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This is a formatted version of the transcript file from the second Scott Sisters' notebook

Page numbers in this document do not correspond to the notebook page numbers.

The notebook was started from both ends at different times, so the transcript pages have been shuffled into approximately date order.

Text in square brackets may indicate the following:

- Misspellings, with the correct spelling in square brackets preceded by an asterisk rendersveu\*[rendezvous]
- Tags for types of content [newspaper cutting]
- Spelled out abbreviations or short form words F[ield]. Nat[uralists]

[Front cover] nulie(?)

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Note Book No 2

Continued from first notebook

No. 253. Larva (Noctua /Bombyx Festiva , Don n 2) found on the Crinum - 16 April 1840. Length 2 1/2 Incs. Ground color ^ very light blue, with numerous dark longitudinal stripes. 3 bright yellow bands, one on each side and one down the middle back - Head lightish red - a black velvet band, transverse, on the segment behind the front legs - but broken by the yellows This larva had a very offensive smell, and its habits were disgusting - living in the stem or in the thick part of the leaves near it, in considerable numbers, & surrounded by their accumulated filth - so that any touch of the Larva would soil the fingers.- It chiefly eat the thicker & juicier parts of the Crinum - On the 17 April made a very slight nest, underground, & some amongst the filth & leaves, by forming a cavity with agglutinated earth - This larva is showy - Drawing of exact size & appearance. F.M.S.

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No. 254. Chrysalis of the above, 1 Inc in length, & of a rich red - painted 28 April 1840. F.M.S.

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255. Moth of the foregoing (Phalona/ Noctua/Bombyx Festiva ?) took wing 27 May 1840 - Length of expanded wings 2 Incs of body rather more than 1 Inc:- Upper wings - ground color of a light bright nankeen relieved much by dark lake & black, triangular & parallelogram marks, the nervures being of the light nankeen and many small semi-transverse stripes of the same color - a broad light border with a dark patch - Under wings of pearl white - Thorax of a ferruginous tint. body of a whitish nankeen - Head, ferruginous - Antennae thin - Male & female much resembling each other - Very active during the night, but dull by day. This noctua is remarkably pretty - Drawing of exact size & appearance. Preserved specimens much shrunk.- F.M.S

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256. Larva geometra found on the Acacia, Sydney - 17 April 1840 - fed with Acacia.-. Bright green, with 2 rows of white spots, from head to tail - one on each side & a white streak - Length, 1 Inc- Made its nest 17 Apr 1840 under ground with agglutinated earth, of very slight texture - Drawing of exact size - F.M.S.

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257. Chrysalis of the foregoing - painted on the 23 April 1840 - 7/16 Inc.- Color Black. M.S.

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258. Moth of the foregoing - took wing 7 May 1840. length of expanded wings 1 1/4 Inc - Margin of wings much vandyked or angulated. Ground color of a light delicate lavender ^ spotted minutely with black. with a broad marg(?) and border, of a golden brown. ^ except Anterior tips of upper wings, of the lavender color - a golden brown transverse mark on each upper wing, with a few much slighter ones near the body.- Antennae long & thin - This moth is very pretty & delicate - The legs were very long - Drawing of exact size & appearance FMS

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259. Moth found in Sydney. 11 June 1840. length 1 5/8 Inc .- & in other respects similar to No. 258 - of which I should think it was the female - The deep golden brown margin is not continued entire in this as the foregoing, but occupies the posterior portion only of the upper wings - a scalloped band of this golden brown runs parallel to the margin & at some distance - The under view is similar to the above one, with the addition of an extra band of golden brown, parallel and anterior to the one described & the nervures being yellow. Drawing of exact size & appearance F.M.S.

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260. Larva (Pyralidae) found in Sydney on the N.Zealand spinach - 16 Apr 1840. length 11/16 Inc. of a ^ very light green & slightly transparent - darker color towards the legs - lives under the leaf in a web (soly)- & of a flabby appearance - when touched it moves away by a wriggling motion - It made its nest 20 Apr. by webbing together a few of the leaves - drawing of exact size – FMS

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261. Chrysalis of the foregoing - 1/2 Inc. length - of a reddish yellow - painted on the 23d. Apr/40 drawing of exact size & appearance FMS

