

5L-8Q



51

*Stingylozoster* on *Oteris* (cf 3R) Hd. 2.2 ± Pale  
testaceous, a brownish tint on vertex, eye black  
a neat rounded black patch in summit  
of each lobe separated by rather wide  
in space; a tiny black spot on post edge  
of hd. in line with eye; face immensely  
mouth brown. Venter annulate dorsum  
green, 2-v a feet translucent white with  
a yellowish tinge; no marks; this feet  
clean last 2 joints black marked. Spin  
acles dark. Faint trace of blackish  
marks on 13. Another spots on 13. lateral  
very small, lateral absent; otherwise same  
later some lateral dots hidden in neck fold

Another hd 1.4 ± picked out of the 3R which it was found  
like. Tiny brown spots in vertex of lobes; otherwise  
same as 52. but a little more and even. D. & S-V are  
more contrasted than 3R (hd 1.0)

Egg more like 3R. Egg cylindrical, rounded at the ends.  
11 colorless, transparent, showing a white patch  
eccentrically placed (an eye?) 1.1 x .4 mm

more than 100 down to 100

One shed and turned to 3RA (v)  
differ from 3R when dots on head occur present  
to have ochreous yellow tint and legs even color  
all ochreous, not translucent green like 3R



5M

Like 4C but body green instead of ochre.  
 Hd ochreous with an orange shade over apex  
 eye black, mouth brown, shining, w 2.2mm  
 legs flat 6-annulate, smooth, not shiny  
 ground glass pale green, varying a little  
 towards whitish; in males, d vessel dark  
 reddish, its edges defined but not  
 forming a band, the green a little streaked  
 longitudinally s-d. The feet moderate,  
 clear, abd. rather small 6-13. Tracheal  
 line white but not prominent. Found  
 like 4C by sweeping grass Jefferson Highlands  
 U.A. June 17 '95 but care only 1/2 dozen.  
 Stage hd 2.5± (next) Face whitish, vertex testaceous, a broad  
 curved blackish brown band joins the eye over D. A cloud  
 in Δ and on back of head at vertex, eye & sutures around  
 antennae black, mouth brown. Body all green, almost  
 emerald green 6-annulate, a little granular under  
 lens in males. d vessel dark, tracheal line  
 whitish; the feet clear. s-v conspicuous with dorsum

5N

On grass Jeff. Highlands, U.A. June 17 1895. Feet  
 6-11 small or 13. Hd pale testaceous, brownish  
 over vertex, eye black; w. Body pale green  
 6-annulate, minute black setae on 2<sup>d</sup> & 4<sup>th</sup>  
 annulet s-v fold; a broad s-d blackish shade  
 defined laterally, diffuses above and shading  
 into dorsal area, leaving tubercles pale; 2  
 ant and anal plate pale; s-v faintly shaded  
 with blackish along the fold; s-d shades  
 with tar horn in oblique light in folds  
 feet clear, a fine brown line on basal joint



50

On grass Jeff High., N.H. June 17, 1895. Like 5M and 4C but gray d. and white substantially. Hd large, polished, lower half whitish, upper half or only the sides of the vertical patch blackish gray, eye black. Feet 6-13, segs 7-annulate for the most part or 6-annulate. Dorsum to spiracles silvery or brownish gray, an obscure white stig line 2 ant, 13 post and all s-r and feet whitish, s-r folds sometimes narrowly brown marked. The feet clear with an oblique brown mark at base. Basal shade darkest laterally; d-vental a dark band. (A 2 of hd dark, dark shades on s-r folds, brownish gray. Body a geminate dusky patch above eye on each lobe, body silver gray, s-r white) Another A dorsum silver gray, pale d, as the edge. from a band. A B acquired the row of gray spots along s-v folds, but hd still pale at apex. a B (hd 1.9) shed and became A (hd 2.5) 2 went down without occasion eating. Hd too large for body

5P

On grass Jeff High., N.H. June 21, 1895. Reared very like 5H but feet 6-12, 13. Hd pale testaceous, a little shapeless, an orange tinge toward vertex and a black patch at vertex of each lobe; eye black, mouth brown w. 1.8 mm & 7 mm a little enlarged; body shining, 6-annulate, ann. 5 & 6 very small. D. obscure green, vessel not contrasting its edge obscure; bordered by a stig white band s-r pale, whitish, a honey tinge on feet and black shades at base of the feet. Anal plate pale, with blackish shade at the sides. 2 ant shaped pale formed a cell at bottom of corn under ground strengthened with piece of wood water of a chip ☞



5Q

Very like preceding, but hd. all black above  
 Ch. grass, June 21. Hd whitish all of vertex  
 black reaching down broadly ending in a  
 point on eye, <sup>& narrow black to occiput</sup> but indented at the side  
 of a point of ground color;  $\Delta$  black, separated  
 by a narrow curved band of ground color from  
 apical patch. Body olivaceous greenish to  
 white stig. line, cordid & translucent  
 Edges of d. vessel thick, shaggy cordid  
 white but not very evident. Feet 6-13  
 s-v cordid honey yellowish. The feet pale  
 marked with black on joints, 2 marks on  
 basal joint. Hd 1.8 mm  $\pm$  not Hd 2.0 Same  
 shiny cordid olivaceous a broad blackish  
 sd shade showing tawny brown in folds.  
 D. vessel a dark shield, a yellowish  
 tupe. Died

5R

a green of sweep of grass or weeds, did not eat  
 Jefferson Highlands June 20. Higher than wide,  
 thick, uniform, neatly 6-annulate. Hd. pale  
 with a blackish tupe, eye black. Body uniform  
 emerald-bluish green, no markings at all  
 all the annulets nearly lined with smoky  
 blackish over the dorsum. The feet rather  
 small clear. Shape suggest *Monophadnus*  
 Probably in ground stage: food plants unknown  
 Hd 1.5  $\pm$  Sh hd 1.4 Larva was uniform green with  
 not the dusky bands (recollections) Sh hd with  
 a testaceous tupe, eye black with a dusky  
 shade behind it.

"*Monophadnus* sp. near *atratus* Hagen"  
 June 5.



55

Oct 3 1896

On *Agave*, Jefferson High<sup>ts</sup>, N.H. June 23 1895

Edge eaters, solitary, feet 6-11, faint on 13 eating the young leaves.

Hd pale green finely brown dotted all over except a narrow space bordering brown clypeus, eye black w. 1.2 Sep. faintly irregularly 5-annulate shiny green, d. vessel dark tubercle line evident, no marks except lateral dusky rings s-v. defining the obsolete tubercle which can just be distinguished with lens though perfectly inconspicuous. Anal propp. very short, remote, finely denticled black tipped. Setae very fine and short. Tho. feet clear with brown claws.

Became streaked with dusky blackish on the annulet, bringing out the tubercle more distinctly, even dorsal ones; antennae pencil

June 22 1896

*Agave* n. v. Ward

molt July 18 Hd pale whitish, eye black, a brown dorsal shade at vertex. Body annulate, shiny, somewhat green, no annulet. Trace of fat ed line as a continuous yellowish shade (len.) but does not effect appearance (ground)

57

Crawls spirally on back of leaf of *Spiraea salicifolia* Jeff. H., N.H. June 23 1895 (though = 30 but feet 6-13)

Hd with 2 grooves before vertex, forming an X-mark with clypeal antenna in front view, brownish pale below, eye in black spot. w. <sup>(see head 1.3)</sup> no. Sep. 6-annulate, scarce shiny, pale brown yellow feet showing green & giving a green appearance; no marks, tubercle line obscure. Tho. feet clear, brownish tinged, moderate.

Body of nearly uniform width, rather square foot. <sup>(see head 1.6)</sup> molt June Hd 1.3. pale, rather all orange brown dotted. Same. Cooled with tail up.

Later a row ed of yellow fat granules, rather irregularly scattered but a continuous line

molt July 6 Hd 2. pale a cloudy light orange brown shade on vertex nearly black eyes. Body strongly

annulate, yellowish green with continuous yellow s-d narrow fat line, below it a darker shade being inconspicuous with d. from foot continues by s-v.

feet clear brown claws. no points seen. Late fat line absent or thin, a little patchy, diffuse yellow. Larva all quite yellowish



5U = 3H

Identical with 3B but larger on Populus tremuloides Jefferson Highlands, N.H., June 24 1895. Edge eater, sitting leaf, feet 6-11, anal pedicels pointed, black tipped. Hd 1.7 mm pale green, brown dotted, a blackish stripe in  $\Delta$  and median suture, another up from eye, curving back to join faint sd shade on 2-3 eye black without spot, mouth brown. Body leaf green, slightly shiny, not annulate but slightly creased a single 1st annulet well folded. The feet clean, tracheal line indant, narrow, spiracles & d-vessel dark. No tubercles. Anal feet very small.

Found a little shiny on corn June 25-

Damage July 12 1895 - Corn large brown firm

Probably = depressinatus

5-V = V

Little 5-f like Hylotoma on alder, Jefferson H. N.H. June 24 1895. Egg in sand cut in the edge of the leaf, smaller cut, 1.15 x 1.2 mm. Hds 55 shiny black. Body whitish, feet green. 1st feet, except joints, 9 tubercles in  $\square$ , s-r ridge feet outward, anal plate & setae black. Feet 6-10 black spots feet.

Molt June 29 Same Hds 75 Red green, tubercles black, hds pale brownish red (Like V)

Same as V. Put out.



5W. Jul 13 Hd 1.4± pale brown, the face white, a black band bordered with white behind runs up from jaw. Antennae black ringed, a + shaped black shade in  $\Delta$ . Oth & feet black. Body brown except whitish, an opaque sd & s-v white shade leaving the rest grayish; a black mark at base of foot on 2. Feet pump white. Anal plate ridged as usual but immaculate except a central d. shade on several continuous with d. vessel.

July 17 (shhd 1.5) Hd. dull green, white on  $\Delta$  and an area around it; ant. black with narrow white ring at ends of joints. eyes black; a trans. brown line at side of hd. feet. W.L.S.D. lat. & s-v bands dark, translucent, a sd & s-v opaque white impregnated band, contrasting; central sh. narrow black; a large sd along spot. Anal plate and process white, the 3 corners of several pl. dusky greenish. Process black tipped plate setiferous with minute brown tubercles. The feet white a black spot at base of foot on 2.

July 22 Hd 2.2 green, a white blotch on  $\Delta$  and adjoining; ant. ringed white & brown, eye black. joint brown white marks a labrum. No shading. C-sh. colorless with hd, no black except a little spot at base of foot on 2. Anal plate and process faintly white, spotted, ridged as usual, no tubercles, the several green in the 3 hollows. Body green, shaded with faintly white on all the annulets especially in a sd and s-v band which are creamy white, distinct, making the interfaces appear transparent green on ant. third. Post. the bands become diffused and spread into the general white shading. same white on ventral s-v ridges folded feet. Legs 5 & annulate.

went down July 28

Calc.	.56	.70	.88	1.09	1.37	1.71	2.14	ratio .80
Found	.53±	.75±	1-	1.1±	1.4±	1.8±	2.2	

5W

singly  
2 eggs on back of leaf of *Armelandria canadensis*  
free on surface close to midrib, touching it very near petiole. Cylindrical with rounded ends, soft shiny white at first colorless translucent later opaque white from embryo. 2.2 x .6 mm  
Yarka from folds double (ventral) hd as wide as egg.  
Hatched June 27 a little Lyda. Hd cont. very pale brown shiny uniform, eye black. Body normal entirely white, rather opaque. Anal process also white as small unsect thro. feet. No abd feet. began at once to spin web. Hd. 55±

July 4 (shhd .75±) Hd pale brown eye black, ant. apparent black ringed. Body white, milky on the annulets, feet & processes shiny; no black markings.

July 8 Hd 1.1± brown with a dusky shade in  $\Delta$  & a narrow transverse one behind eye; eye black, antennae black ringed. Body whitish, rather milky, sd & sd spot shiny blackish. Processes & feet white, a little black line at base of foot on 2 & tip of anal process black. Plate colorless. D. vessel narrowly dark.



Out April 1896 = Harpiphora!  
 [ = Harpiphora maculata? ]  
 On <sup>5X</sup> ~~the~~ <sup>the</sup> ~~material~~ <sup>material</sup> with a spotted  
 head. V Hd 1.15 pale, slightly brownish a dusky  
 black cloud on apex and a smoky dusky  
 patch behind, a little above the black eye  
 God like 5X but no points seen. Black dot on  
 anal pl. Another 4 trace of black patches on hd.  
 Another hd 1.2 - Black patch on vertex constructed,  
 but distinct widening below above  $\Delta$ . Lateral  
 patch joins eye by a point. Trace of a dusky  
 black lateral band on body.

III  
 July 8 Hd .6 black, black more dist, smoky black  
 Hd 1.4 Hd pale brownish a black patch at apex  
 a trans. one behind eye. Body curved, 6-annulate  
 trace of white points on 2<sup>d</sup>; 4<sup>th</sup> whitish, not  
 shiny a greenish dorsal d. separated from the  
 white SV by a smoky black band of sequen-  
 tary dusky patches. Small  $\square$  flush patch. Perianth  
 trace of a granulate dusky d shade.

Other with constricted apical patch same lateral  
 shade almost continuous. D. more distinct  
 than  $\Delta$  ground for hd curved whitish a dusky  
 patch in vertex but shiny dull leather d. smoky  
 blackest spotted head  $\Delta$  v. more white Hd 1.5  $\pm$   
 5X ~~material~~ <sup>material</sup> ~~like~~ <sup>like</sup> 5XA <sup>as a head</sup>

On ~~the~~ <sup>the</sup> ~~material~~ <sup>material</sup> with a spotted  
 head. V Hd 1.15 pale, slightly brownish a dusky  
 black cloud on apex and a smoky dusky  
 patch behind, a little above the black eye  
 God like 5X but no points seen. Black dot on  
 anal pl. Another 4 trace of black patches on hd.  
 Another hd 1.2 - Black patch on vertex constructed,  
 but distinct widening below above  $\Delta$ . Lateral  
 patch joins eye by a point. Trace of a dusky  
 black lateral band on body.

