on the

whitish, s.d. & super-sty. line. Broad  
pinkish brown sub-sty. band edged

both sides with white, <sup>extending on feet of 12.</sup> Several small  
black piliferous spots. Spiracles white

those on 2 & 12 large. Abd feet. nearly  
equally developed, larva walking in

usual manner; claspers pinkish,  
& small white spot above base of foot

Length 15 mm Green form Head pale  
green, marked some dark faintly.

Eyes black, mouth pale. Body green  
green, finely mottled with white

Faint, narrow, irregular dorsal, double  
s-d & sub-stig. white lines. Broad  
sub-stig. band as in other forms.

Piliferous spots white & black. Spinacles  
as above. Claspers of abd. feet brownish  
(the brown form comprises nearly  $\frac{1}{2}$  at stage)

Month/ Feb 24 Head shiny pale whitish  
brown, palpi & mouth paler, jaws tipped  
black; eyes black. Some part of head are  
2 broad black bands closing up basally  
on either side of plate, & ending before  
reaching mouth. These are connected  
by markings with a fainter band  
before the eyes on each side. Behind  
the eyes are 3 more bands, irregular &  
partly connected. An obscure white  
band from base of palpi to next  
sub-stig. of body. Few lines w. √ signs.  
Body pale brown mottled with black  
& a little white on dorsum, the latter  
mostly in narrow dorsal, s-d, & rows  
of other lines, & showing a s-d. row

of black diffuse spots, more distinct  
on middle segs. Sub-stig. band purplish  
edged with white, extending out to anal  
fid. Piliferous spots few, white, but  
black on venter & small. Spinacles  
white, edged with black, largest on 2  
& 12. Feet tipped with brownish. W. 22<sup>mm</sup>  
at mat.? ground color is rather pale  
the sub-stig. band nearly the same color  
as body & containing blackish marks  
Length 40 mm.

(All died in Sweden vile fluid and  
no pupa. Maybe white noctuid on  
windows of tent is ♀. Cat. no. 4550)

[Head scale. ①.4, ②.6, ③.9, ④.1.3, ⑤.2, ⑥.3.]

no 4550 is *Agrotis incisa*.

May 1900

178

On *Sponaxa* sp. Lake Umbagog Feb 6 1890. Head white with irregular black spots, the largest of them forming a transverse line above s-plate, mouth black. A few black hairs. Width 2.2 mm. Body legs pale orange dorsal line edges with purplish black; then bluish white band with faint brownish streaks in center, then pale ochraceous s-d band edged as dorsal; then pale lilac space; then irregular white super-stig. band, edged as dorsal, the lower edging interrupted. Broad orange stigmatal band edged below with white & purple black line. S-v. space & legs dull whitish gray; venter white. Lines partially obsolete on cervical spots & anal plates. Elevated black spots, each with black hair viz. 2 rows on cervical spot; row in s-d. space;

Out from Massan 1898  
*Anticarsia ferruginea* Gu.

on joints 3 & 4 two spots coalesced; on the re

small  
 super-  
 2, 3 &

super-  
 actua  
 subre  
 anal  
 spots.



set  
 itzer  
 knob  
 Setae normal for Noctuidae  
 vi of cox, preapicalia of 2  
 ii a & ii b rudimentary; v of  
 thorax and iv of abd. smaller;  
 leg plate setae very small.

Food  
 Larv slender 2 ans pair  
 of abd. feet reduced the  
 apical pair (?) must so.  
 D. & stig line very blotched  
 edged narrowly with venter

Gray +  
1900

178

On *Spongia* sp. Lake with Scales, Feb 6  
1890. Head white with irregular black  
spots, the largest of them forming a  
transverse line above s. plate, mouth  
black. A few black hairs. Width 2.2 mm  
Body has pale orange dorsal line  
edges with purplish black; then bluish  
white band with faint brownish  
streaks in center; then pale ochreous  
s-d band edged as dorsal; then pale  
lilac space; then irregular white  
super-stig. band, edged as dorsal,  
the lower edging interrupted. Broad  
orange stigmal band edged  
below with white & purple black  
line. S-v. space & legs dull whitish  
gray; venter white. Lines partially  
obsolete on cervical spot & anal  
plates. Elevated black spots, each  
with black hair - viz 2 rows on  
cervical spot; row in s-d. space;

Out from Nassau 1898

Anticarsia ferruginea Gu.

on joints 3 & 4 two spots coalesced; on  
the rest 2 spots per seg.; on joints 3 & 4  
small s-d. spot per seg; smaller  
super-stig. & 2 per seg. stig. and on  
2, 3 & 4 large s-v. one; on joints 5-13  
super-stig. one per seg., sub-stig.  
situated posteriorly, 1 per seg. &  
subventral row, 2 per seg. Upper  
anal plate has 2 rows of small  
spots. Feet spotted with black. All  
lost present, but larva humps  
itself when it walks. Length 25 mm  
Robert Field