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262. Moth (Pyralis). General color of a deep rich golden brown - with a clear & distinct white band (golden edged) running transversely along the middle of the wings, forming an elegant festoon with the anterior edge of upper wings - the transverse mark of white on each upper wing equidistant between the above semicircular white band & the tips - Margin fringed - Antennae thin & straight - body of the same color as wings. This Insect was very quick & lively in its motions - Took wing 14 May 1840 - length of expanded wings 1 1/4 Inc. Drawing of exact size & appearance. - very pretty. FMS

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263. Larva (Geometra). found in Sydney on the Marigold. 29 Sepr. 1840. length, full size 1 1/2 Inc of a reddish brown with a dirty yellowish stripe on each side, just above the Caudal feet and extending about 1/2 the Insect.- In motion rather sluggish - fed on the Marigold - Went underground 1 Octr. making for itself a very slight & flimsy habitation- Drawing of exact size & general appearance. F.M.S.

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264. Chrysalis of the foregoing - length 5/8 Inc. of a reddish brown color or a slim form - Drawn on the 7.Octr./40 - exact size . F.M.S.

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265. Moth of the above - general appearance minutely speckled with brown, red, white & black, with several delicate brown transverse bands from anterior edge of upper wings, running parallel to the margins of each wing - Margins fringed - Body of the same color. Antennae thin - length of expanded wings 1 6/8 Inc - This moth is exceedingly pretty & delicate - Took wing 16 Octr./40 & painted two days after. Drawing of exact size & appearance. M.S.

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266 Larva found at Bengalla, Upper Hunter, in May/40 (I believe) & original painted by D.C.F.S.- length about 2 Incs and of a french grey color. Along the back are several thin tufts of black hair, two & two. On the segment of the last of the 3 front feet, one or two tufts of red hair, rather larger than the black ones. Nippers red - on each side of the head, one long tuft of french grey hair - both projecting forwards (like Antennae). long light hairs all round the insect just above the feet (16) Copied 14 June/40. F.M.S.

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267. Chrysalis painted 23 June - Do not know what kind of nest the Larva made – having received the Chrysalis cutout. length rather under 1 Inc of a stoutish form - wing cases & upper part of a light yellowish brown. tail tipped by ^ dull red. Drawing of exact size - F.M.S.

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268. Moth of the above. Took wing 13 Sepr. 1840 Upper wings of a lively french grey ^ clouded relieved by 3 transverse bands of white, 1 near margin, 1 near middle of wing & 1 near thorax - Under wings of a lighter color showing more distinctly the nervures. a black scolloped edging near the margin and a darkish transverse band about 1/2 way of wing - Body long & large of a light grey color, with large triangular patches of light brown pink on the segments. on the back of which a diamond mark. Thorax hairy - Antennae short & slightly pectinated. Length of expanded wings 1 7/8 Incs. of Body 1 Inc. Drawing of exact size & appearce. F.M.S.

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269. Larva (Geometra) found in Sydney on the \_\_\_\_\_, length  $7/8$  Inc. of a reddish brown a light yellowish streak on each side from head to tail - yellowish triangular marks on each segment along the back. painted, full size, 12 Octr 1840 went underground 15 Octr, making its nest very flimsily with the earth. Drawing exact size & appearance. F.M.S.

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270. Chrysalis of the above, length  $3/8$  Inc of an oval form - color reddish brown. painted on the 20 Octr. F.M.S.

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271. Moth of the above - took wing 28 Octr./40. length of expanded wings  $1\ 1/4$  - Upper wings divided in 3 transverse sections, that near the thorax yellow, then dark brown, and again yellow with dark brown near the Margin - the whole striated with dark brown transverse lines. the yellow near the Margin very much waved - Under wings of a light rich neutral tint, with transverse bands of lighter color. Margin slightly fringed - Body lightish brown. Antennae long & thin. This Moth altho` small is remarkably pretty & showy. Female - Drawing exact size and appearance. (vid No. 272) F.M.S.

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272. Moth of the above (Male).  $1\ 1/8$  Inc expanded wings took wing on the 26 Octr./40. The upper wing divided similarly to the foregoing but instead of the yellow the sections are of a dull white slightly speckled with brown - Under wings of a lighter color than those of No. 271. Antennae pectinated - & shorter than of the female - Drawing of exact size - A number of these moths were reared, and altho` bearing to each other a decided resemblance, still there were varieties in the shades of colors & markings. The two described above taken as a fair sample - F.M.S.