Calc.	.27	.39	.56	.8	1.04	1.63	3 Jack
Found	.25	.4	.6	.8	1.1	1.5 $\pm$	

Out Apr 9 = Harpiphora!!  
 [See 40A] 5X [ = Monstegia ignota? ]

Curled spirally on strawberry leaf Jefferson St.  
 N.H., June 25 1895. Hd .5  $\pm$  inst June 6 Hd .6  
 pale brown, shiny, eye black. Body whitish, not shiny  
 6-annulate, distinct, but larva so small hard to  
 count, food pieces in mouth. Curled up abdomen  
 Another hd .8 Sept 6 annulate. Body ground glass  
 whitish only colored by food. Feet 6-13. Hd very  
 pale brown shiny, eye black, jaws brown. Thorax  
 a little longer than abd. Hd large in proportion.

Hd .25 ~~same~~ but darker, blackish around eyes.  
 Body whitish, not shiny annulate, same  
 Hd .4 (Hd .3  $\pm$ ) brown, eye black, shiny  $\Delta$   $\square$  white  
 food shiny, annulate, same. <sup>July 8 Hd 1.1, Feb 20 1.5</sup>  
 Stage hd 1.5  $\pm$  Hd bright pale brown, uniform, eye black  
 a prominent vertex of each lobe. 2<sup>d</sup> enlarged. Most  
 small, lateral outline very even. Segs mostly 6-  
 annulate with minute blend white points on  
 2<sup>d</sup> & 4<sup>th</sup>. Whitish, not shiny, a faint green line  
 dorsal. 7<sup>th</sup> more distinct than from the large crop  
 full of food the great portion of al. cannot be  
 empty in mouth. Dorsal greenish. Tho. feet clear  
 with brown tips. A minute black dot in center of  
 anal plate. Ground glass very distinct. Flat curled  
 J.T. all ~~material~~ <sup>material</sup> ~~like~~ <sup>like</sup> 5XA <sup>as a head</sup>



yellowed July 4. Body nearly uniform except d. vessel and  
rim yellowish

5Y

Solitary Lyda on *Populus tremuloides*. J.H. Pitt.  
June 26 1895 in a portion of leaf simply  
turned over & fastened with strands of gummy  
web. Hd greenish white, rather opaque, thick  
brown dotted over vertex, down to near  $\Delta$   
a pair of brown black, transverse bands, 2 on  
each lobe from above eye to near anal.  
antennae shiny. Eye black, long. antennae pale  
narrow cone a red spot on 2 black shiny.  
Body wrinkled 3-annulate whitish green with  
d. lat.  $\delta$  s-v more translucent & is darker  
green bands. Anal plates white <sup>and edged</sup> ~~rimmed~~  
2 black patches on anal plates. Processes  
pale. Hd 2.3 <sup>(shld 2.2)</sup> Th. feet small, pointed, pale,  
reversed July 30 Hd. same; mouth brown  
lined, black at tip. w 2.5 unit S-v folds and annulets  
distinct Body all without black except a line on 2  
at base of th. foot, antennae all white; 2 spots  
on anal plate. Folds & annulets all opaque  
yellowish green, in folds a d.  $\delta$  s-d band within  
the opaqueness & consequently clear green. Th. feet,  
rim of plate & processes pale yellow. <sup>face creamy</sup> ~~white~~.

5Z

a colored s-f, edge eater on *Aurelanchia canadensis*,  
Jefferson Highlands, N.H. June 26 1895. Feet 6-11  
those on 6-7 large & well developed, used; on  
8-11 small, not used; just half of body more  
or less curled up. Hd rounded, vinous brown  
a dotted smoky black shade in  $\Delta$  & over  
vertex confluent with a darker one up from  
eye. eye black, w 1.5  $\pm$  Seps about 6-annulate  
pale vinous, an olive black d. band, trans-  
ing of oblique branches on 9-11, a series of  
creamy white fox patches, solid, best of  
granules next d. line, largest 9-11 where  
they touch the oblique branches. Tubercles  
blackish, smooth, obsolete d, but distinct  
laterally,  $\delta$  s-v, apparently on 3 annulets. Bases  
of th. feet brown, the rest clear, yellowish.  
Turned all pinkish to wallow July 1  
also on *Prunus serotina* and *P. virginiana* Aug 1 1895.  
another hd 1.1, pale brown with a black band on vertex. Same  
another hd 1.1 but body very much smaller, the wrinkles  
hardly discernible. Pale vinous, feet green, a row of  
faint whitish s-d fox patches, obliquely cut.



6A = 2C

Little Hylotoma on strawberry, Jefferson Highlands  
N.H. June 28 1895. Feet 6-10 small on 11, a  
pad on 13; the feet large. Hd pale brown  
darker through the middle. The feet brown,  
black marked. Body green with a white  
s-d line. Bleish dot scarcely indicated  
but spots on eye folds. Hd conical .8 ±

June 30 Hd 1.0 Brownish green with black shade  
on vertex and around the eye from eye  
eye. Body green, a white s-d line, no feet  
glutted. Setae on 3 acuminate but tubercula  
not colored. (sh hd 1.1)

Molt July 3 Same as 2L = 2C Hd 1.4

Molt July 7 (sh hd 1.4) Hd. 1.7

Went down July 11.

6B

Lyda on Viburnum Opulus Jeff. H., N.H., June 29 '95  
Stage hd 1.8 ± green, eye small black, mouth brown  
ant. long black ringed. Body uniform green,  
almost emerald, no marks, d. v. dark; anal  
plate ridged, the ridges & border scarcely white  
anal process whitish. A small, geminate  
dusky black mark on c-sh. Black annules at base  
of the feet small, feet pale. Seps deeply 4-lined  
Stage hd 1.4 very pale testaceous marked same. Various  
transverse c-sh (except central spot) & s-d spot shiny  
black. Seps strongly 4-striate, a little whitish  
greenish, narrow black marks at base of the feet  
Anal plates & processes concolorous, immaculate  
another hd. annuley brown in  $\Delta$  and over apex; shiny.  
Stage hd 1.1 ± Pale brown, blackish on vertex and  $\Delta$   
eye black mouth brown, ant. ringed. C-sh. all black  
as s-d spot, but not a trace of black at base the  
feet. Body whitish white, scarcely green except for food  
mouth went down Hd 1.5 ± but like 1.8 hd. <sup>c-sh with</sup> anal dark mark



ECA Jul 15 Hd 8 all whitish, slight brown, eye black, no marks  
 Body annulate, food coloring, it is marked, well annulate  
 Hd 6 same, Hd 1.8 Jul 21 reddish in water, no marks, eye black, Body  
 green waxy, 7-ann. no marks. Jul 23 "similarity" like 6C  
 most Jul 25 Hd 7.5 no marks = 6C  
 July 31 hd 1.2 a blackish sd shade, no marks in body, no anal spot

Strongylopterus on *Monotropa opulens* <sup>Opt</sup> June 29  
 Hd whitish, eye black, a large black patch  
 on vertex, neat almost pyriform. Seps 7-  
 annulate, minute black setae on 2d and  
 4th. Body tapering a little post, straight  
 or curled spirally, feet 6-13, whitish,  
 translucent, not shiny, appearing green  
 from post except s-v, a faint black  
 lateral shade bounding the apparently  
 green area, a single small waxy black  
 anal spot. Hd 1.8 trochae distinct  
 reniform. The feet clear with brown tips.  
 Another on *V. cassinoides* Hd 1.4 vertical patch  
 brown, in front only a little darker than ground  
 (7-annulate, same) shading into black at neck.  
 most Jul 5 Annulate, whitish, all annulate  
 waxy whitish covered. Hd a little testaceous  
 eye black, no marks at all. For ground.  
 The one hd 1.4 shed Jul 8 for ground same.  
 Dimey, April 29 1896 *M. bilineata* var. 5

6D

On larch, yellow Highlands, N.H. July 3 1895  
 Hd pale brown, <sup>dotted</sup> eye black, a pale arcuate line  
 over  $\Delta$ , w 1.4  $\pm$  Seps 5-annulate, last two pedicel  
 feet 6-11, 13 Body green shaded with opaque  
 pale green <sup>in front</sup> sd & stig. broadly,  
 leaving more translucent d. & lateral  
 straight line and a little irregular wavy  
 s-v folds; feet concolorous, the trochae clear  
 with brown last joint. Solitary eating, weak  
 but holds on by abd feet, curling end of abd  
 & hold on by. Other hd. 6  $\pm$  all alike. very  
 hard to see in match leaves. set on needle  
 the head close to branch. Sacal vessel forms a  
 double pale line and trochaeal line shows  
 white. \*The bright green fat granules are aggregated  
 along d. vessel, broad sd band, trochaeal line and s-v  
 trochaeal line straight, distinct, white  
 Dimey, Spring 1896 19  
~~*Simulium bilineatum* (Dimey)~~  
*Hemichiron bilineatum* Dimey



6E (46L)

Resembling 4M on red berried elder, sent from  
Franconia N.H. by Mrs. Slosson. (See blow up)  
Upper half of hd shiny black, lower white. Body  
streaked almost continuously with black  
on all the annulets above spiracles except  
in a broken pale sd line, very slightly festooned  
but crossed by black on just  $\frac{1}{2}$  of each seg. Anal  
plate black feet 6-13. Segs 7-annulate. ♀

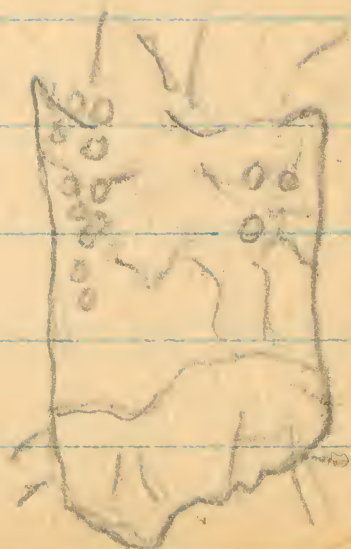
[See 7V]

6F

Common looking spiral curl on *Ilex verticillata*  
Jefferson <sup>to</sup> N.H. July 6 1895. 7-annulate, 6-13.  
Whitish <sup>variegated</sup> translucent, no marks, but thorax looks  
green, hd, dark gray above spiracles from  
contents of al. canal. Hd pale brown, eye a  
black spot; shiny 1±. The feet pale.

July 9 Hd 1.4± Same. Red. has a slaty, or gray  
appearance, thorax more greenish. [next same?]

July 22 Hd 1.8 (swimming jacket) Hd pale brownish  
eye black. Body annulate, emerald green  
shiny; uniform, no marks.





6G

Shiny sticky shiny on black sides on under side; solitary. Hd deep shiny black. w. 7 mm Body as usual, colorless whitish, feet green; thoracic feet all pale, nearly colorless a little brownish especially claw. Feet 6-12. Nuchal line festooned, inconspicuous the spiracles at apices of the seg. arches. most full ♂ Entirely not shiny whitish, ceramul tinged, eye black. Feet: head concolorous with body.

6H = 3N

Like rose of on fine cherry, Profile House, U.H. July 11 1895. Hd. 6 black, shiny Body whitish food green, Feet 6-11, 13, segs scarcely annulate with 2 rows of low concolorous warts per seg. bearing short fine setae - body pilose Head hairy, feet clear, tips brown tipped Hd 1.1 pale, slight brown, a large black spot on vertex and one over eye which runs forward in a cloud across  $\Delta$ . Warts in 3 rows on 3 ill defined annulets. Pile short, pale. Body whitish translucent, a leader black streak on thorax 3-4 which blends with color of al. canal just like a continuation of it. Feet whitish. Another ♂ Body whitish, Hd with black spots as above. Another Jeff Hyland's July 12 Hd 1.1  $\pm$  Same but body with dorsum to apex of middle of 2 to middle of 13 inter leader black except for numerous pale dots which are the tubercles bearing the fine setae scattered in irregular groups over the ill defined 3 annulets. 2 and 13 feet



and all s-v whitish translucent, also feet. 6-11, 13. Hair short & very fine, dark dorsally, pale s-v. Hd finely pubescent, the pale parts minutely brown dotted.

Spin the papery web cocoon between leaves of 56.

Another hd. 3 pale brownish, eye black. Body color actual fine, fine micropunctures. Sides fluted

June 7 Aug 7 1895

This must be = 3N

Found on yellow birch Jeff. Hills N.H. Aug 19  
Hds. 1.0 .8 .8 black spotted; back pale.

Found them around New York City on several plants esp. wild cherries

Sept 1895.

On wild cherry Bronx Park May 1897.

Was on willow Greenwood Lake N.J. June

21 1896.



Sf solitary, curled on back of red berryed elder, Jefferson Highlands, N.H. July 14 1895

Hd whitish, a moderate rounded defined black apical patch; eye a black spot w. 2±mm.

Body as in Strongylopusis, feet 6-13, tho. scarcely enlarged, its feet moderate.

Whitish rather opaque, food scarcely showing, <sup>also rather distinct</sup> annulate, very indistinctly banded

trans with orange in 2-3 annulets, just a trace of color scarcely serving more than to give a yellow tint to larva.

Prothoracic line evident, white, the spiracles showing as white expansions. Feet and anal flap immaculate.

Hds 1.7± Same but no orange bands visible [Rear vertical black patch absent. but near eye large bl.]

July 21 Hd pale between a trace of cloud at vertex eye black Body greenish gray, slightly tawny shaded in folds d. Hd 1.6± for ground

[3/4 grown parasite, as at Koffler's May 1896]



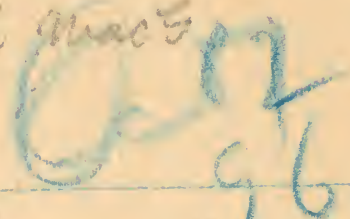
6J

On yellow birch in the woods, Jefferson Highlands  
 N.H. July 21 1895. Hds 1.4 whitish, lower tinged  
 with vertical black patch, one on eye, but  
 both very large, diffuse on edges and subse-  
 quent so that ~~the~~ head looks black, with a  
 pale patch over  $\Delta$  and on sides of lobes; shiny  
 dorsum dull obscure shining with a dusky  
 black lateral band, continuous, ill defined  
 a square velvet black subanal patch  
 or reddish whitish, a black shade along  
 bases of thoracic feet. Legs nearly 6-annulate,  
 number 2 a little larger. Prothoracic line white  
 thorax a little enlarged, greenish, legs more  
 brownish. Feet 6-13. First flat a center.  
 In one or folds a little touched with black-  
 ish. Head moderate, not prominent.