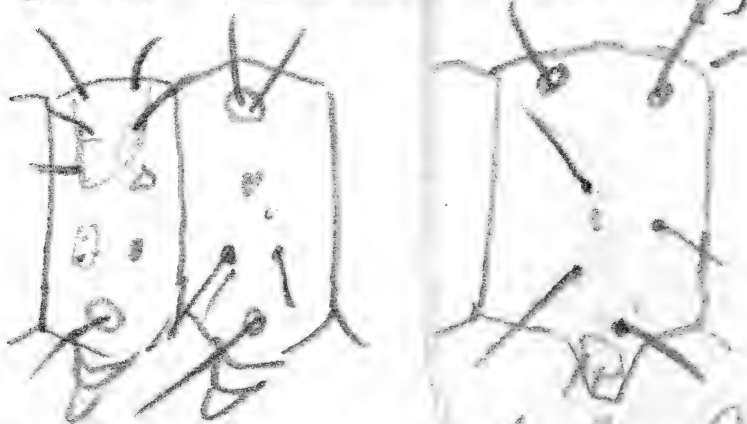
(refused food & died)

Food is Ceanothus obtusifolia.

On dark leaved sea bean  
Nassen N.P. Feb 8 1898

= BB 178

(On spruce at Salu beach  
died without eating)



Setae normal for host  
vi q abd, pre-appracula of  
iia & iib rudimentary; vii  
thorax and iv q abd. Small  
ly plate setae very small  
Long slender 2 ant per  
abd. feet reduced  
ant pair (?) must so.  
D. & sty line, orange blot  
edges narrowly with vitta

horn; sd & supfe also with  
tubercle lined space between  
d. & sd whitish - tubercle  
sd. & supfe sty. purple shaded  
- supfe sty & sty. touching  
S-V space purple shaded,  
V & vi black, feet pale. S  
tubercle white with black  
ring. Hd. whitish purple  
reticulate & with a few  
large black dots. W. 1.2  
Shed Feb 10, Hd 2.1

Shed Feb 15, Hd 2.8 whitish, head  
spotted & greenish, small tubercle  
bluish cream color. d. sd orange, very  
black edged, tubercle before edge, a faint  
shade between. Lat (iii) & sty. coincident  
divided by black line & edged whitish  
white, a red dot above in middle. Space  
between sd. & lat. = to white & dark  
brownish. Sub sty open space, apte,  
white bright. S-V & vitta dark  
obscure, uniform, slightly lined



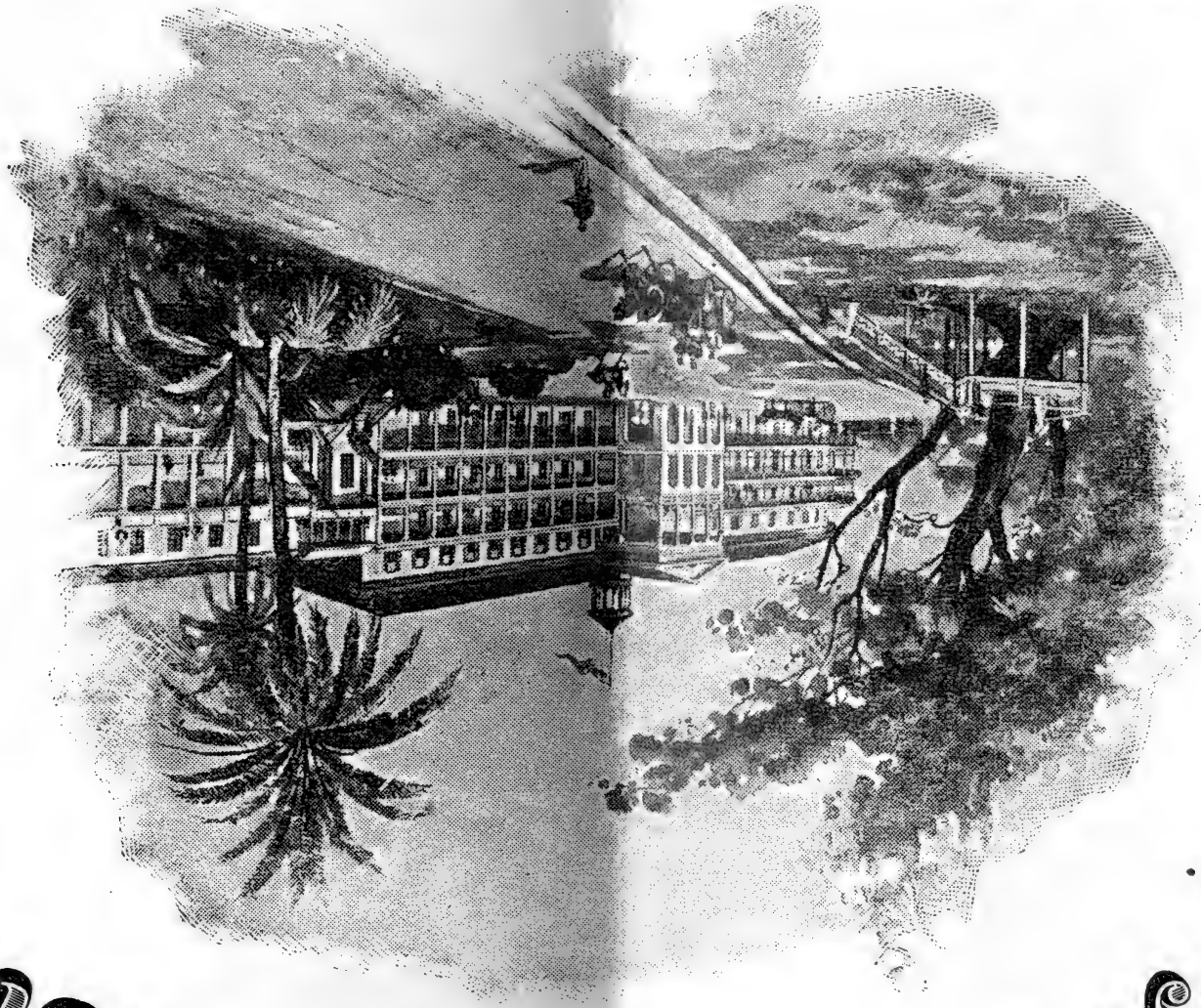
trubade white with black ring  
and center, seton distinct  
dark marginal, Lane & cleve  
13 tapering. Sits on rounded  
189