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273. Larva found at Newcastle in July/40. in the branch of a Banksia. full size  $1\ 1/2$  Inc. general color of a cream-white - with a slight shade of yellow - Segment near the head - more yellowish - head - reddish brown - a thin line down the back and a black speck on each segment just above the feet - habits similar to No. 124. and many others of that class - fed on the leaves of the Banksia - painted 31 August. of exact size & appearance. two or 3 days after became a chrysalis - F.M.S.

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274. Chrysalis of the foregoing -  $3/4$  Inc. length - of a light brown color.- similar to 125 in general appearance - painted 30 Sept. 1840 - F.M.S.

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275. Moth of the foregoing - Born very much deformed, and therefore the drawing is partly guess work. Length about  $1\ 5/8$  of expanded wings - General color of upper wings, a silvery white with slight patches of delicate yellow. Under wings of a darker color, with a slightish yellowish tinge. Body blackish with yellowish red at the meeting of the segments. Thorax dull white - Antennae long & thin - Took wing 28 Octr. & painted next day - F.M.S.

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276. Larva found in Sydney 10 April 1840, fed on the Cabbage - full size  $1 \frac{5}{8}$  Inc, general color bright green, a lighter ^ & waved stripe on each side from head to tail, relieved above by a dark shade, on each segment & each side a reddish spot; and above each of these a small black dot. (16ft) These Larva fed likewise on Bean, Peas, Geraniums, Tomatos. etc. etc. etc. - painted on the 14 April - Made its nest underground (a strongish web, encrusted with earth) - on the 18 Apr.- Drawing exact size & appearance F.M.S.

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277. Chrysalis of the foregoing - painted on the 5 May - length  $\frac{7}{8}$  Inc. general color, reddish brown - nothing peculiar - Drawg. exact size. F.M.S.

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278. Moth of the above. Took wing on the 3d. July/40 length expanded wings  $1 \frac{7}{8}$  Inc. General color ^ very light lead color. Upper wings light lead color fringed and vandyked at the margin by black.- on the center of each an oblong ^ transverse black mark, encircled at a little distance by a black line - forming an eye. Nearer the shoulder another smaller longitudinal one - with various black markings. Under wings lightish color, fringed & a light delicate black around the margin - Body hairy & of a very light lead color - Antennae long, slightly pectinated & gradually diminishing from head to the tip - which is pointed - Under color of the Insect, of a very light color with a few dull indistinct spots seen through - Drawing exact size & general appearance correct, altho` too dark in coloring - exact size - F.M.S.

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Cryptophasa Cryptopasa Lewin plate 10

No. 279. Larva found at Newcastle 20 August 1840 fed on the Casuarina, living in the branch - similar to 124. 273 & &. Length  $2 \frac{1}{2}$  Inc, full size, General color - creamy white - on each segment numerous distinct red spots, with slight thin lines connecting them - the segment near the head of a light brown color & free from the red spots - two dark brown patches on it - head black & shiny - very showy - Turned to the chrysalis a few days after, lying in the wood with a quantity of liquid glutinous matter round it - very abundant - Drawing exact size & appearance - F.M.S.

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280. Chrysalis of the above painted on the 30 Augt. length  $1 \frac{3}{4}$  Inc. lower part of a reddish yellow, upper part of a reddish brown - head & thorax black & shiny - Chrysalis had the power of locomotion a handsome Chrysalis - Drawing exact size and appearance - FMS

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281. Moth of the foregoing (279). Took wing 3d Octr. 1840. Length of expanded wings  $2\frac{3}{4}$  Inc- general color of a fluffy, rich speckled appearance - being minutely & thickly dotted with black, white, gold & silver - & maintaining a light appearance.- Margin fringed lightly with black. Under wings very much darker, black & gold prevailing. Margin fringed with whitish hair. body dark & hairy, showing the segments distinctly. Thorax like the upper wings much lighter. Antennae long & thin - Length from head to tail.  $1\frac{3}{8}$  In - Drawing of exact size & appearance - painted same day. A Female. F.M.S.

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282. Male of the above (279). length of expanded wings  $1\frac{7}{8}$  Inc. similar in color to the above, but the white & darker colors more in patches - under wings of a shiny black - Antennae feathered - Under color of wings in both of a shining black - Drawing exact size & appearance - F.M.S.