July 23 Same but ground pale vinous waxen instead  
 of obscure green. To J?

Calc. .64 .8 1.1 1.4 1.76 2.2 ratio 80  
 same Apr 27 1896 *Desmetodes remota* mac's

6K

96  


On yellow birch with 6J. Hd large, prom-  
 inent with furrows before vertex of lobes  
 like 6C, pale below, very above, shiny, eye  
 black no marks. 2 small legs only  
 slightly tapering, feet 6-13. Whitish trans-  
 lucent not shiny, feet green whole  
 length, plainly visible. Thorax scarcely  
 at all enlarged. Legs finely and neatly  
 7-annulate, but the <sup>under lens white points on 2<sup>d</sup> & 4<sup>th</sup> annulets</sup> increase more  
 distinct, slightly folded. No marks. Tho-  
 racic feet coluber. Prothoracic line not  
 very distinct. Hd. 1.8  $\pm$

July 22 Hd 2.2 Same.

most Aug 5 (Sunday) Hd shiny  
 pale cardinal color. Body  
 shiny, pale above more yellow  
 rather whitish. Several large  
 neat annulets on marks.

Hd. 6 perhaps stage I pale very faintly brownish, eye  
 black. Body coluber whitish, annulate, not shiny  
 feet green. Tho. feet large coluber. Seems to  
 have hatched from large swelling under bark of  
 epidermis. (Saw cut above) 2 x 1.5 mm. Reptiles of  
 elliptical, toward middle of leaf near a vein  
 Aug 4 Hd. 1.4 pale, brown above, Body same.  
 Aug 8 Hd. 1.4 (2nd hd. 8) same. <sup>most Aug 13 Hd 1.8 (3rd hd 1.25)</sup>

Resembles *Desmetodes cressoni* but less yellow green, the dorsal  
 being coluber & only green from feet. No sd band of fat  
 at end of a few individuals occasional granules.



Out (or 5C) Apr. 1895. *Macroplyta bilineata*  
"Macroplyta ? n. sp. near *flavicornis* (?)" (Mac 5)

61

Spiral curl on elder with 61 with which  
it was confounded till it shed July 21.  
Head light brown, immaculate (see 61)  
eye in large black spot, almost none on vertex  
shiny w 18 mm ± Body greenish white, not  
shiny, a dusky black d. stripe and a  
very distinct, velvet black lateral one  
broken into 2 square patches on 3 and 5-  
annulets connected by smoky shading,  
broken <sup>part</sup> absent on 13. D. band greenish  
black, a little dot on front edge of head  
Legs mostly 6 annulate, feet 6-13, the colorless.  
Anal plates immaculate. Later also faintly  
orange banded on 2 annulets as in 61  
Anal flap broadly orange. (Emptied) 1/28  
Shed P.M. Hd brown with blackish apex and  
shade, eye black. Body shiny greenish brown  
no annulets except the orange bands which  
persist rather distinct 7-annulate, the  
one is well marked a little tann brown  
Orange bands to spiracles on 4 annulets (1-3 and 7?)

6M

Flat on water on Epilobium, Jefferson Highlands  
N.H. July 23 1895 Hd pale brown shiny, a little  
darker on vertex & eye black, w. .5 Body  
waxy white but not shiny, food green, evident  
Legs mostly but 6 annulets annulate. Thorax a  
little enlarged, feet 6-13, thoracic colorless.  
Molt July 27 Hd 9 Pale brown, a Δ patch of Δ C  
vertex a shade darker, another around black  
eye. S.V. on thorax a little expanded and  
fluted. Legs regularly 6-annulate  
the annulets closely flattened, their creases  
just like seg. incisions, shiny, several de-  
pressed which makes the annulation show  
surface as before waxy white, the annulets  
so narrow that shiny appears not shiny  
Larva rather long and slender.  
[Egg in a swelling under larva epidermis near  
the margin solitary 1.5 x 1 mm.]  
Molt Aug 11 Hd pale brown shiny dotted, eye black  
Body shiny waxy, 6-annulate the last two  
narrow, faded and blackish shaded (anterior  
jacket) Hd 1.2



[cont]

6N

Edge eaten on gooseberry, Jefferson Highlands Mt  
 July 28 1895. Feet 6-11, 13. The feet clear  
 Hd. 1.2 rounded, flattened before, a black pulvinate  
 shade bordering sutures closely and a band up  
 from black eye area & vertex; ground green  
 Seps 6 annul. 6-annulate with minute brown  
 dark setae on 2<sup>d</sup> with and speckled over  
 s-v region. Green, rather transparent &  
 without marks, scarcely shiny, spiracles  
 black No anal pump. A very faint trace  
 just a hint of yellowish in stig. region.

Hd. 8 shiny black-brown, eye black. Body  
 pale green, darkened from food, spiracles black  
 Hd 6 shiny black, body whitish green, food dark  
 the thoracic feet ringed with blackish  
 Hd. 4 hornish, eye black. Body colorless, food  
 green, the feet black ringed with pale.

Egg in elliptical cup between 2 epidermis on the  
 edge of leaf, a slight swelling (1.3x) solitary

*Pristiphora proaulariae*  
 (det. ex larva & fly)

Cale.	.52	.65	.82	1.0	1.28	1.6	2.0	2.5	r.8
Food	.5	.65	.8	1.0	1.2	1.6	2.0	2.5	2.5

60

[cont] 96

Larva sans curled spirally on back of leaves of  
*Cornus alternifolia* Jefferson Highlands, N.H. July  
 30 1895. 3 preparations. Feet 6-13. Very many  
 on one bush, the leaves half eaten off it.

<sup>VIII</sup>  
 Hds 2.5 mm but small for body, lower than  
 2, all black slightly w scarcely shining.  
 2 ant. s-v, vertex and feet to 13 orange yellow  
 dorsum to spiracles olivaceous black, annulet  
 2 in middle, except lat. and white of annulet  
 4 to the s-v color pale greenish gray both  
 interrupted by the olivaceous d. vessel. Seps  
 6 annulate, the 2<sup>d</sup> & 4<sup>th</sup> with minute setae  
 Anal plate black darker than dorsal mark.  
 The feet spreading, pale yellow, not very large  
 Abd. feet all well developed. Body large 2  
 gradually tapering past end of 13 rather  
 truncate (apex sloping from middle of 13  
 to anal plate) Length about 25 mm, width 4  
 The pale d. bands contain fat granules. In  
 some they are broader and too dark



markings somewhat diffuse and pale.  
Small ones hd. 1.2 shiny black, 2 ant  
s-v & feet pale yellow, dorsum solid pale  
olivaceous without marks, slightly shiny,  
annulations obscure. Anal pl. dark length 12.

IV 1.0 brownish eye black, or darker shade  
a outside of lobes. Body whitish, the feet  
green anal black brownish, feet colorless.

V 0.6 Hd brownish a black shade up from  
black eye. Body whitish, subtranslucent white  
no marks, feet green in thorax more yellowish  
feet. Seps fine annulations. Body shape much  
as in next. no marks, even a anal pl. 24.5

On egg leaf with rest of club beds. <sup>I. 5 ±</sup> <sup>marked with a number</sup> <sup>and esp. s. = shade of</sup> <sup>marking</sup> <sup>of</sup> <sup>the</sup> <sup>eggs</sup> <sup>is</sup> <sup>marked</sup> <sup>down</sup> <sup>with</sup> <sup>the</sup> <sup>number</sup> <sup>of</sup> <sup>eggs</sup>  
Egg under lower epidermis saved through  
film above. Close to midrib in a long  
line, the cells imbricated. On edge of swelling  
on midrib or long vein the other 11 and narrow  
composed of numerous indentations. Width 1 mm  
length 4-30 mm according to number of eggs  
Puncture .8 mm apart.

marked down with the number of eggs

~~VI~~ (beyond) beyond same as in last step ex-  
cept that the d. pale annulations are light  
blue instead of greenish gray, the black  
is bluish rather than olivaceous and the  
skin is very slight more shiny. Hd  
2.4. sh. hd 2.5 mm.

HD 1.6 (Sh hd 1.2) shiny black. 2 ant & s-v. pale  
yellow, d. with a blackish  $\square$  on each seg.  
on whitish ground; i.e. marked as in next.  
but color of pale parts of dorsum nearly like  
side so to appear as the ground color.

Another hd 1.6 (older) dorsum shaded with gray-blue  
so just like mature but marks fainter.

VII Stage hd 2.0 Like next step but marks a little  
fainter, though not fainter than some mature  
examples. Distinctly brighter than 1.6 stage. Length 19

III 6 marked Aug 4 (da. 75-8 mm dark blackish brown  
eye black, as before no marks. Length 11.5 mm

Stage IX bred in next, entering the ends of strokes  
or board, with abundant saw dust.

Out June 30 1896 H. tarsator



6P=M

Allied to M and 4J as Cornus pumicata or stolonifera Jefferson Highlands N.H. Aug 1 1895. Head on vertex, straight, the feet slightly spreading, abd. 6-11, 13. Very enlarged with d. & lat., or on abdomen flattened. Body gradually tapering post, 13 rounded. Hd moderate length, wider than 2 w 2 annuli whitish caramel, eye black. Segs smooth annulate, apertures indented, 6 annulate all wavy whitish. Anus dark, a series of fine green granules bordering anal vessel widening on the thorax into a 3 lobed patch the largest on 2 with clear center. An orange shade in 11. Feet colorless. No food seen (empty?) except a brown mass in 12.

(=M. The Cornus was under an Arundo-canadensis)

Out 96

Out Apr 16 1896

6Q

M. mixta MacG

6CA. July 15 on Urtica species Hd. 8 all whitish slight brown, eye black, no marks. Body immaculate, food coloring it, no marks well annulate.

Hd. 6 Same. molt July 25 Hd. 75 no marks = 6CA

July 31 Hd. 1.2 A blackish red shade. No marks on head. No anal spot.

Hd 1.8 July 21 Reddish on vertex, no marks eye black. Body greenish wavy. 7-annulate no marks. Another Aug. 4. Same but dark, red shade defining d. color above spiracles and it appears darker from food.

July 23 (Sewing jacket) Like 6C

6QA Hd 1.4 Same but besides black lat line all of dorsum shaded blackish, 13 pale with faint dark cloud on anal plate.

S-V wavy white Hd pale, orange cloud vertex.

Aug 11 empty annulate blackish in folds, a pale d. line and dividing d shade (msh. hd)

Aug 12 (Sewing jacket) all pale creamed, shiny like 6C



6R

Solitary edge eater on yellow birch, seems not  
 much same as any described (cf 3E etc)  
 Feet 6-11, 13, no prongs, anal plate evenly  
 rounded. Hd pale brown with a brighter  
 brown shade up from eye and narrowing  
 in median suture at apex; eye black  
 w. 1.0 mm. Body smooth, indented or  
 obsolete annulate, clear pale green  
 without marks. Nocheal line narrow  
 spiracles dark. Edges of d-vecel whitish.  
 Aug 11 Hd 1.3 (=5I with crimson tip) hd pale  
 greenish dusky brown dotted, a dark shade in  
 m. suture at vertex, eye black. Body clear  
 green, d-vecel a double yellow line 2-12  
 with 3 lines on 13 against black faces.  
 Nocheal distinct; this feet blackish at base.  
 No anal prongs.  
 Molt Aug 13 Hd 1.45 green brown up eye, black  
 shade in vertex suture. Body same.

Aug 18 near uniform emerald green, marks on body  
 nearly gone but not gone.  
 Fly rotted in can. Seems to be 5I

6S

Like L but whitish, gregarious on yellow birch  
 Jeff. High, N.Y. Aug 19 1895. Sh. hds 1.2 black  
 Hd 1.5 shiny black. Sit on edge & on back  
 Feet 6-12, 13, small on 12. Seps very indistinct  
 6-annulate, on 2d & 4th small conations  
 a slight yellowish tubercle each with one  
 seta. Body sodid white, faintly greenish  
 a black s-d line, distinct, even, 3-12  
 a pair of short conic black anal spines  
 S-v folds marked with 2 rows of black  
 dashes. Tho. feet black, paler at joints.  
 Hd 1.8 Same but body faintly ochraceous shaded  
 in the sodid white and black anal  
 line connects the s-d. lines. The s-v streak  
 form 2 broken lines on the two s-v folds.  
 (See eleven sent more Sept 9 1897 but  
 all dead or nearly so on arrival)



6T

On Carex near summit Mt. Washington N.H.  
Aug 22 1895. Feet 6-11 edge eaten.  
Hd round, shiny testaceous, eye black. 1.3  
Body pink caramel a broad adducal and  
stig. white band, the former edges of d.  
veined & filled in by blackish vessel,  
the latter edged above by a blackish  
shade. All run from 2 and last are lost  
on 13, the pen. showing as a dark shade  
Body slightly shiny segs indistinctly about  
5-annulate. Feet conspicuous.

Parry's March 21 1896

vernatus extensicornis

but hairy as all the Mt. Wash-  
ington ones are (Marlatt)

June 6th on buckeye Mt Lee. Hds large black  
spotted and mottled with pale, dark black  
but with less ground ending pale.

6VA on white oak. Hd. & thor. feet black  
w. .6 Body colorless tubercles on first 2 black  
sheds for ground May 28 Hd. 5. Probably = 4N  
June Hds black & brown mixed

molt Aug 25 Hds showed blackish .8, the feet  
nearly colorless. next day Hds. shiny black except apex  
of abd. feet blackish. molt May 27 Hd 1.2 annulate with  
fine setae. Hd pale with waxy, a black patch in sutura  
and up from eye color. May 28 all Hds 1.0-1.2 pale brown tinged,  
dotted patches. 28 11<sup>h</sup> 6 U Lugger clay adalis (7-8 mm)  
ultimate stage May 30 etc very changed

Like Acordulea dorsalis but head black. On  
a very young leaver of <sup>1st inst</sup> buckeye, found on new  
shoots from a stump, Mt Lee, Sept 3, 1895.  
Head shiny black, a little paler around  
mouth. w. 1.2 mm Body stiff, plump, abd  
feet rudimentary and used, 5-8 edge fluted  
fine setae from concolorous tubercle. Color  
pale green, shading into waxy color  
at end of 13, tubercle hair whitish, the  
feet strong, colorless with dark hook.