very quiet, cut at right  
5/11/22

Nassau, N. P., Bahamas,

New York Address, Care of Hotel Gazette, 945 Broadway.

Cable Address, "Morton, Nassau."



PROPRIETOR & MANAGER.

Hotel,

Victoria

Royal

S. S. MORTON.

Copied in common larva  
book 7/24/90

179

On plum? Jacksonville<sup>†</sup> Fla, March 2, '90  
and on peach Linwood Hill<sup>\*</sup>, April '90.

\* Eggs laid in mass around twig &  
coiled with frothy brown substance  
smooth & shiny outside. Egg much  
higher than wide, flattened on several  
sides as if pressed together, rounded  
at base & flat on top. Color mainly  
white. They adhere together by the  
substance with which they are covered.  
Height .7 mm; width about .4 mm.  
April 19<sup>\*</sup>, in little nest on branch.  
Head .4 mm, round. Black, with a few  
hairs. Body black, paler on dorsum  
& bet. joints, giving appearance of  
transverse paler bands. Dark dorsal  
line. Few pale hairs. L. 5 mm. Ant.  
edge of joint & mainly white.

April 22<sup>\*</sup> Head .6 mm, dull black.  
Body black, variegated with pale  
whitish dorsally but leaving a

black dorsal line, a row of large s-d  
black spots. Sides paler black with 2  
fine wavy pale lines. Hair fine black  
most abundant at extremities. Joint  
& shows s-d. small black process.

Stage 3, 9 mm head<sup>†</sup> Head black, mouth  
little paler. Body black, with obscure  
& interrupted dorsal line. A line above  
it distinct, two wavy lines above & below  
the absent s-d, stigmatal & s-v, all  
white running together between, the  
segs. part obsolete in last 2 joints.  
Legs black, center gray, few hairs on  
body. Length 8 mm.

Stage 4, 11 mm head<sup>†</sup> On laurel? Head  
velvety black, narrow plate & row of spots  
slightly paler. Body black, a bluish  
white anal line at edge of segment.  
Just it a yellowish suffused band, a  
s-d. row of obscure bluish spots, above  
& below which is a white band with  
with the ground color & below farther

mottling, not showing stig. & a-v. band.  
Venter gray. J. 12 bumpy. Short rather  
sparse hair on body whitish. L. 13 mm  
March 2<sup>+</sup> in nest. Head 2 mm. Velvety  
black, pilose, a few long black hairs.  
Base of palps & narrow line above mouth  
white. Sternum of je slightly colored over  
head, white anteriorly. Joint 12 some-  
what enlarged dorsally. Body has pale  
brown hairs growing from striae. Nest  
numerous from subventral space.  
Body black, a white dorsal line joints  
3-12 fainter part. speckled with black  
& bordered just by a faint crinkly  
black line & then by an orange colored  
band rather irregular & a little mottled  
by black. A row of blue spots (3-13)  
2 per seg. less anteriorly, succeeded above  
& below by a narrow irregular inter-  
rupted orange tinted line with white  
mottlings in the folds bet. segs.

These mottlings obtain below &

lines to 8 on venter. On a-v. space  
they are suffused with brownish.  
Spiacles black. Legs black with brown  
hair L. 30 mm Month 10/11 Head 3 mm  
as before but the orange colored band  
is more broken up in long. streaks  
the blue spots are more distinct,  
the ant. one  $\infty$ , the post. 0, the lines  
above & below them are orange & the  
mottling blue. Hair more abundant,  
pale brown. Cervical dot yellowish cen-  
trally. Cocoon<sup>+</sup> of silk, rather thin,  
but hard above. Larva concealed by  
yellowish opaque liquid which dries  
in powder on inside of cocoon.  
Pupa 0.5 mm, feet, abd. segs. equally  
tapering to the 10th segment, in cocoon  
color black. Body pilose & hairy  
covered by brownish white hair (some long)  
Cocoon with hair black. L. 20 mm  
Caliciocampa americana?