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No. 283. Larva found on the Loquat - Sydney 5 Sepr/40 length  $1\frac{1}{8}$  Inc - Along the back light green and towards the sides yellow- of a flattish form - 2 or 3 white hairs on each side & segment. Head large, of a very light red (flush) with black stripes - Lived in the Leaf of the Loquat, folded up by a strong web. In motion exceedingly quick - Made its nest same day by spinning a slight cocoon - painted same day. Drawing of exact size & appearance. F.M.S.

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No. 284. Chrysalis of above (283) length very nearly  $\frac{1}{2}$ . Inch. of a reddish brown painted 19 Sept/40. F.M.S.

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No. 285. Moth of above (283). Took wing 6 Octr/40 length of expanded wings 1.Inc. general color of upper wings, dark slate, lighter towards the Thorax. Waved transverse bands of a darker color over the whole of the upper wings - Under wings of a light flesh color - Margins fringed - body of a light dull buff - tail tufted - Antennae thin - painted 7 Octr. exact size & appearance. F.M.S.

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No. 286. Larva ^ Geometra found in Sydney 12 Octr 1840. fed on the Seed of the Cauliflower. length  $5\frac{1}{2}$  / 8 Inc. General color light reddish brown. longitudinally striped.- Drawing exact size & appearance, spun slight network cocoon - 15 Octr. 1840.- F.M.S.

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No. 287. Chrysalis of above (286). length  $2\frac{1}{2}$  / 8 Incs of a slender form & light red color. F.M.S. painted 21 Octr 1840

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No 288. Moth of the above (286). Took wing 1 Novr. 1840 length  $\frac{7}{8}$  Inc of expanded wings - Upper wings of a light brown, with a broad transverse band of dark red brown in the centre of each - the whole striated transversely with fine lines of dark brown giving the wings a rich appearance. On the Anterior edge

of the upper wings & near the thorax are two projecting tufts of brown feathers hairs - giving the Insect when at rest a curious appearance somewhat like the hook at the end of the point of the wing of the Bat - Drawing of exact size & appearance - F.M.S.

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No 289. Larva bred from the Egg - and fed on the Cassia. Caterpillar naked painted 13 Decr 1840 - Length 1 Inch 5/12. Egg yellowish white - and projecting - hatched 3 Novr. 1840 - full grown 27 Novr. turned to Chrysalis - lay in the Chrysalis state 16 days and took wing on the 13 Decr.- Larva of a light green with minute black dots. a light yellow band running the whole length on each side - legs 16. & green - Drawing of exact size & general appearance - F.M.S.

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No. 290. Chrysalis of the foregoing- Naked and attached to the leaf or branch by the tail & a band. - Of a light green color throughout - length 1 Inch.- took wing on 13 Decr 1840 - painted Chrysalis 30 Novr. full size & appearance - F.M.S.

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Nos. 291. & 293- Butterflies of the foregoing - *Colias* (Godart) *Calledryas* (Bois Duval) - took wing on the 13 Decr 1840. length of expanded wings, varying from 2 1/4 to 2 1/2 Inchs. General color on the upper side ^ white with a ^ very slight greenish tinges and a black dot in the center of each upper wing. Some are entirely white above with the exception of the dots (No. 291) and others ^ had their upper wings tipped with black - No. 293. more or less - Thorax dark ^ covered with whitish hair - body white & hairy - The Eggs of this Butterfly were sent by the Macarthurs - Parramatta - Drawing of exact size & appearance -(for underside, see 292). F.M.S.

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No. 292. Under view of the foregoing - of a delicate buff white marked transversely with bands of a darker buff - but the whole very delicate - a buff spot showing the position of the black one above. Drawing of exact size, and appearance, but rather too dark.- F.M.S.

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#### *Cequisia triangularis*

No. 293. v:54 Larva found on the *Personia* (Gibbung) and *Banksia* - (*Sphinx triangularis*)- from Octr. to Decr./40. Length from 4 1/2 to 4 3/4 Inches - when full grown these Larva differ much in color - some being green with oblique bands of yellow (as in this number (293)) others of a pale yellow throughout, with oblique purple bands - as in No. 296 - between these two are many intermediate shades - and all colors were found indifferently feeding on the *Personia* or *Banksia* ^ & *Grevillea* and came out exactly into similar Moths -- No. 293. General color green with 7 oblique bands of pale yellow, part of the upper sides of which shaded by dark blue - on each side - commencing at the 3d Segment - from the head and passing over the 3 first segments is a yellow band running nearly longitudinally - and a similar one on the last segment but one - over the Caudal feet are two bright black spots projecting, one on each side - and bearing an exact resemblance to eyes. making many to suppose this part to be the head - The head projects behind the back, the top of which is a