Segs not annulate, slightly 2-ridged when  
the tubercle are. Abd feet represents 6-11  
Hd. finely pilose Length 9 mm. Eat down  
the whole leaf between the vein. Sit on back  
flat on venter up by the feet.

Molt for ground Hd & tubercles smoky blackish  
Body green, slightly waxy but not shiny  
shrubber somewhat. Annul. pl. & feet  
also faintly smoky like head.

Spun little white cocoons  
Nov on buckeye Mt Lee May 24 1896 Hds 4, 6 Red,  
colorless for green, the feet shiny black.



(cf 6R, 5I-etc) 6V = 5I = 3M

Edge eater on high bush bucklesberry, Fort Lee, N.Y. Sept. 3 1895. Feet. 6-11. Hd pale testaceous greenish, a brown shade eye to vertex a darker one in sutures spreading on  $\Delta$  w. 1.3 mm Body clear green, rather dark d. vessel a distinct black band edged with a broad green stripe of fat granules which fade off to near lat. areas not forming a mark but blending into ground color. On 13 d & sd fat stripe the end on 13 solid, filled with green fat. Seps. rather distinctly 6-annulate 5 or folds black dotted. The feet faintly brownish. Curbs the end of both ann. or less underneath. Tracheal line yellowish.

Hy Apr 16 1896 = Pristiphora tibialis

Another from Fort Lee Aug 15 1897 Same

more also found in same place

Calc. .42 .60 .84 1.2 1.7 2.4 rest .7  
Feet .4 .75 1.2 1.6 2.1

Heurichia phytophagica n. sp.  
7A

Solitary edge eater on young leaves of white oak, Van Cortlandt Park, May 9 1896. Seen in stage I. Hd round shining black-brown, .4 mm Body lusterless blackish, 6 annulate, with two rows of short blunt pale glandular points, annulets 2 & 4, about 6 on each side. Tracheal line pale; feet 6-13. Many short pale setae on head. Eat whole leaf on edge. Nov 11 May 11 Hd .75 Pale, faintly brownish eye black, a very faint dark vertical streak of fine eye. Body whitish translucent colored by food, the points blunt, fleshy, beaded tipped. Still eating on edge. Nov 11 May 11 (P. h. d. e.) number 1.6  $\pm$  Veg pale brownish eye small black, must be shining. Body translucent waxy white not shiny, 6 annulate, minute white points on 2 & 4th. No marks. Tracheal line white. Incessant feeding. Can curl when at rest. Food not too conspicuous.



This is very near F and came badly mixed with FA. The lateral spot is remaining of F's lat. band, and the ant. patch in sv fold is not of the s-v patches of F.

[Very like 6 F g.v.] <sup>white</sup> had May 17  
Found on oak Bronx Park May 22 1897. Eat something like F leaving residue, but none seen on tree branch. Solitary edge eaters.  
Stage Hd. 1.6 pale caramel brown eye small black mouth brown. Body moderate translucent dull whitish with a tinge of yellowish & green, the folds of skin whitish. Seg 6 annulate, joint obsolete, not seen less traces of with 1/2 in obj. No marks in a small black patch lat. on 3 annulate and smooth on ant. sv. fold more or less distinct. Nucleus very evident! Point pale, in one distinctly indicated by dusky dots. Spiracle on 2 ann.

Stage Hd 2.1 pale caramel, fine brown dots, eye black. Body 6 annulate, smooth no joints seen 1/2 in obj., then stained uniformly green from blood dorsal vessel dark, outlined by a light green fat, not contrasting strongly with the other green but the vessel distinctly dark. A black patch on ant. s-v fold and somewhat another laterally. Tracheae evident their ramification with up mean to dorsal vessel. The feet pale. ant. feet smooth. Scarcely shiny at all. Abd. feet small 6-13 very green, differing markedly from stage before.

In ground May 24 same but shiny. No other hds.  
Another Belpart 2.3 June 6 1897 black dot distinct on dors. on s-d annulate of 2-5, one ant s-v on 3 and one on base each thoracic foot. Hd brown eye narrowly black. Seg 6 annulate. On white oak. Paired dusky transverse patch in annulet 1.  
Ant March 27 1898

more on white oak Bronx Park May 22 1897  
Numerous but solitary on either side of leaf after at edge, all green. Body uniformly colored from blood, only tracheae whitish. Legs very (one)  
7B

Flat on center, solitary on white oak, Van Cortlandt Park May 9 1896. Puncturing circular 1 mm holes scattered on upper side Hd. 25 mm  
very pale brown eye black short pale setae. Body ground glass whitish, food brownish, all short colateral Y shaped spines, thick with short shafts 22 apparently arranged as late Hd 4 (just shedding) all colateral like body, eye black, mouth brown. Spine with long shaft and sharp recurved branches in long. plane X Seg. scarcely annulate. Thoracic feet large, abd. 6-12, 13.

May 11 hds. 6 shiny white shiny, eye black mouth brown in water. Body pale green, pinched from food, Y-spines rather short, all colateral whitish. Feet pale, thoracic scarcely brown tipped.  
Another just shed May 11 Hd. 8 same length 6 mm Body becomes darker green from food, but the blood is pale green. Anterior the s-v area

Jan 11 1898

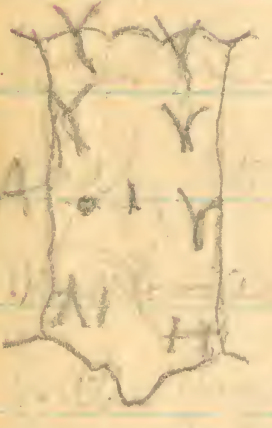


in distal annulets, spin short, arranged as  
in fig 7BA below, whitish. Hds. 1-4, 1.3, 1.4 very spotted.  
Another food tree, May 23, white oak, spins same lower leaf.

May 14 Hds 1.4 pale greenish white eye blackish  
mouth brown. Body green & spin short  
whitish. Entirely green, no marks, spin  
short & seen beneath, none dark  
tipped. Head immaculate. Segs obscurely  
4 annulate, spin in 2 & 3 annulets. L13mm

Emptying May 16. Still green little whitish  
May 16 Swimming jackets. Saw with, all  
not shiny greenish head & thorax  
emerald tinted, d. weed green.

Out March 25 1897  
Out March 26 1897



Solitary on white oak, Pelham  
Mass. May 18. 1897. Head  
with a black patch in D, eye black  
no marks, all spin pale. Hd 1mm

Spin as in E (1896) + a single one behind  
spiracle. May 19 Hds 1.2 all green, w/ thin  
pale brown dots in spaces. Spin same, all pale.  
Eat circular holes in body of leaf.

May 23 Hds 1.4 all pale no black marks  
Othmanic seen. Spin 3 or 4 on tracheal lines  
3rd 3rd below it. Emptying May 24  
One at Brookline L.S. June 7 1897

Position of spin on 2nd annulets or above  
unless trifid. ~~Another TB~~ ~~Another TB~~ ~~Another TB~~  
Another TB ~~Another TB~~ ~~Another TB~~ ~~Another TB~~  
June 7 1897

7C Out April 5 1897

Probably a var. of 4N. Like 4N in shape,  
body inflated, unused tiny abd feet 6-11, 13  
Hd 8 greenish a black patch in D and  
more brownish bands up from eye meeting  
at vertex. Body pale green, feet showing  
darker (not colorless). 2 trans. rows of black  
piliferous dots per seg. large and distinct  
on thorax, smaller post, on the last seg.  
only visible with lens. Tho feet colorless  
spreading. 2 larvae found on suture on  
fresh leaves. Black oak on under side  
eating whole leaf. Van Cortlandt May 20.

Ultimate May 21 Head dusky, thorax emerald body  
yellowish. Tubercles pale, tarry or heavily ringed  
Another A lot (22) Fox Lee May 25. Hds 5 black but  
2 pale patches at vertex post. Body colorless.  
Hds 6 pale at vertex except bands up suture  
Face black, Body colorless. Hds 8 colorless, except  
a black line in suture above eye and eye  
narrowly. Body colorless, food green tubercles  
on prothorax only marked with black.  
all the 22 alike! Thoracic feet pale on  
all, even the little ones. May 27 One ultimate  
stage had 8 spin on 8 in juv. Another had 1 spin on  
same! ~~Another TB~~ ~~Another TB~~ ~~Another TB~~ ~~Another TB~~  
June 7 1897



Cole. 35 .52 .79 1.19 1.8 2.7 Oct. 66  
 Found .6 .8 1.2 1.8 2.2

7D

Partly gregarious (all on one plant) large yellow saw  
 on young hickory, Fed. Hill, N.Y. May 22 1896.  
 Position like 3C, curled around part of a  
 leaf, thoracic feet small, scarcely used,  
 abd. 6-13, small. Hd rounded, not retracted,  
 proportional of small, antennae long, 5  
 jointed; hd shiny black, antennae & palpi  
 white ringed in joint; w. 2 mm Body eyes  
 distinctly 3-annulate, slight shining spot  
 yellow, a white watery fold of annulet.  
 C-sh. 1, two feet, a large patch on 13 ant. base  
 the anal segment (14) on its entire upper side  
 including the prominent swollen anal  
 prominence and the tubercles shiny black.  
 Tubercles rather large but only slightly ele-  
 vated, minutely piliferous, 2 from compe-  
 sig (annulet 102) and 2 spot on 3<sup>d</sup> annulet  
 behind spiracle. Very few spots S-V. Spiracle  
 small black basally, there is a small  
 extra annulet before 1. A faint blackish  
 shade between the uppermost tubercles.  
 One or two more 2.2. 1.2. 1.1. 1.1.

3 dead pupae (!) Apr. 23 1898 *Megaxyela*  
 sp. near *major* Cress. but too poor.

sometimes distinct.



Skin and all  
 black marks smooth and shiny  
 abd. feet without any hooks, small.

One went down in ground as soon as brought home  
 Egg trace indicated but appear to have been laid  
 near the top of the very young leaf under the  
 upper epidermis close to and on midrib.  
 Perianal warts black ringed, pale on top, setiferous  
 in a few threads on  
 at side of a leaf.  
 very Lyda-like  
 May 22 1897. Same  
 hd 1.2. One shed  
 2.2 - Ash hd 1.6 -  
 May 25 1897 Hd .6 mm  
 of whitish yellow, black  
 eye cut an irregular  
 area or no side of  
 separated & brownish  
 or a little swollen &  
 distinct cut left.  
 black elevated anal tubercle, not  
 c-sh. mark. Body yellow with  
 black. May 29 Hd 1.8 same  
 type 2 spots of 3<sup>d</sup> annulet  
 2. (sh. hd. 1.25 mm)  
 the mark & anal spot present

Ant  
 Cambridge  
 Entomological Club  
 Harris.

her yellow; retf  
 height .6 mm.  
 ous.  
 rk; joints 4 to 6  
 ax four setae on the  
 the subventral bub-  
 ta from ia, a very  
 of the thorax. On  
 from iv and v, two

shiny



Calc.	.35	.52	.77	1.09	1.8	2.7	rat. 66
Found		.6	.8	1.2	1.8	2.2	

7D

Partly gregarious (all on one plant) large yellow saws on young hickory, 1st. Feb. 9. May 22 1896. Position like 3C, curled around part of a leaf, thoracic feet small, scarcely used, abd. 6-13, small. Hd rounded, not retracted, proportional of small, antennae long, 5 jointed; hd shiny black, antennae & palpi white ringed in joint; w. 2 mm Body eyes distinctly 3-annulate, bright shining opaque yellow, a little warty & fold of annulets. Csh. 1-3, two feet, a large patch on 13 ant. base the anal segment (14) on its entire upper side including the prominent swollen anal prominence and the tubercle shiny black. Tubercles rather large but only slightly elevated, minutely perforated, 2 from 1st seg (annulets 1 & 2) and 2 spots on 3rd annulet behind spiracle. Very few spots S-V. Spiracle small black. Basally there is a small extra annuleted defec. & faint blackish shade between the uppermost tubercles.

3 dead pupae (!) Apr. 23 1898 *Megaxyela* sp. near *major* Cress. but too poor.

sometimes distinct.



Skin and all black marks smooth and shiny. Abdominal feet without any hooks, small.

One went down in ground as soon as brought home. Egg traces indicated but appear to have been laid near the top of the very young leaf under the upper epidermis close to and on midrib. Paranal wants black rings, pale on top, setiferous.

[Both 7D and 3C can spin a few threads as they can walk over flat side of a leaf. They were over them very Lyda-like.]

June at Kewy Park N.Y. May 22 1897. Same. Hds. .8, 1.8. One shed, hd 1.2. One shed May 24 (sh hd 1.8) now hd 2.2 - Ash hd 1.6 -

Many at Bedford Park May 25 1897. Hd .6 mm black long antennae. Body whitish yellow, black spot distinct as on fig. Egg cut on irregular somewhat distorted, yellowish area on one side of midrib, upper epidermis pale separated & brownish in area of head. 5 mm. Lower a little swollen & yellowish in this spot. no distinct cut left. May 26 hd .8 same (sh hd .6) black distinct and white, not no spots preceding it and no csh mark. Hd yellow with black tubercles as fig. Head black. May 29 Hd 1.8 same no black spot 13 ant but upper 2 spots of 3rd annulet joined, also ant spots on 2. (sh hd. 1.25 mm) Shed May 30 Hd 2.2 (sh hd 1.8) csh mark & anal spot present



Egg saved from edge between  
epidermis of young hickory  
elliptical slightly swollen 6 x 1 mm  
the spot blackened over and just  
brown egg to margin black

Hatched May 12 1897 Hd round shiny black  
3 w. 35 w. feet 6-11, 13 very small, flaps  
w/ body all colorless than feet black  
post covered by grass which



Cambridge Entomological Club  
14N  
16C

Paris.