3 10 9 1.6 3

copied  
2/5/91

180

(omnivorous)  
An insect May 8, 70. Linwood Hill  
Head shiny pale yellow, smooth nape,  
eyes black. W. 3 mm. Looper. abd. feet  
dist. only on 9, 10 & 13. Body whitish  
appearing green from food within,  
with many black, filiform spots.  
Length 4 mm. Joint 12 a little swollen.  
Caudal as head but fainter.

Inst May II Hd shiny whitish. Eyes black  
mouth brown. W. 6 mm. Body dark green  
above, paler below, humped at 12, & feet  
on 7 & 8 small & uncurved. A dorsal, s-d, &  
sub. white lines, the latter broad &  
blending below into color of venter.

A number of minute black filiform spots,  
faint hair on head L. 6 mm.

Inst May 12 Hd dull pale yellowish white  
in some spots brown. W. 9 mm. Body  
same color but more yellowish  
green from food. Head clear  
dorsal s-d, & broad sub-stig. line

Inst May 12  
W. 12 mm  
210 180

below the latter is pale. In  
s-d. of all 2 white spots on each  
with a minute black center. Feet  
on 7 & 8 rather better developed. L. 11 mm

Inst May IV Head dull pale whitish, with  
a little brownish, eyes black. Body  
whitish, greenish brown. Proth. on 12  
1-2, W. 12 mm. Body pale in some  
yellowish spots. Dorsal, s-d, &  
white sub-stig. line. A dorsal  
above with dark brown. White sub-stig.  
dorsal white minute black center, a pair eye  
seg. in each of the spaces. Feet all present  
nearly as in previous, on 12 yellowish L. 15 mm

Inst May VI Head 3 mm. mouth brownish  
eyes black Green, a few brown spots yellow  
green speckled with pale. A  
white dorsal line, a faint  
brown s-d, a narrow sub-stig. line  
on 12, above on the rest yellowish  
white with a fine black dorsal  
all yellow, L. 30 mm (inst. white)

line white but black





the strig & line in 51 on some of the  
edges of the <sup>small</sup> ~~small~~ <sup>small</sup> ~~small~~ <sup>small</sup> ~~small~~  
spines small in brown edge  
white around eyes. W. 3.5 mm. Body as  
before but more spotted with white. The  
line is now more pronounced into the  
ventral feet. The line all goes on joint 2  
to the head but not at mid of  
small plates. Length 30 mm.]

Molt June 17 Hd pale brown, dark in the  
setae on front & back still dark. Second  
mouth <sup>ant.</sup> ~~ant.~~ <sup>mouth</sup> ~~mouth~~ <sup>mouth</sup> ~~mouth~~  
~~mouth~~ <sup>mouth</sup> ~~mouth~~ <sup>mouth</sup> ~~mouth~~  
In front and at sides of head above  
a large patch of black diffuse markings  
occupying the space of the small dark  
spots of previous stage, connected. New  
lines. W. 3.5 mm. Body enlarged at joint 12  
just all present mottled with brownish white  
& black dorsal traces. <sup>marked</sup> ~~marked~~ <sup>marked</sup> ~~marked~~  
a broad pale strig. band <sup>not a solid fat</sup> ~~not a solid fat~~ <sup>not a solid fat</sup> ~~not a solid fat~~  
with black & white. Venter pale with  
whitish a little dark on sides. Small  
sp. scales brownish with brownish white  
edge. <sup>not</sup> ~~not <sup>not</sup> ~~not <sup>not</sup> ~~not <sup>not</sup> ~~not  
brownish. New dorsal band. Length 30 mm~~~~~~~~

ventral spots anal plate with a brownish  
tinge. [A young caterpillar ground.]  
The strig of joint 12 shows 2 small conical  
plates (one on side & one line) and  
it is water in the whole color of the caterpillar  
ventral <sup>ventral</sup> ~~ventral~~ <sup>ventral</sup> ~~ventral~~ <sup>ventral</sup> ~~ventral~~  
June 29 on *N. thomasi* [A mother found  
mouth??]  
of pupa skin Sept 12. And segs. <sup>and segs.</sup> ~~and segs.~~ <sup>and segs.</sup> ~~and segs.~~  
ant. Curved over 2 very slender, long //  
shines, curved down towards the end  
& remaining in a little knob rolled  
outward. Each side from near the base  
of the spine laterally, spiracle a little from  
base, divergent at first but curving in  
beyond the spiracle & meet towards the  
middle, ending in a short (not spiny)

egg laid by ♀ larva - no bit - was found to be  
 spherical but with a narrow neck to the base flat.  
 with a rounded ending in a little circle  
 around summit, a very minute trans-  
 versely striated spine. It was  
 hatched June 24 head round, black,  
 with all filiae 4 with 6 pairs. wavy  
 contraction at joint 2 which is dark  
 brown above, the rest dirty yellow. 2.5 mm  
 on leafy pine and share house  
 Molt June 28 head black, jointed  
 W. 1.1 mm joint 2 with 6 pairs. Body  
 dark green dotted with yellow  
 with black on the sides of joint 2.  
 It was in the same place 6 mm  
 Molt July 2 head lat corolla punctured  
 dark purplish black. W. 1.8 mm. a spot  
 on each side of joint 2 same color but  
 shiny. joint 2 crimson, shagreen  
 yellow black. Body and legs blackly  
 speckled with small yellow dots