Setae  
yellow; rest  
white. .6 mm. 1.2  
1.2

ous.

4 to 6  
setae on the  
8

subventral  
bub-  
very  
4  
On

From IV and V, 3



Oct Apr 1 1897

7E (Packard p. 317; no name)

Y-shaped flat on venter on upper side of young  
hickory, Fort Lee N.J., May 23 1896 (shd. 7)

Hds 1 mm, shiny greenish whitish, eye in  
black spot. Body green, faintly 5 annulate  
with 2 trans. rows of short spines, all  
whitish uniform, on 2<sup>d</sup> and 4<sup>th</sup> annulets

Feet on 6-12, 13 Thoracic feet  
colobous. Length 12 mm. Head  
vessel dark green. No marks at all  
3 spines on 2<sup>d</sup> & 4<sup>th</sup> annulets, 1 on 3<sup>d</sup> superior, 2  
on each division of e-v fold. Only appears with Y.

May 24 (shd. hd 1.0) hd brown no change. Hd and  
thoracic feet seem grayer. Body less shiny  
and spines larger, because less filled out.

Shiny packed May 25 Hd 1.2 + Swollen, very  
scarcely shiny, all pale whitish green  
d. vessel dark. Segs indistinct 3 annulate.

L. 11 mm. Hd same color, eye black.

Found one on white oak May 25. } see 7B  
Like 3T but blue green, d. vessel not contrasting  
(3T yellowish green, fatty dorsally, d. vessel dark)  
Y-spines shorter, esp. the limbs, in 7E than in 3T

Cule	24	.34	.48	.69	.98	1.4	not 70
Found		.35	.57	.7	.95-1.0	1.3-1.4	

7F

Swollen curled leaves of Populus tremuloides.  
Egg under brown epidermis near edge, not  
far from petiole. Little spotted punctured  
on under side  $\frac{3}{4}$  way to apex apparently  
before leaf full grown. These are slightly  
swollen, discolored, pale & as a result the  
outer  $\frac{1}{4}$  of leaf folds back, neatly lining  
the surface, leaving a hollow for larva.  
Some punct at borders, but when found the  
larvae ate whole leaf at apex, emerging  
from and returning to the borders.

Hd very pale brown, dotted shiny, eye round  
black, <sup>large jaws black</sup> mouth dark. Body shiny, branched  
slightly yellowish, tinged with green from  
from the feet. Segs 4 annulate, 4<sup>th</sup> small 3  
rows of fine but rather long colobous setae  
on 1-3 annulets. Tho feet rather large, colobous  
abd. small 6-11, 13 colobous, short blunt  
rather thick anal prongs, also colobous.

No marks, and the head is pale brown.  
Larva ate and returned at once to its

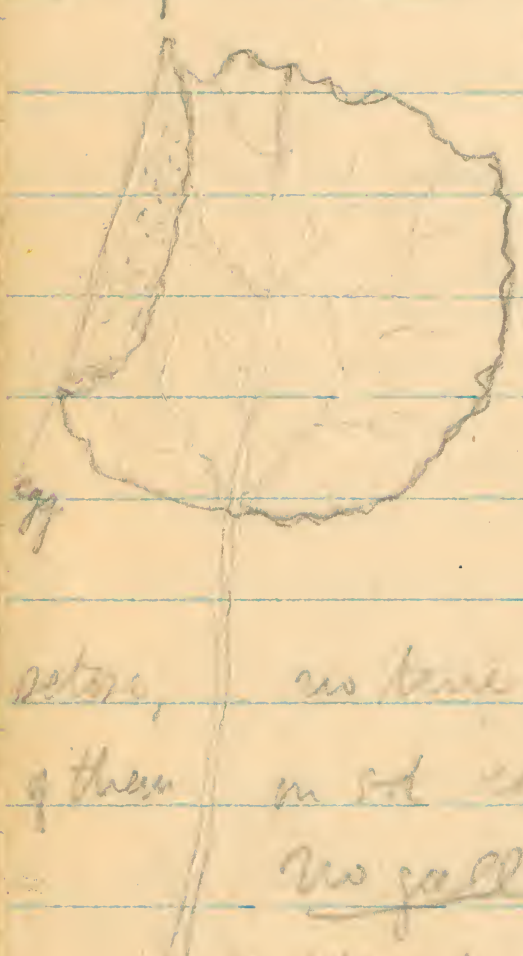


May 15 Hd 5 pale brown eye black around, brown  
 of slender, colorless, translucent segs irregularly 3 annulate  
 not not projecting, setae whitish, very obscure. Anal seg annulate  
 surcher, pump short. Feet 6-11, 13.

house. Body curled from a little at one  
 side of leaf, but good edge eaten.

Can walk vigorously when house opened  
 Hds <sup>1.4</sup> 1.3 ± <sup>apex cut</sup> 1.0, Hd. 7 Same house but no apex  
 cut, only little pump around edge and patch  
 at apex. (at one 1/3 of leaf eaten, hd 1.4

a thin one hd 1.0 still pumping, came out of  
 back door (near petiole). Can rasp with  
 pump while in the houses. Just shed hd 1.3 (sh hd .95)



May 27 One wallowing, hd 1.4 ±  
 brown, jaws, eyes black, large  
 for body. Body all pale  
 emerald green (without lens)

Head to enter ground when part  
 cut. Anal flap finely

setae, no large pumps but slight rudiments  
 of them on sd edge of flap colored brownish.  
 No gall

above on each  
 annulate white

And March 26 1897 8 eggs

None at Fox Lee May 9. Good folded houses on the young  
 tender leaves, but nothing in them but eggs under  
 epidermis white elliptical 4 x 2 mm. Hatched May 10  
 Hd .35 a bit all whitish to green, body transparent  
 hd shiny, hd len 20, in 1st seg 3 annulate, setae fine  
 anal pumps brown, colorless. The feet small 6-11

June 7 Galls 11 x 9 x 6 a little. Larger than last week  
 Larvae are larger, burrowing down toward the base.  
 June 13 Hd 1.0, length 5.5 pale sloped, brownish a dark spot  
 around black eye and in apex. Body brown, tubercles faint  
 scarcely watery. Waxy whitish, slightly smoky in the annulate.  
 Galls in wood June 15 7 G Calc .24 .34 .49 .7 1.0 7/10

Nematodes salices-pomum? in galls on willow  
 Fox Lee N.J. May 31 1896

Larva hd faint bluish <sup>mottled</sup> eye black; <sup>faint brown</sup> body  
 whitish, rather opaque, no warts, tubercles  
 watery in 3 rows per seg. obscurely setiferous  
 with fine pale setae. Feet pale, thoracic  
 rather large, abd moderate 6-12, 13

width head .5 a tiny shed hd. in the gall .35  
 Gall on under side, usually 1 on a leaf, sessile

Round or elliptical (11 x leaf) smooth or with  
 a few little bumpy nodules, green with  
 a red bluish on one side <sup>6-8 high diam.</sup> 5 x 6 - 7 x 9 mm diam.

On upper side of leaf a level fleshy area  
 of same color as gall. Leaf scarcely at  
 all distorted, Rarely gall projects a  
 little on upper side as well as lower.

usually one side of  
 midrib toward base.

Larva June 7 Hd .7 pale whitish, other more brown.  
 Gall is thick, fleshy, hard to cut with  
 dull knife. Shell 1.5-2 mm thick.



slight oblique concave granular areas precede the  
 pair of short dark, anal spines. Marks on broad part  
 (4) all absent. Hd very pale brown no marks. Body colorless  
 (5) all Hd all pale brown 1.0 long, anal 3 white, scanty  
 anal spines. 2 dark brown concave patches, dark tips  
 anal spines. (4) Hd 7 with 7 H then dark brown patches, also  
 the anal spines (4) Hd 7 pale brown eye  
 black; Hd 7 pale brown eye black; Hd 7 pale brown eye black

falls on *Populus grandidentata* Feb 7/96

N.J. May 31. 1896 (base or all parasites)

Several head shed heads, only 1 in dead leaf

(4) Hd 65 length 5.5 mm. Hd brownish

shaded dark blackish brown, a darker

patch in the leaving a paper minute mark

over and above mouth, eye black. Body

(discolored) indistinct annulate with short

pub setae. The feet moderate colorless

and indistinguishable except on 12, or are

they the slight bumps on 6-11. No marks

well a low irregular swelling on upper

side of leaf, the main by veins enlarged

and tending to curl backward, rolling

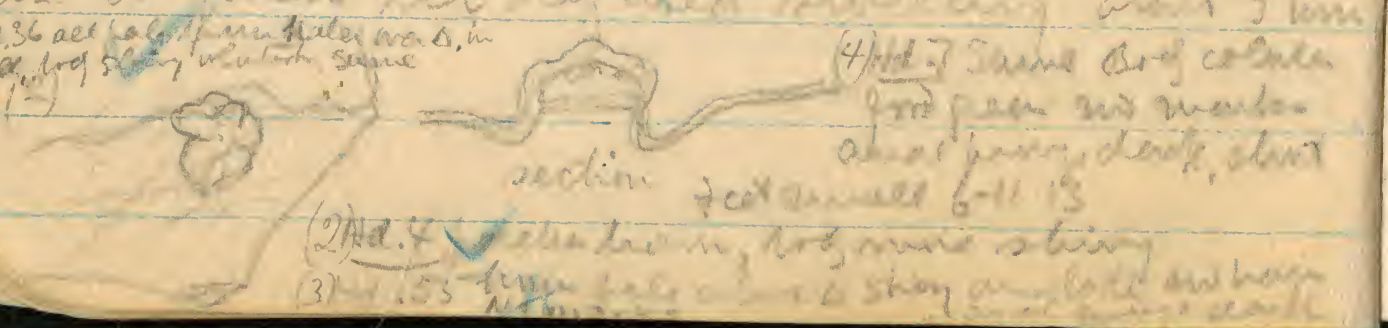
the leaf. Under side thin, flat or

irregularly raised; above scarcely much

thickened but folded up green. If yellowish

an irregular ill defined swelling about 5 mm

Hd 36 all pale brown, anal spines 3 white, scanty  
 anal spines. 2 dark brown concave patches, dark tips  
 anal spines. (4) Hd 7 with 7 H then dark brown patches, also  
 the anal spines (4) Hd 7 pale brown eye black; Hd 7 pale brown eye black



Cellc.	.20	.29	.41	.59	.84	1.2	rat. .70
formed	.25±	.3	.4	.6	1.0-1.2±		
	.14	.24	.4	.66		1.1	rat. .6
			7 I				

Habits of 7F but on smooth willow, the dorsal

folded bases larger on the narrow leaves

25-40 mm long and about 1/4 of the leaf

folded backward, reaching midrib. Folded

part at angle slightly swollen and yellowish

evidently caused by little scattered purple

patches on the under side.

Hd 1.2 mm (comes out sharp and cuts

whole leaf.) Hd pale brown darker

eye black. The feet rather large

colorless and moderate 6-11 13.

Body translucent green from food

and slightly so from food. Anal

leaf, dorsal, rounded, marked

with a large deep black sd patch. Points

undermentary, dark. Inachaeae evident

Hd 3 Anal groups short black.

On young leaf forming horse fall

formed but leaf not yet size. Hd shiny

dark blackish brown, eye black. Body colorless

foot green Hd 25± Same but small, colorless  
 paler than above, brownish, and black.



7I On *Populus grandidentata* just for June 7. Same  
 but hds 1.3-1.4, the 2 anal patches small, adjacent  
 to the pumps. Shed June 9 Hd 1.6 Same (sh hd 1.4) One down  
 June 12 like 7I Hd seems 1.3±

whitish, no food in al. canal sitting by egg &  
 slit. No pump yet a good well folded  
 house, the leaf smaller between veins,  
 younger leaf. Egg slit under lower epi-  
 dermis half way between midrib & margin  
 Molt June 3 Hd .4 brown black paler than before  
 Body same but anal end black from face  
 intensified & the sd black patch which  
 is now present. Pumps short, blunt, black.  
 (Emerald, blackish streaked on the coarser anast  
 food gone, otherwise same. In ground June 4)  
 June 5 Hd .6 pale brown dotted over below & dark  
 brown tuberculate patch in a eye spot. Egg in-  
 distinct of annulate rather coarse, 2 ridged  
 showing on the outline, on the sides only single  
 ridged; tubercles inconspicuous, setae fine pale.  
 sd anal black patches preceded by a narrow  
 transverse band. anal point black. Red greenish  
 June 7 Hd 1.0 (sh hd 6) like 7I Hd pale brown spot less  
 anal spots preceded by a pair of sd dots.  
 later spots rather small.

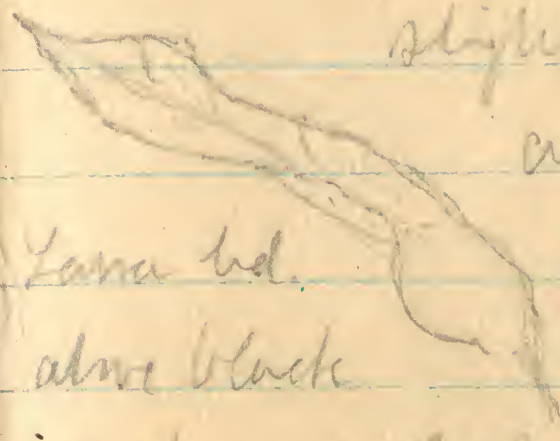
Out March 31 1897 *Pontania pallicornis*!

7I on *Salix*  
*sericea*, *plattinifolia*  
 Aug. 24 1897

desc with 7Q

7J [See 7Q.]