It has a darker dorsal line, the  
 rest the last 2 segs. touched with  
 orange. Body taper a little posteriorly  
 and feet color brown body 2.10 mm  
 Molt July 7 head round, shagreen  
 dark purplish black, joint shiny black  
 before whitish eyes a large round buff  
 patch. W. 2.5 mm Body as before  
 [Asterid 1.7 mm, Molt July 10, shagreen  
 dorsal only, shagreen, dorsal, dorsal  
 eye black chamber. W. 3.2 Body dark green  
 with small yellow dots on each side  
 yellow. transverse narrow at each side  
 the dorsal, on each side, a black band  
 at the sides, broadly interrupted with  
 a brown and a yellowish line. a spot  
 a whitish spot on each side of joint  
 more narrower parallel bands. joint  
 orange. on <sup>each</sup> side black. joint 2  
 the spiracles & shiny spots black. This  
 feet 3 of joint 2 with crimson, the other  
 not dark, abd with greenish, ventral pale



Molt Aug 22 dark red brown, dense granular, minute pilose. A large white oval spot each side mouth. Tan breast, spots on black ground 104.7 mm. Body color shiny dark with red spots. 12 cardiac spaces black. Body yellow with some transverse pale yellowish lines becoming irregular & interrupted anteriorly. In each set a trans. black band, upper one yellowish on dorsum & black above. Spines black. Plate white. This pattern of 2 dark ovals on 3rd & 4th segments. 1st abd seg copper color. Anal plate yellowish brown. The spiracles tend a little to black at the sides.

Coon Aug 22, seen in hole to which it was taken Aug 24 in hole. Throat white, wings clear, legs brown. The thorax marked with a white line. The abdomen marked with a white line. The legs are marked with a white line. The body is marked with a white line. The head is marked with a white line. The antennae are marked with a white line. The eyes are marked with a white line. The mouthparts are marked with a white line. The genitalia are marked with a white line. The whole insect is marked with a white line.

Insects March 5 1891  
*Candona ptygma*

184 cont'd July 31st 1891, 2nd inst. 3rd inst. 4th inst. 5th inst. 6th inst. 7th inst. 8th inst. 9th inst. 10th inst. 11th inst. 12th inst. 13th inst. 14th inst. 15th inst. 16th inst. 17th inst. 18th inst. 19th inst. 20th inst. 21st inst. 22nd inst. 23rd inst. 24th inst. 25th inst. 26th inst. 27th inst. 28th inst. 29th inst. 30th inst. 31st inst. 32nd inst. 33rd inst. 34th inst. 35th inst. 36th inst. 37th inst. 38th inst. 39th inst. 40th inst. 41st inst. 42nd inst. 43rd inst. 44th inst. 45th inst. 46th inst. 47th inst. 48th inst. 49th inst. 50th inst. 51st inst. 52nd inst. 53rd inst. 54th inst. 55th inst. 56th inst. 57th inst. 58th inst. 59th inst. 60th inst. 61st inst. 62nd inst. 63rd inst. 64th inst. 65th inst. 66th inst. 67th inst. 68th inst. 69th inst. 70th inst. 71st inst. 72nd inst. 73rd inst. 74th inst. 75th inst. 76th inst. 77th inst. 78th inst. 79th inst. 80th inst. 81st inst. 82nd inst. 83rd inst. 84th inst. 85th inst. 86th inst. 87th inst. 88th inst. 89th inst. 90th inst. 91st inst. 92nd inst. 93rd inst. 94th inst. 95th inst. 96th inst. 97th inst. 98th inst. 99th inst. 100th inst.

184 cont'd July 31st 1891, 2nd inst. 3rd inst. 4th inst. 5th inst. 6th inst. 7th inst. 8th inst. 9th inst. 10th inst. 11th inst. 12th inst. 13th inst. 14th inst. 15th inst. 16th inst. 17th inst. 18th inst. 19th inst. 20th inst. 21st inst. 22nd inst. 23rd inst. 24th inst. 25th inst. 26th inst. 27th inst. 28th inst. 29th inst. 30th inst. 31st inst. 32nd inst. 33rd inst. 34th inst. 35th inst. 36th inst. 37th inst. 38th inst. 39th inst. 40th inst. 41st inst. 42nd inst. 43rd inst. 44th inst. 45th inst. 46th inst. 47th inst. 48th inst. 49th inst. 50th inst. 51st inst. 52nd inst. 53rd inst. 54th inst. 55th inst. 56th inst. 57th inst. 58th inst. 59th inst. 60th inst. 61st inst. 62nd inst. 63rd inst. 64th inst. 65th inst. 66th inst. 67th inst. 68th inst. 69th inst. 70th inst. 71st inst. 72nd inst. 73rd inst. 74th inst. 75th inst. 76th inst. 77th inst. 78th inst. 79th inst. 80th inst. 81st inst. 82nd inst. 83rd inst. 84th inst. 85th inst. 86th inst. 87th inst. 88th inst. 89th inst. 90th inst. 91st inst. 92nd inst. 93rd inst. 94th inst. 95th inst. 96th inst. 97th inst. 98th inst. 99th inst. 100th inst.









189 Calc 43 54 68 86 107 134 168 21 2.6 3.2 7.50  
 we have 2.10 2.34 2.6 2.9 3.2 3.90  
 .34 .4 .6 .9 1.1 1.3 1.6 2.1 2.3 2.6 3.1  
 187 (9)

Eye Rh. Buller's Gnatcatcher 15 ...  
 new to eye ... bare  
 flint ... yellow ...  
 brown ...

*[Handwritten notes and diagrams related to anatomical features]*  
 Dorsal ... ventral ...  
 (A) ... (B) ... (C) ... (D) ... (E) ...  
 dorsal ... ventral ...

As the dorsal line on 6-8 ...  
 the rest of body ...  
 dorsal ... ventral ...  
 pale ... dorsal ...  
 the ... dorsal ...  
 body ... dorsal ...

with ... dorsal ...  
 the ... dorsal ...  
 dorsal ... ventral ...  
 dorsal ... ventral ...  
 dorsal ... ventral ...

at 12 and tapering ...  
 are not much used ...  
 the ... dorsal ...  
 dorsal ... ventral ...  
 dorsal ... ventral ...

capable of ...  
 dorsal ... ventral ...

eye ... dorsal ...  
 dorsal ... ventral ...  
 dorsal ... ventral ...  
 dorsal ... ventral ...  
 dorsal ... ventral ...

June 26 1891 ...  
 dorsal ... ventral ...  
 dorsal ... ventral ...  
 dorsal ... ventral ...  
 dorsal ... ventral ...

dorsal ... ventral ...  
 dorsal ... ventral ...  
 dorsal ... ventral ...  
 dorsal ... ventral ...  
 dorsal ... ventral ...

dorsal ... ventral ...  
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dorsal ... ventral ...  
 dorsal ... ventral ...  
 dorsal ... ventral ...  
 dorsal ... ventral ...  
 dorsal ... ventral ...

dorsal ... ventral ...  
 dorsal ... ventral ...  
 dorsal ... ventral ...  
 dorsal ... ventral ...  
 dorsal ... ventral ...

June 20 ...  
 dorsal ... ventral ...  
 dorsal ... ventral ...  
 dorsal ... ventral ...  
 dorsal ... ventral ...



dorsal line. with black bearing black  
hair but paler from joints 7-10 especially  
usually being a dull pale tawny

Walt July 17 As before w hd. 1.2 mm

body black, hair & warts black but hair

on 7-9 reddish or tawny, L. 1.2 mm

Walt July 22 Regular little tubercles, head  
black w. 5 mm bearing pale white. Body

black the warts brownish on 7-9. Hair dense  
of very even length as if clipped except a few

at shoulders, black, but tawny brown on 7-9  
sprinkles white, creases all pale brownish

Walt July 29 Same hd 2 mm

Body black with white tubercles on joints 7-9  
at the sides, red red red red red red red red

Walt July 31 As before, hd. 3.3 mm

hair on the abdomen is not so long as on 6-7 not  
reaching below the joints not as thick as on

on 7-8, warts black dirty testaceous, on  
head black, legs black, feet white

Walt July 15 W. hd. 3.6 mm, Body black on  
some transverse bands, warts black

Walt July 15 W. hd. 3.6 mm, Body black on  
some transverse bands, warts black

Walt July 15 W. hd. 3.6 mm, Body black on  
some transverse bands, warts black

Walt July 15 W. hd. 3.6 mm, Body black on  
some transverse bands, warts black

Walt July 15 W. hd. 3.6 mm, Body black on  
some transverse bands, warts black

Walt July 15 W. hd. 3.6 mm, Body black on  
some transverse bands, warts black

Walt July 15 W. hd. 3.6 mm, Body black on  
some transverse bands, warts black

Walt July 15 W. hd. 3.6 mm, Body black on  
some transverse bands, warts black

Walt July 15 W. hd. 3.6 mm, Body black on  
some transverse bands, warts black

Walt July 15 W. hd. 3.6 mm, Body black on  
some transverse bands, warts black

Walt July 15 W. hd. 3.6 mm, Body black on  
some transverse bands, warts black

Walt July 15 W. hd. 3.6 mm, Body black on  
some transverse bands, warts black

Walt July 15 W. hd. 3.6 mm, Body black on  
some transverse bands, warts black

Walt July 15 W. hd. 3.6 mm, Body black on  
some transverse bands, warts black



5-13, only one tubercle on 12 dorsal and anal pl.  
 (ie. only 2 rows)  
 2 pair on 13 the last pair, nearly all black  
 row 2 have partly blue tops, rest as on  
 joint 3 & 4 row 3 black, all spines black  
 body ochreous yellow. Dorsal, s-d, stig & s-v  
 row of rounded black spots, 2 per seg.  
 Feet as before. Spines white in firm black  
 ring. Cercoid spot yellow. L. 18 mm

Probably hatched from eggs. Hd black &  
 shiny W. 1 mm body black, the spine bearing  
 tubercles arranged exactly as in last inst.  
 subventral in yellowish the spines black L. 6 mm