Galls on smooth <sup>slightly</sup> hairy backed willow at  
 Van Cortlandt Park. June 2 1896. Very like  
 7G but about equally divided between  
 surfaces of leaf, flat or arcuate globose  
 3 1/2 - 8 mm diameter but outline more  
 uniform about a circle of 7 mm. Summit  
 w. white slight hairy dots, green only  
 slightly red tinted, less red  
 and less hairy dotted than 7G



Larva hd. .55 mm, brown & white, vertex  
 above black eye smoky blackish,  
 jaws brown. Body opaque white, rather  
 densely finely pilose. Thoracic feet quite  
 large, feet 6, 11, 13 but small. Anal end  
 obliquely sloping, dusky shaded d. on 13.  
 No pumps. Can wrack vigorously up & down.  
 June 3 Hd .7 same hd dotted above. Anal end  
 round pointed d. view V with a few tiny  
 dark spots. All body opaque white  
 Galls in thin shelled, hard, not fleshy  
 cut with a steel knife. Shell .5 mm



small Hd. 55 pale a blackish streak in  $\Delta$   
 and up from this as well as from eyes  
 body whitish obsolete, 3 annulets, tubercles  
 slightly shining, setae fine. Head setiform  
 body whitish, no markings; feet moderate  
 talls all black, larva bred in wood unless  
 I am mistaken (June 13)

Next loc. = 7K

Out of May 6 1897. Probably *gracilis* but  
 smoked up and yellow not clear.

Calc.	.19	.27	.39	.56	.80	1.14	rat. 7
Found		.3	.4	.55	.8		

7K

allied to 7I on smooth willow, Vancouver  
 Park, June 1896. Eggs deposited under lower  
 epidermis forming a small gull like  
 swelling on top of 7H but less pronounced.  
 A green hump on upper surface, below a thin  
 skin, not swollen but slightly yellowish,  
 the leaf rolls over tightly in a close coil  
 to ten whole turns finally as far as the  
 midrib, from to the whole side of the  
 leaf being involved. Little larva in the  
 gull, but soon out of it resting in the rolled  
 part. <sup>(a sh. larva?)</sup> ~~See gull~~ Hd. 3 pale brownish, eye black  
 Body all whitish, feet a narrow green line,  
 slightly shining, annulets, the feet first size.  
 In 4 of Hd. 5 full shining black except just  
 around mouth where pale a little pale  
 also on antennae. Body shining, no distinct setae  
 whatever, tubercles several indistinct, irregular  
 4-5 annulets, feet 5-11, 13. Body whitish,  
 slightly opaque, feet green and whole



stage 40 Hd. & anal flap shiny black. Body  
whitish, slightly shiny, annulate.

of top of anal flap black. Anal  
prongs short but evident, black.

or 55 (June 5)

Hd. 6 Same tubercle rather distinct on prothorax  
concolorous. Blackish anal segment above  
preceded by slight dotting. Prongs black.

Hd. 80 (sl. hd. 55) S-V outline double fluted on  
abd. single on thorax, seg. indistinct 3 an-  
nulate. Hd. pale in anterior basal, a large  
black patch on each lobe and 2 in  
clypeus, eye also black, annulate brown.

Body annulate, smooth, not shiny  
whitish with slight yellow-green tint,  
for green, anal end concolorous, no  
patch at all, prongs absent or so  
rudimentary as to be invisible.

Feet 6-11, 13. Setae fine obscure.

June 7 Hd. 8 Same body entirely green  
dusky streaked on annulets, except  
emerald, without markings on shell hd.

Traces of prongs short, brown tipped.  
Barely extensive, not eating whole leaf.

Dead June 22 1896

See 10D

7L

Sf. for ground supposed to have come off  
Hd. hornbeam, England, N.J. June 7 1896  
Feet 6-11, 13; hd. 1.6 ± testaceous, pale, a  
black patch at vertex eye black. Body  
all green, hairy on the folds, annulate,  
not shiny; no markings, 4 annulate,  
no setae

Imago June 24 1896



Calc.	.25	.35	.50	.72	1.03	1.47	2.1	$\frac{7}{10}$
Found		.33	.50	.75	1.1	1.5	2.1	

7M

Like 2E but no black area <sup>plenty</sup> white meal goes to end of the flap.

On Cornus Greenwood Lake, W. J. June 21

1896. Eggs 3 side of side under lower epid.

Laid from above, a short row means 11 to side vein. <sup>000</sup> 1.5 x .8 bulging up leaf, faint yellowish with green central area

Hd 2.1 black gently mealy except eye & mouth. Body coarsely 6-annulate, <sup>thorax slightly enlarged</sup> mealy to short woolly to and including 5<sup>th</sup> fold; no marks at all; feet 6-13. When fresh on annulets small watery glandular areas.

Id 1.8 same Id 1.1 same, food shows more.

Hd III black, mealy out, in a band across between the eyes. Body yellow, well mealy.

Id 1.5 (Pultivate) black, yellow below eye no bloom. Body shiny 5<sup>th</sup> fold, venter ochre yellow, dorsal blue-gray, marked with leaden black on annulets 1, 3, 5-6

sd and on all the annulets laterally leaving a d. and sd line of ground on.

nected by annulet 2 and 4. The lower end of this d. color is incised before spinous by the upper yellow 5<sup>th</sup> fold. Feet all pale. Egg hatched by a little hole in blister towards one end. Hds .33 pale brown, eye black, body curled whitish, of a greenish, without horn. Food green in the slightly enlarged thorax, as they have just eaten.

(Should 1.8 instead of 2.1 when got last stage!)

Id June 28 & 29 Hds 4+ or rather 5 (second measurement) pale, dark brownish over vertex eye black. Body annulate colorless or greenish from food, mealy white. Not mealy in stage I. Molt July 1, Hd .75 w. 7 black. Body same.

Card. brown 1896

*Harpiophora vesicolor* West



More Chain Bridge, Va. June 25-1899  
Out June 4 1900 Homocidura n sp

7N.

*Impatiens fulva*

Curled on back of leaves of jewel weed  
tail in the air in center of curl. Green-  
wood Lake, N. J. June 21 1896. <sup>also rarely</sup> in Central Park  
Head white, with slight bloom, eye in a  
shiny black spot, a dusky blackish shade  
in a row fainter geminate one at vertex  
after gray, obscure, some fine pile. Legs  
nearly flat 7 annulate smooth, gray  
to spiracle, s-v fold white, overlaid  
by a pretty, quite bloom, not a meal.  
Pants & feet colorless, feet 6-13; anal flap  
white colorless with s-v fold. No marks.  
When wet & masses up become transparent  
and look reddish green from food. Hd 1.5  
Hd .6 across but no vertical patch, legs all white  
Hd 1.1 faint vertical patch, body white.  
Hd .33 Hd pale, eye black, legs white, annulate, bloom.  
Ultimate June 30 Hd 1.5 whitish, tinged green, eye  
black, no marks. Body immaculate shiny green,  
nearly annulate, faint tarry brown in folds  
cylindrical, anal end slightly tapering. Impatiens

More Chain Bridge Va. June 25-1899  
Ericocampa juglandis Fitch

70

White long wolly on bitternut, Greenwood  
Lake N. J. June 21 1896. Head large, full at  
the vertex, shining watery mass of colorless  
a little yellowish, soon with a thick  
white bloom; eye black, mouth brown  
Body appears dark greenish or blackish  
gray, feet colorless, s-v fold has some  
nearly bloom, dorsum covered with long  
tufts of white down. Skin colorless, the  
color from within; tubercle lines distinct  
Feet 6-13. Down in long flattened masses  
2 dorsal, 25 d, 3 lateral the post. one lower  
Sd tufts larger than the d. (unpaired)  
May get 5 mm long, & curls a little.  
Hds 1.5 and 1.1 ± Hds 2.1 June 27 Same  
Body colorless, all dark from food. When under  
convexly & deeply, 6-annulate  
Ultimate Stage Hd 2.1 Perfectly smooth uniform  
caramel white (opaque grey, pale yellowish) hd  
shiny and a shade darker, eye black. Not  
annulate only in distinct trans. whitish  
distinct dark, as high as wide, thorax very little enlarged



Hols. also 1.0, .8 and .6 same, body without the dusky bands.

7P = 4F

Very common looking saws, flat on venter on young leaves of alder, solitary, do not curl though looking as if they might.

Eat holes in the young leaves only at the base of the bush in the shady part where the leaves are thin and buggy. <sup>Riverside Park, July 2, 1896</sup>

Hol 1.5 Rounded, corded white, occasionally granular; occ. shiny, a large black patch on venter and another on side of apex covering the brown ocellus; jaws brown. Thoracic feet small, abd. 6-13. Legs 6-annulate, not very strongly, yet quite regularly, a slight depression in middle of 2 ant. indicating sd angulation\*

Dull white, thorax greenish, narrow dorsal and narrow sub-sty. blackish bands. Anal plate small black. The 5-8 band (ant. 5) is broken & dotted. Stern fine granular (1/2 inch) smooth, not shiny, \*each marked by a pale dot.

\*Evidently = 4F Out Apr 23 1897 ♂

Calc. .24 34 49 .7 1.0  
5 .7 1.0

7Q

Galls on willow *Salix petiolata* from Dr. Lintner, Gouverneur N.Y. Galls like Marlatt's *Pantania gracilis*, not quite full size. Nearly spherical or a little elongated in direction of leaf, nearly evenly divided by leaf, projecting 1/2 its width beyond the leaf, singly, rarely two, situated near base to one side of midrib. Smooth, green, a few corky dots; very little red bluish if any. Size 7 to 10 mm (= 7J?)

Gall thin, large hollow, not at all fleshy. Larva Hol 1.0 seen pale brown, exp. black.

Body whitish, 3-annulate with warty tubercles on each, slightly shiny, not pilose. Distally a single small pointed blackish minute tip to anal plate. Pro. black, see venter of leaf. 9. venter greenish. Length 6 mm. Anal end pointed with a few dusky dots above. Larva when full water at, body all whitish ad. gray. Boled in wood.

*Pantania gracilis* 7Q



This same as S. abnormis Prw (5B)

7R = 5B

*Phygonemus leprosus*

*Stenophygaster* on large pointed leaved kind weed  
104<sup>th</sup> St & Riverside Drive, also 99<sup>th</sup> St and in  
Riverside Park, July 8 1896. Flut on venter  
nearly curled, mostly on under side but  
sometimes on upper. Suggest *S. pinguis* a  
little as s-v outline is roughened and  
larva sometimes a little serrate.  
not flattened; feet 6-13. Hd whitish, a  
light gray patch before apex of each lobe;  
a brownish patch in  $\Delta$ , eye black; hd seen  
to have very slight bloom. Segs 6-annulate  
soft deep green to spiracles, s-v pale  
whitish, contrasting, but not with green  
tint. Very distinct small white purple  
on 2<sup>d</sup>, 4<sup>th</sup> annulets, 2 on tracheal line and  
one on each s-v fold. s-v folds slightly an-  
nulate. Feet pale. Anal segment green  
like the rest, concolorous. Larva slender  
2 mm wide, 19 mm long; Hds. 1.5, 1.1  
Abdominal Hd whitish, a leaden blackish cap on vertex  
Body small green, uniform, annulate, no points.  
Bred in wood.

Calc. .23 .33 .47 .67 .95  $\sqrt{10}$   
.35 .95

7S

Galls on long smooth leaved  
tree in lawn, Bellport L. I.  
July 8 1896. Galls in all  
stages, not alike as usual!  
Many ones on young leaves to  
old ones with a hole in, even  
some turned brown. An



scattered, hiding in one.  
Usually singly, scattered, round,  
oval or as many as 8 in one leaf, as a  
rule remote from the petiole but sometimes  
near or adjoining it. Between the widest and  
margin, rarely reaching edge, never exceeding it.  
Elliptical with irregular surface especially  
below evenly divided by the leaf, usually  
green below, reddish or even brown & vitreous  
above, often blackish spotted 8x5x6 mm  
Some are very irregular below, grooved on  
one or both sides when crossed by the veinlet.  
Thick, succulent and watery rather than  
fleshy, cavity small, elliptical, at



maturity they are hollowed to ashell  
usually. Gall green inside.

Larva Hd. 35 round, shiny dusky blackish  
Body uniform light emerald green, 3 annulate  
minutely setiferous. Anal end slightly tapering,  
rounded. Thor feet large, abd very small,  
rudimentary 6-11, all emerald green like body

Hd from n. 95 leader blackish, anterior of  $\sigma$   
broadly pale, eye black. Body yellowish green,  
darker from al. canal, ill defined annulate  
3-annulate, ventral setiferous, no distinct  
tubercles. Anal end blunt rounded, brown  
dotted above. Feet moderate 6-11. Tracheal

Larva eats a hole and pushes out feces  
well before ready to leave gall, many cut  
gall remains whole, with part of leaf

line evident. The young gall grows up as an elliptical  
swelling, a deep hollow in the center on the  
upper side corresponding to the egg perforation  
or even a hole through leaf. Egg in the  $4\frac{1}{2} \times 2$

to one side of the hole  
Gall .6 x .2 mm irregular elliptical, smaller  
at one end, shiny translucent white.

Small horn combs, one in a gage, another between leaves.

2 flies Aug 5 1896 Evidently Pantonia byalina

7 T

Pinus rigida  
Saegurus on pitch pine, 3 mounted at Ralston  
July 19 1896. Hds 2 mm, round, lighter  
than wide smooth shiny brown black  
eyes black. Body slightly greenish white  
opaque. A broad regular sd gray shade  
line 2-13, rarely a narrow fainter d. one  
a row of  $\square$  black spots above stig line  
narrow on tracheae, broken & partially  
truncated by the annulets, 1 spot <sup>annulets 2-4</sup> per seg.  
3-12 and a large geminate scaly black  
anaval patch. Subventer white-venter  
marks. Thor feet black, <sup>except at joint</sup> abd 6-13. Rarely  
sd shade faint, but spots varying around  
these in many small. Sd band may  
not quite reach 2 and there is often  
a little black dot on it on 3. Segments  
6-annulate, 1, 2 & 4<sup>th</sup> annulets with a trans  
row of minute black points only seen with  
lens. When blown or held on by abd.  
feet and unblack w. thorax all at once



Stage before (shed Jul 21, came out = 7T)  
 3 larvae mixed in with the preceding  
 (7T) as if part of same brood. Hd 1.5-  
 blackish brown shiny. Body greenish  
 white, a little shiny, annulate  
 except for a faint dusky double  
 marginal cloud. 6-annulate with  
 minute points on 1, 2, 4. The feet  
 black abd 6-13

Ultimate stage. Hd reddish whitish, shaded  
 with black on vertex, eye black, w 2.2.  
 Body dull grayish s-v very yellowish  
 white, a double s. and hind lateral  
 anten. black shaded bands, cut by the  
 incisures. The feet faintly blackish  
 banded. Anal flap broadly waxy.