Molt July 13 Hd black shiny W. 1 mm  
 body black, the spine bearing tubercles  
 arranged exactly as in last inst. subventral  
 in yellowish the spines black L. 6 mm  
 Molt July 13 Hd black shiny W. 1 mm  
 body black, the spine bearing tubercles  
 arranged exactly as in last inst. subventral  
 in yellowish the spines black L. 6 mm  
 Molt July 20 Hd black shiny W. 1 mm  
 body black, the spine bearing tubercles  
 arranged exactly as in last inst. subventral  
 in yellowish the spines black L. 6 mm

as the ad  
 mules the  
 color yellowish  
 last inst. blue  
 dorsal  
 anal pl  
 row 2  
 row 3  
 row 4  
 row 5  
 row 6  
 row 7  
 row 8  
 row 9  
 row 10  
 row 11  
 row 12  
 row 13

Spines chestnut black W. 1 mm 27. 1890  
 line lower 2/3 of head the top flattened  
 with a small protuberance arising  
 from base. O diameter .6 mm  
 Hd large July 8 Hd. slight protuberance black  
 and shiny shiny. W. 4 mm. Short pair hairs  
 only last joint elevated & tubercle feet  
 normal, 1-tubercle seen in segmental  
 sutures, uniform long 2 yellow. L. 2.5 mm  
 head with head on one side and  
 antennae advanced a black s-d line  
 enlarged on the last joint.

Molt July 17 Hd large, subovoid  
 in front. pale yellow, mouth brownish, eyes  
 brown. W. 7 mm 6 feet hairs black light  
 yellow with greenish d. & black s-d line  
 and a black e-d spot on 13 L. 4 mm  
 antennae advanced joint 12 is somewhat  
 enlarged dorsally and bright yellow  
 interspersed with black which are all black  
 the d. & e. into 2 spots on 13 and the  
 s-d the same on 2. Hd light orange. a

as the ad  
 mules the  
 color yellowish  
 last inst. blue  
 dorsal  
 anal pl  
 row 2  
 row 3  
 row 4  
 row 5  
 row 6  
 row 7  
 row 8  
 row 9  
 row 10  
 row 11  
 row 12  
 row 13

band in s-d space is of a bright yellow color than the rest of body.

moth 3 hd high than wide, scarcely depressed at vertex, bright light yellow, eyes black, a few hairs yellow. Body as before (width, 1.5-2) moth 4 hd same shape light shiny surface, eyes black, a few minute hairs black. W 1.7 mm. s-d line black, s-d space yellow, as in d-sp. + in s-v yellow band. It has 2 black dots on s-v, sp. 12 is marked with grey all over, 13 is light yellowish black, absent, the black lines larger & more and dorsal plate pale yellow. feet and ventral plate whitish. L 12 mm

moth 5 hd same reddish orange, W 2.2 mm head, and below, a row of black spots on s-v fold moth 6 hd brown, large flattened in front depressed at vertex of eye along lateral with 2 black dots on vertex, dorsal plate yellowish brownish orange, mouth parts yellowish W 3.2 mm head yellow, a s-d line black, yellow dorsal line, black dorsal line with some black dots on s-v, a row of black spots on s-v, dorsal plate black, ventral plate black, ventral plate pale greenish, the feet testaceous W 4 mm 12 black, a small black dot on large central black plate, all rays is yellow. 13 has only the black line, broken into spots, dorsal plate yellowish brown than joint 2. dorsal plate black, the gel on s-d line is large with orange.

3	4	6	8	1.2	1.7	2.4	3.4
3	4	6	8	1.2	1.4	2.4	3.4

173

Eggs of *Hyphantria testator* white, in rows of 4 on wild cherry. laid in a close single layer of about 375 and mixed a part covered by a mass of short fine white hairs. Eggs is spherical, minutely punctured, pale green diam. 5 mm. Hatched moth 8 head blackish

pale, 7 mm, 2 ophi. W 3 mm body white the parts blackish with few rather long hairs 2.5 mm [on an apple hd black 4 mm] dorsal plate whitish, ventral plate as above = spot on anal plate. Few pale hairs, L 3 mm

moth 9 hd black, W 4 mm, as above moth 10 hd black, W 6 mm body whitish with long hairs as above except dorsal plate with black. A faint dorsal line of shade band.

moth 11 hd black, W 6 mm body whitish with long hairs as above except dorsal plate with black. A faint dorsal line of shade band.

5 99 1 12 8 7 1 2 7 1 6 2  
 4 6 9 12 18 27  
 4 6 9 12 18 27  
 H 4 6 9 12 18 27  
 H 4 6 9 12 18 27

2 feet  
 1st coon  
 2nd coon  
 3rd coon  
 4th coon  
 5th coon  
 6th coon  
 7th coon  
 8th coon  
 9th coon  
 10th coon

Molt 5<sup>th</sup> 2 Hd black labium, Spl, e and annule  
 whitish W 1.2 mm Body yellowish a white  
 dorsal line the s-d of largely shaded  
 with black. Molt as in Arctic also on  
 legless segs. Feet all blackish. 2, 8 mm  
 Molt 6<sup>th</sup> dorsal plate black; minute  
 Aug 6<sup>th</sup> W 1.4 mm Hd black labium cant.  
 white. Dorsum black, side dark gray to  
 black mottled with pale yellow. D. ad e  
 interrupted sub-sty narrow yellow. In  
 Molt 7<sup>th</sup> 2 black, the rest ochre. Feet black  
 hair this white.

Blue taken in Sept 11. Hd 2.4 Hd subquadrate  
 bilobed, sunken centrally, the lobes bulging  
 out in front. Black shiny. Labium, antennae  
 & palpi white & few hairs. Body black on dorsum  
 (s-d of) e venter, gray on sides (i.e. black  
 markings on yellow ground. Molt 8<sup>th</sup> black  
 3-6 orange 7 black. Spiracles white. Appen-  
 dices & narrow yellowish s-d & sub-sty lines  
 Feet all black, hair long. blackish.

Another Sept 18. Hd 2.4 One cooned Sept 21. (Hd in room 2.4)  
 Papa Sept 25 cylindrical, ant base of abd  
 larger than any other part, cast. prominent  
 abd segs tapering, acmasta thin hood a flat  
 terminalia in a row of about a dozen hooks  
 spines, nearly equal length. Body punctured  
 3 movable abtacles smooth, case very slightly  
 curved. Shiny red brown. L. 11 mm W 4.5 mm

Sept 25  
 Sept 26  
 Sept 27  
 Sept 28  
 Sept 29  
 Sept 30  
 Oct 1  
 Oct 2  
 Oct 3  
 Oct 4  
 Oct 5  
 Oct 6  
 Oct 7  
 Oct 8  
 Oct 9  
 Oct 10

1950 June 6 Hd 2.7 Hd pale brown mottled with  
 in front white with black spots. 1 mostly segs  
 4 2 broad black bands, 1 band at top. Body  
 mottled with fine longitudinal wavy lines  
 in general dorsal 3 or 4 irregular lateral  
 ventral; 194 the upper part of pale  
 bands. Feet 2 pale 1 minute  
 black white + minute pale

Scometrid on C. pinnulata, Smithers Co.  
 June 29. Hd. whitish green with a vertical  
 fulvous line <sup>roughly</sup> <sup>normal</sup> <sup>eyes</sup> <sup>black</sup>  
 Body same whitish green, dorsal  
 crimson band, interrupted <sup>heavily</sup> on the middle  
 of each segment and furcate on top  
 the parts meeting the lines of head  
 when the insect is at rest. Feet of  
 true proportion, slightly touched with  
 crimson. W. hd. 1.4. Length 2.0 mm

Molt July 1 Same. Stripes on head very  
 fulvous. width 2.2 Body same, a  
 number of minute black dots, a larger one  
 s-d on j. 12. Spiracles ringed with black  
 As stage progresses the marks become  
 deep carmine brown, fainter & blended  
 with obscure annular colored markings over  
 the body. A transverse stripe across dorsum  
 of joint 3 another on 8 a little elevated  
 and preceded by 2 dots around which  
 partly extends a shade from the band

July 25. Cat. no. 5164  
 June 29

copied 19/26/91  
Stork  
at  
at  
at

14.184  
red brown with a black spot  
one above the mouth  
has feet as green  
the 6 abd. feet with  
tarsus rather large with  
markings on feet  
line. Length about  
No 2 July 2 Hd white  
brown patch over the  
from each side beyond  
the mouth. W. 6 mm  
brown marked  
No 3 July 6 Hd. 9 mm  
patch above extensive  
but the pale bands  
a series of 5-d black  
slightly greenish with  
the became brown marked  
with 2 uneven vertical white lines  
white  
streaks  
3-d yellow spots 5 6 7 8, 2 strig black ones on

*Agropyron leucostigma* Boulet. July 2, 1890  
Hd. <sup>orange red</sup> almost <sup>dark coal red</sup> blackish eyes black palpi  
labium mouth yellowish, jaws dark.  
W. 3 mm Cervical spot <sup>vermillion</sup> coral red, con-  
taining 2 yellowish warts & from a large  
wart each side it grows a pair of  
pencil of long plummed black hairs.  
On joint 3-4, 9-11 @ small warts near  
sd line, situated in a broad black  
band which on 9-11 is broadly bordered  
with yellow & on 10 & 11 a little dorsal  
red tubercle @ in yellow band sd  
@ superstitry @ anastomy @ on bases of  
legs & legs & legs. Body blackish  
but warts yellowish, a black strig. line  
& s-r space & center yellowish. a  
large compact tuft of dense <sup>or pale yellow</sup> white hair  
on dorsum of 5 6, 7, 8, on yellow ground,  
sd. tufts black. On dorsum 12 a long  
pencil of brown hair tipped by black  
plummed hairs. warts brown thin

bed from pupa 3 mm ♂

do 2.8 " ♂

bed from <sup>25+3-</sup> 3.0 " ♀

were in ... carried ...

measured 28 ... before

bed ... <sup>3.5+</sup> 3.6 (4-)

long ...   
qu ...   
d. ...   
ped ...   
egg ...   
white ...   
said ...   
moved ...   
lab ...   
about 12 ...   
were ...   
help ...   
red ...