Imago Aug 9 1896

Ultimate pupa, all yellowish covered  
 but cocoon, 2 trans. smoky waxy bands on  
 each seg. dorsally. Thorax & 11-12 yellowish.

7U

Emergence on grape, sitting in a row and  
 eating down the leaf like *Harrisina*. Only  
 fresh in first stage. Hd. shiny black.  
 Body solid green with black joints.  
 Hd of second shiny black. Body solid  
 yellowish, but the whitest, the food showing  
 green. Seg. dorsal 5-annulate with a row of  
 rather short black tipped  
 simple joints, 3 and 2 above spiracle  
 than below of present. obscure. Dec 6-13

Aug 12 Hds 1.2 Spin. blacker, more distinct  
 than June 29 1897. Hds. black 5 mm. Body greenish  
 the small joints pale except at the ends.



July 11 Hd 1.2 (last stage) black.  
 Body greenish, shading yellow  
 thorax and 11-12, 5 black  
 thorax-like spin, a 6th fainter  
 and just trace of one spin on

each seg. fold. Could find none even with  
 1/2 in obj. Green mostly from food, d. band not  
 contrasting, a little scattered white fat  
 anal plate black. Hds 1.6 same



7V = 6E?

Recalling 6L and 6E but seem not like either, from Mrs Slosson Sept. 15 1896. On elder, Franconia N.H. Upper  $\frac{1}{2}$  head black, lower white. Body 7-annulate 2d, 4th with distinct white points. All above spiracles black mottled with soiled white furring principally a festooned narrow sd line, and straight dorsal. Below spiracles hair white with several small black spots on each segment and one on the base of the foot. Anal plate black. Maxilla feet pale with a mark at the base. Two streaks (sd on head) pale at post edge of occiput. Head smooth on front shiny margin the black same but paler, whitish denticled the crease of annule pale a brown line much less than before. Wh feet, eye stalk a dusky shade w/ water. Vent down

Out May 1 1897 Macrophysa trisyllaba Say

Out May 4 1897 ♂ = Tenthredopsis atris-lacuna not exactly except 2 joint antennae  $\frac{1}{2}$  longer than 4th and no spot on post. coxae.

7W

On elder from Mrs Slosson, Franconia N.H. Sept. 15 1896. Looks a little flattened but thick + robust, feet 6-13. Head round dull black, with 1.4 even legs 7-annulate. Whole body soft dark gray, the ground uniform. Points produced into short papillae 2 pairs, one on each annulet in a sd and lat. even regular row, and other smaller ones scattered s-v. In row ① which is shorter, 1st & range 2<sup>d</sup>-4<sup>th</sup> black 5<sup>th</sup> 6<sup>th</sup> range, 7<sup>th</sup> black; in ② which is longer 1<sup>st</sup>-4<sup>th</sup> range 5<sup>th</sup>-7<sup>th</sup> black; 2 post spiracle & 2 s-v post. pale range; 2 groups of 6-8 very small ones on upper and lower s-v folds whitish. Sides with a number of small black spots. On t. may there are less of the papillae but the alternation in color is similar. Anal plate not differentiated Sept 24 smooth very shiny all over dark gray base black, papillae indicated by very small conical joints. The feet pale



7X

On black oak, Franciscan M.H. from Mrs.  
Strosser Sept 15-1896. Recalls 7A and 6F  
but is spotted. Can curl: feet 6-15, then  
thoracic large, head large, bright reddish  
at upper part, eye small black,  
pale below. Body feet all columnar  
colubate, a shaded orange red spot  
6-14, a number of small dark black  
spots over thorax and along lower  
lateral region. Segs 7-annulate. Small  
leaf with wavy edge  
(will not eat oak from Riverside Park, Calif)

7Y

Partially = *Nematocoryli* but not sure,  
occasional on top hornbeam. Fort Lee  
Calif. Sept. 16, 1896  
1st shiny black, 1.8 mm slender larva  
black dotted on dotted ground, small head  
Feet 6-11, no glands evicted. Segs coarse  
4-annulate with small dark spots.  
Color dull green spiracle with faint  
dusky yellow blotches. Dorsal  
region shaded with black, streaked on  
annulate and not forming a distinct  
regular edge, and complete tendency to  
break into 4-5th bands. 25-30 folds,  
a spot below spiracle & above base of  
leg black. The feet pale. Venter also  
pale.

Ant May 26 1897 | *Pteron* n. sp



Diodictyon subgregarium nsp

8A Q. prinus (?)

Collected to E and 7B on rock oaks, Pelham  
Mass. N.Y. May 18 1897.

Head .8 mm, green with a large black  
patch on each lobe and one in clypeus.  
Y spin all short, all black ex-  
cept those on sr folds which are  
pale. Feet pale, no other markings. None  
gregarious than several on a  
leaf when there were any at all.

Skin finely punctate under  $\frac{1}{2}$  inch lens.  
Spines arranged exactly as in 7E. Feet 6-12, 13

May 19 Hds 1.2 just the same, patch in  
clypeus double. Spine black, distinct, pale 5-7.  
Shafts of Y-5 very short, limbs curving di-  
vergent, tapering X. (arrangement evident)

May 21 Hds 1.8 Same. Segs 5-annulate spin  
on 2<sup>d</sup> and 4<sup>th</sup>, spinach on 2<sup>d</sup> single spin  
on 3<sup>rd</sup>; three fin setae below have sr fold  
Spin on upper sr fold also black. Y-spin  
spinulose  $\frac{1}{2}$  in. slg. skin finely spinose  
getting large. May 23, 16 mm long

short spin separated, segs 5 annulate  
distinct 1 spin on 2<sup>d</sup> annulet. Uniform  
green from blood, a little whitish, dorsal  
forming indistinct paired streaks in center  
of each seg. Radial line distinct.

[None on white oak and black oak at  
Braun's Park May 22 1897. Subgregarium,  
sometimes are alone. Just the same,  
beard same, spin as in figure. In one  
the spin had rather broad black bases]

May 25 (Vermont) June 1, entering  
green, eye black, annulet brown  
Hd 1.4 shiny, waxy, bases of  
spin indicated by waxy dots.

June Brookhaven, Vt. June 6, 1897 Hds 1.2 on  
more oakbank " June 7 " Hds .8 "

Spin on 2 all black on ant. annulet.  
One seen just shedding. Y-spin in shaft, and a pair spin from  
skin on  
June Keegan Vt. Hds .8 June 10. just scattering  
Spin very small but well Yed.

Ant March 25 1898



8B

On black oak (*Q. palustris*?) Bump Park  
May 22 1897 all green from head, green  
and head paler; eye black, mouth  
brown no marks. Hds. 1.4, .7, 1.0 mm

Spin as in 8A, no trace of  
black. Body a little whitish  
from diffuse fat. In the  
small are some of the spin  
are trifid. (Both would not  
eat and dead)

Another <sup>*Piceae*</sup> Black oak Bump Park June 7  
1897. Hd. 7 mm. Head just 11 Hd 1.0

2 more on *Q. tinctoria* Hds 1.4 all green. In one all  
but @ and in other all the normally & spin  
were trifid. Yellow fat granules all over the  
sides, marking d. vessel contract.

June 18 ultimate. Smooth pale yellowish green, the  
oval end black, water area for Y's. Slipper  
shiny, granulate; hd 1.3 mm

Out Apr 11 1898

When leaves just unrolled are  
still reddish they showed in  
green under side by an elliptical  
dot below epidermis, an incision  
from junction (water, whitish)  
As leaf grows the egg, once enlarged  
to flattened part of leaf, becomes  
slippery thickened & rounded to  
a large circular ring. The red  
ring later thickens faster than  
the central portion, forming the  
irregularity of the fall.  
all along in one short  
by July so few young leaves  
these leaves fall are dark, covered  
with and covered with white black  
the willows

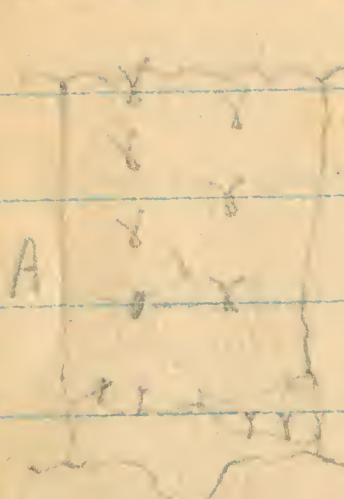
1897  
more  
vessel  
trifid.  
hd.  
young.  
a.  
spin  
a 5-7 fold  
very  
Red-  
ed.

STANDARD MICROSCOPIC TABLET



8B

On black oak (*Q. palustris*?) Bronx Park  
May 22 1897 all green from head, spine  
and head paler; eye black, mouth  
brown in mouth. Hds, 1.4, .7, 1.0 mm



Spine as in 8A, no trace of  
black. Body a little whitish  
from diffuse fat. In the  
small one some of the spines  
are trifid. (Both would not

eat and died)

Another <sup>Deciduous</sup> Black oak Newshaven & I June 7  
1897. Hd. 7 mm. Head June 11 Hd 1.0

2 more on *Q. tinctoria* Hds 1.4 all green. In one all  
but @ and in other all the normally Y spine  
were trifid. Yellow fat granules all over the  
sides, making d. vernal contrast.

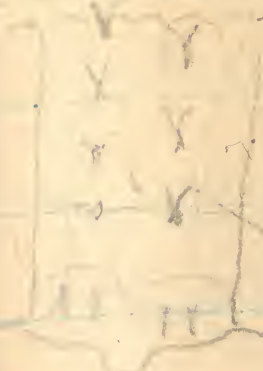
June 18 ultimate. Smooth pale yellowish green, the  
oval end black, water area for Y's. Shiny

shiny, annulate; hd 1.3 mm

Out Apr 11 1898

8C = 7E

On black oak Bronx Park N.Y. May 22 1897



Just like 7E but spines more  
Y's. Light green, dorsal vessel  
\* dark, head, spine whitish.

Eye black, jaws brown. W. hds.

1.3, 1, .7, 1.4. Sometimes (\*) has only one prong,  
in some segments of same larva.

(For coloration copy 7E) In two 2<sup>d</sup> spin  
of annulet was trifid and 9 upper 5 x fold



One shed and came out this way  
at least in some segs.

A big one 14 1/2 mm. long hd 1.4 at Bed-  
ford Park, May 25 1897. Well Y-ed.

also some little ones.

Out March 27 1898



When leaves just unrolled and  
still contained egg, sawed in  
from under side by an elliptical  
cut below epidermis, an incision  
from junction with stem, whitish egg.

As leaf grows the egg, once enlarged  
by natural growth of leaf, becomes  
slightly thickened & narrowed to  
a regular circular ring. This red  
ring later thickens faster than  
the central portion, from the  
irregularity of the cell.

All stages on one shoot

by July so far young leaves from  
these hairy galls are dried, covered  
over and cover in the white webbed  
tree willows.



Will you drop in and see me sometime  
when convenient soon?

Prudden.



8D

Solitary in Lincoln, Barry Park, N.Y.  
May 22 1897. Flat on venter,  
feet 5-12, 13, ant straight.

Hd. 1.4 whitish with green  
tint, eye black, mouth brown.

Seps. feet 5-annulate, smooth, but a  
few <sup>(six)</sup> spines on anal flap and trace on  
s-r feet show it to be a *bleanniscapid*  
green, a little whitish, opaque closely  
firm fat in dense patches, even partly  
obscuring the d-vessel by a few granules.

Below transverse line scarcely any fat, the  
s-r folds rather well marked, <sup>ant. upper dorsal</sup> the feet  
not large, abdominal distinct. Under  $\frac{1}{2}$   
inch obj. very rudimentary points seen (as  
indicated in fig.) apparently only 2 on anal  
annulet, but not sure. Think I find <sup>many</sup> rudimentary

May 25 (ultimate) Perfect smooth shiny  
pale green, wrinkles folded. Hd greenish white  
eye black.

Bellevue Island June 7 Hd 1.4 from dorsal black shade  
d. spine except on ends (2, 3, 12, 13) reduced to about  
1/3, 1 spine on black bottom. Spine on ant. annulet  
2 colorless <sup>purpurichthys</sup> <sup>reps</sup> very neat, fringed  
with spines in the  
pale parts

Ant March 24 1897 8 E

Mixed with 8A but differentiated a molting  
<sup>callia</sup>



On white oak. Dorsum to spin-  
acles olivaceous blackish with  
black spine. 2 ant, s-r spine  
and feet pale greenish white  
with colorless spines. Spines on anal  
plate black. All black spine with  
pale tips. Hd pale in sutures and face,  
lobes broadly black and a brown spot  
in clypeus. Mouth brown W. 1.2 ±

Two spines on 2<sup>d</sup> annulet, one on 3<sup>d</sup> very obscure.  
As from dorsal color fades to a leaden purplish

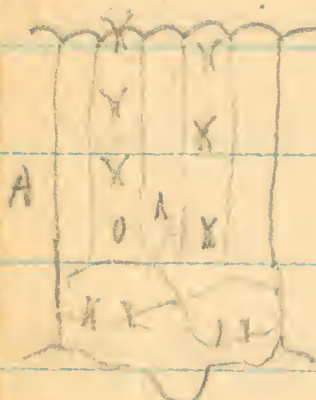
Empty May 28, shiny jacket in P.M.  
Smooth, folded annulate, water, veins for  
tubercles translucent very greenish white,  
green on thorax, <sup>often blue-green</sup> dorsal vessel darker.

In purple shade. Hd. 6 black feet not apex of legs green  
and darker 40 spines black white 1/3  
June 5 1897

Another Bellevue 2.3 white oak, solitary  
Hd 1.0 was just the same but black marks  
on head all reaching. 4 black spines with  
pale tips in limbs. Dorsum faintly shaded  
Another white oak Brookhaven June 6



8F



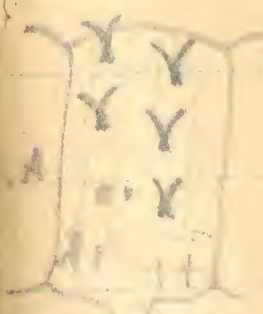
Little Blennocampids solitary on the back of young leaves at the end of the fresh shoots of the ~~Garbina americana~~ ~~but~~ ~~substratum~~. ~~Went~~ all gone but found two still left May 25 1897. Bedford Park, N.Y. Hd pale green, a rounded patch on each lobe outwardly, a double spot and eye black; w. 8 um. Body all green without marks, rather distinctly 5 annulet merging with the small pale spines. Eat round holes as usual.

Shed May 26 Hds 1 um. just the same

Shed May 28 Hd 1.3 all green eye black a trace of a rounded dusky patch on each lobe. Shed same green, spines pale. (Hd just shed; later all black spots came on hd and legs all as before)

June 4 (sewing jacket) 5 smooth, shiny rather distinctly 4 annulate, waxy areas few spines. All green, eye black. Hd 1.3 um

\* slightly wrinkly annulate, no marks, no tarry shades. Hd 1.6 as high as wide, hives robust. D. vessel greenish. Length 12 um. Some, if not all, bored in rotten wood. One open a good time even between G leaves, daisy, not good thread



Solitary, sitting on upper side of large <sup>Q tinctoria</sup> ~~tinctoria~~ black oak, Bellefont L.D. June 3 1897. Head 1.9, all shiny black except mouth and a small arcuate line above  $\Delta$  which are greenish. Y-spines as in E "1896", quite large and strongly fuscate, all black even the last one on 3<sup>d</sup> annulet and the ant <sup>and ant. of 2</sup> of upper SV fold blackish, Lower SV spine pale. Body translucent green, indistinctly annulate. Feet 6-13

Shed June 5 Hd 1.4 (sh hd 1.05) Same Y-s long dumb tapering, as long or longer than shaft S-V spine pale except ant. upper SV which is black at base on some segs. Eat holes and like to partially feed. Sit on upper side.

Another same but pale shade surrounds  $\Delta$ , lower spine of 4<sup>th</sup> annulet all partly black. Black spines all black, large. Perfectly solitary on me on a tree. Sit on upper side and eat up all one leaf.

Other ~~Barrabara~~ June 6 Several together. Same. Hd 1.0 Hd III 7 Same spines but smaller. <sup>IV</sup> June 8 Not smooth tubercles represented by small dented cones, not shiny, all very light. <sup>V</sup> white green very much whiter than feeding stages

Shed March 29 1898



Cale	.38	.55	.78	1.12	1.6	rat .70
Found	.4	.6	.8	1.15	1.6	

8 H June 4 1897

Solitary edge eater on large smooth black oak, "Packardia Hole", Belleport, L.I. Feet 6-11, 13 small slender, used, thoracic joint size. Seps irregularly widely 6 annulets, last annulet very narrow, the others subequal. Anal plate rounded, slightly cordately notched, no visible prongs.

Hd. 8 mm rounded whitish, eye black, a dark shade of behind eye. Body translucent sodid greenish, no warts but black patches at bases of thoracic feet. Spiracle blackish.

Another 1.15 Hd 1.2 Same. Dorsal dark above, behind eye small. Anal plate projecting, truncate concave. No prongs. Translucent whitish green, marks at base the feet.

Hd 1.4 Same but larger, clearer green, incisions folded, annulet creased grooves, tracheae evident. Hd green eye black, mouth brown warts at bases of thoracic feet clouded, small. Anal plate truncate

Cent Apr. 7 1898

*Nematus chloricus* Nut slightly cordate notched, no prong. A little green fat in 13. Head does not show, dorsal vessel obscure. Head shape even, dull; body also dull.

Th. feet colorless. No setae  $\frac{1}{2}$  inch obj. Another Hd 1.5 Same, not fed out. The black mark in form from head. Another 1.6 same, large, trace of black on the body yellowish faint s-d from the obscure fat granules. Spiracle dusky.

On young leaf Hd .6 whitish, dull, eye black, ventral shade behind it nearly to apex. Body rather finely annulate, whitish, very green from food, bases of the feet black marked. Anal plate truncate, concave, the preteron rim edged with dusky.

June Hds .53 Same, a blackish shade above. Egg slit in edge of leaf just before point of apex. Incision 5 deep, annulet, annular, yellowish. One in the slope but the head on leaf. Hd. Same Jan down June 6. Slightly shiny.

Another Hd .4 sodid whitish, eye black a dusky shade behind and over it. Body whitish translucent green from food, smooth, spiracle curved annulate feet 6-12 of ventral elevation as in setae. Black warts at base the feet. All as in next store.



8I

*Q. coccinea*  
 On smooth large black oak Belleport L. I.  
 June 6, 1897. Gardiner's Road. Large solitary  
 slightly curling Tenthrax allied to 7A  
 Hd. 1.8 pale red brown, eye narrow black  
 mouth darker brown. Feet 6-13, under  
 legs regularly distinctly 6-annulate.  
 Color translucent fleshy brown, a lateral  
 row of irregular black spots on annulets  
 1 (small) 2-3 (large), 4-5 (rather small), the large  
 one broken on some segs.; all absent on 13, anal  
 plate immaculate. Spiracle in 2<sup>d</sup> annulet  
 some tiny black spots around it; a dis-  
 tinct black patch on ant. s-v. fold and  
 smaller one on post. Feet and scutes  
 immaculate. Black mark at base the feet  
 dorsal vessel and paired dots on annulets  
 dusky translucent. Another Hd 1.5 same

emptied & walked June 7 [Can 17]  
 [one got rolled up in my jacket and smelt very  
 strongly like sweet persimmon] Rest during 9

Chas March 28 1898 *Hemidorsa allidorsaria*  
 nest

8J

Same jacket Hd 1.8 all pale pinkish purple, tarry  
 shaded, no annulets. Hd pale too. June 7. Same  
 same at ends, tubercle water, head tarry Hd 1.1

On pig man history, Brookhaven L. I. June  
 6, 1897 Several together sitting flat on  
 water and eating whole leaf from apex.  
 Resol. Acridule. No abd. feet, but  
 a terminal sucker. Thoracic feet spreading  
 many enlarged body tapering flexible.  
 Hds 1.1 round shiny black. The feet  
 black. Body dull pale purplish shading  
 to an orange tint on thorax and 12-13  
 heavily black spotted. Spot on 4 obsolete  
 annulets, on 1 2 dots, on 2 (spiracle), 3 and 4  
 a series of 4 or 5 dots all soldered into bars  
 and then three bars confluent forming one  
 large irregular quadrate patch; a large  
 cordate spot behind spiracle, a spot on ant.  
 upper s-v fold and a curious very shaped  
 pale centered one on lower fold, below it  
 two dots and several fine dots ventrally  
 Small black setae on the spots. Spots on  
 13 united in a large patch.



Ardis infrequens vsp

8K gatta

Blennocampid on white oak Burkharan  
L.S. June 7 1897. Spine 3 on 2<sup>nd</sup> annulet.  
Head immaculate, eye black. Body  
green, d. vessel darker; spines moderate  
Y<sup>ed</sup>, normal, pale except 2, 3, 12, 13  
which have black limbs and ① the  
whole length is touched with black at  
base of limb of Y bearing apex and  
shaft pale. Feet pale. Hd. 1.3 mm  
<sup>(sh hd 1.1)</sup>  
shed June 9 Hd 1.6 green, eye black narrow  
Spines all pale except the black  
patches at base of limbs at ends of  
Body as before. Body green faintly annulate.  
Another Bealeport, white oak. June 10. Hd 1.5 ±  
Another (ultimate) Hd 1.6 slightly brown, caudal  
tinted eye black. Body smooth green, watery  
areas for spines, indistinctly annulate; wings  
d. vessel dark.  
Another head limb out of 4 d. Spine black the  
whole length. Hd. 1.6

Out

8L

gatta

Blennocampid solitary on white oak  
Grafton L.S. June 7 1897. 2 spines on  
second annulet. Hd. black except pale  
mouth and streak above Δ. Body green  
spines moderate, Y<sup>ed</sup>, all black  
including hump and shaft and  
both the spines on ant. annulet of 2  
and as far down as ant Y<sup>ed</sup> subventral  
which is not fully black. Like 8G  
but on white oak and ordinary looking  
not robust and tip Y<sup>ed</sup>  
Hd 1.4 (sh hd 1.0) by shedding a pale spot  
at apex of shaft as that of base and limbs  
black. ant. spine <sup>ant</sup> and ③ ④ annulet more largely  
pale. Another Burkharan June 12, pale spot at  
base of Y's. Retinule June 14 white green round  
watery hump for Y's rather distinct white green  
indistinctly annulate, d. vessel dark. Hd green 1.4  
Out Apr 15 1898  
Can't tell fully from 8G



5<sup>th</sup> Oct April 14, 1898

*Pteronix quercus* Maclell

8M

Like 8H but on white oak; edge eating  
nematid. Hd round, eye black, a very  
faint posterior dark shade, w. of w  
whitish, sordid, scarcely carinate tinted.  
Roof colulus translucent, dirty from food,  
incision folded. Segs obscurely 4-annulate  
smooth. Anal plate concave truncate  
as in 8H, no prongs. Large black spot  
at base of colulus. Thoracic feet. Abd  
6-11. Tracheae white.

July 11 Hd 1.3 Colulus, faintly yellowish, eye  
black under lens a trace of brown line behind  
it, looking internal. Body very sordid from  
food which is green only in thorax, colulus  
transparent, tracheae & folds a mixture  
white. Anal plate as before.

Two specimens cocooned June 15. Cocoon had hd  
1.5 distinct black shaded line from behind ocellus  
to vertex. Roof sordid greenish, annulet dull  
incision folded, incision of annulet shiny. Black  
at base of thor. feet. Not so green as 8H, otherwise  
no difference. After a dark shade on first two annu-  
lets 1 & 2. Black a band in last stage.

Coeloptera

*Prionoxystus*

*calceatus* Song

(E. A. Schwarz)  
1899

8N

Saw cut in back of mid rib of Sassafras  
leaf, Brookhaven 29 June 11 1897. Set  
1 to back of leaf in center of midrib, 6  
cut distant about their own length = .6 m  
Pass in and also somewhat forward (toward apex)  
From these cuts a blotchy brown mine spread,  
branching, 5 larvae in one, 2 in the other, mining  
toward apex leaf June 15 - June long in both buds  
stead with the main larvae 3 mm wide, other 1 mm  
wide under lower epidermis. Strongly contorted  
grass like beetle. Larvae flat, colulus, lvs. 3 ±  
mine mine of 1/2 leaf, irregular, the surfaces wide  
apart. Larvae white opaque maggot pro-  
fect, strong of grass adhering to long exserted  
oval tube. Head feet retracted, feet, brown  
lobes, 4 and labium distinct, short antennae  
no ocelli seen.

Cocoon a thin round, spherical like large  
short gregarious, clothed in the hair like  
grass strips, thin of reticulate brownish web,  
cut June 29 1897. Little black weeds



80

Perhaps 8H or 8M but on *Q. tinctoria* not common, rarer even than either *Burklowia* L. J., (taken June 7). Hd 1.6 reddish greenish with a heavy black shade up each side behind eye, a dotted cloud on vertex, the anterior fold. Body green, like 8H, not very reddish nor too transparent, black marks at base of legs. Legs irregularly 6-annulate, bringing spiracle on 5<sup>th</sup> annulet, perhaps the extra fold due to this very fat larva (annulets 5-annulate) No other marks, anal plate as on 8H. Tracheal lines visible. Differ from 8H only in having bend marked in hind stage.

Oct Apr 18 1898 *Pteronix integer*

8P. Shed July 26 Hd 2.5. Same slightly previous date d. to spiracle black, under greenish central d. faint on 2 ant. & before black anal plate. Feet all white, black patch on lower or folds. 7-annulate mouth, no point.

Shed Aug 7 (swim jacket) Hd 2.4 all radial away quivering shiny. a d. darker band on broken lateral line. Eye black. Mouth 7 annulate, smooth

8P

*Tentredo?* on birch, Bronx Park NY July 2 1897. Feet 6-13, can curl. Hd .9 pale testaceous, a little darker on vertex, a large black spot on eye. Body tapering post, finely annulate, ground glass white, no marks, the dorsum appearing green from the food. The feet colorless.

Shed July 4 Hd 1.2 whitish, eye black, a dark shaded spot on vertex. Thorax enlarged, body white finely 7 annulate, the dorsum green from food.

July 14 Hd 1.6 whitish, eye a large black spot a large smoky black patch on vertex. Body all opaque white, 7 annulate mouth, food green. No marks. Curled with tail on back. Another *Burklowia* on birch, July 15.

Shed July 20 Hd 2.1 whitish shiny, a large black patch over eye, round behind, reddish greenish black patch on vertex, fine white granulated. Body white h. d. and s. d. hind olive blackish black bands 2-13. Anal plate black. Feet all whitish 6-13. Shed mouth annulate.

Oct Apr 22 1898 *Macrophysa externa* (from San)



80

Lyda on black oak (*Q. coccinea*) Brookhaven  
L. I. July 10, 1897. Rolls of a cornucopia  
on side of leaf with gummy web. Solitary  
Hd <sup>1.2</sup> rounded, very pale brown shiny; eye black,  
antennae minutely ringed with black-brown  
and pale. Body whitish green, annulate,  
C-sh a double transverse <sup>obscure</sup> blackish line,  
a bright yellowish tint over Q. Feet small  
plate and cerci concolorous with body.

July 14 Hd <sup>(sh hd 1.6)</sup> 1.7 Water ground, sunny, brown a large  
yellowish white patch in the face above mouth  
faint pale central, a black dot at base; eye  
black narrowly; antennae finely black ringed  
Body greenish sh lat, ventral white bands.  
C-sh 2 black narrow lines; feet rim of anal  
plate, double <sup>ringed</sup> hind and cerci whitish.

July 18 Hd 1.8 Same. White line distinct over  
and end, centrally; center even of white suff-  
used. No dark meso-jam but brown band. No dark  
marks except faint blackish line each edge C-sh