rusty yellow. Along the back are two rows (longitudinal) of yellowish white spines 14 in each segment. (7 on each side)- and over the oblique bands of yellow a row of similar ones, passing in a continuous line thro 2 segments, from the belly to the back of the Caterpillar - and another row from head to tail just above the feet - on each side - in the intermediate places are numerous spines but much smaller - 16 feet - This caterpillar had the usual changes of skin, but at the last one seemed generally to suffer much. Several remained six days, without eating, previous to casting the skin, and six days after - making 12 days without food. several died - This Larva is very showy and handsome - and very common in many parts of the Colony - No. 293 is of exact resemblance. but the caterpillar grew considerably. It made its nest among leaves, joining them together by a strong but coarse web and turned to the Chrysalis state on the 3d Decr. (see No. 296). F.M.S.

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No 294. Chrysalis of the foregoing (Sphinx Triangularis). Remained in this state from 3 Decr. to 14 Jan'y 1841. length  $2 \frac{7}{12}$  Inces. of a deep shining black brown between segments - very handsome - Drawing exact size & appearance. F.M.S.

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No. 295. Moth of the foregoing, Sphinx Triangularis, bonovan - Took wing 14 Jan'y 1841 - Length of expanded wings 6.Inches.- of head & body  $2 \frac{1}{2}$  Incs - General color - brown - about the Center of each upper wing is a deep brown triangular patch with a black spot in the center of each having for its base the Anterior edge - around this patch, which occupies about a  $\frac{1}{4}$  of the whole wing, are numerous white dots, and relieving it in a remarkably bold manner - the remainder of the wing is brown relieved here & there by white dots, & somewhat clouded - a strong band of white on the posterior edge - Under wings bright Indian yellow on the upper half - the lower dark brown with a patch of white dots at the corner - near the body.- body much lighter, of greenish brown - on a dull purple streak along the back. The thorax from the Palpi marked with a similar purple streak. Eyes purple black. under side - of upper wings bright yellow (Indian) towards the body, partly covering ^ about half of the triangular patch which agrees with the upper side - the remainder of the wing a light dull brown, with a patch of dull white on the anterior edge, near the triangular mark - lower wings of pale dull brown. with a transverse division about the middle - upper wings edged by brown, lower by white - Body pale brown, lower end white - ^ tipped at the end with black brown. legs purple black thighs white, particularly of the hind ones. The yellow is on the under wings on the upper side, and on the upper wings on the under side - Drawing of exact size & appearance. There is always a brightness & freshness, which the specimen soon loses by keeping - F.M.S.

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No. 296. Larva (alluded to in No 293 which see) of a pale straw yellow - head brownish yellow. 7 oblique bands on each side of a light purple. 1 & last very indistinct - along the back a light clear bluish green. with respect to the spines & other markings the same as No. 293. Drawing exact size & appearance - painted 7 Decr/40. M.S.

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No 297. Larva, Geometra, found on the Gum - Sydney painted on the 24 Septr. 1840 - It grew much larger than represented in the drawing - particularly in thickness - General colour of a pale blue Green with a bright yellow line in the middle on each side from head to tail - slightly raised - Two small dots, one

red & one black, in this yellow streak and in the middle of each segment. The head is blue green with a red streak on either side - and in the form of a Cardinals Cap - which is more particularly seen when eating or in motion as it projects considerably above the back. The hinder feet reddish; fore ones green - Feet 10~ On the 15 Octr. it spun its nest, uniting leaves together by a flimsy web. Drawing of exact appearance representing the Insect, not full grown. F.M.S.

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No. 298. Chrysalis of the foregoing - of a brown grey. four black dots on each segment. divisions between, dark - a few black crosses near the back of the head. length 1. Inch - of an elegant form - painted Chrysalis on the 27 Octr. Exact size & general appearance. F.M.S.

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No. 299. Moth of the foregoing - Took wing 5 Jany 1841 painted on the 7th.. Jany. Length of expanded wings 2 1/4 Inc. general color grey, with a deep band of brown grey around the Margin - upper side of wings - grey towards the Body with a broad marginal border speckled closely with brown. About 1/3 of anterior edges ^ from the Thorax a straightish & distinct black line runs transversely across the upper wings and ends in the middle of lower ones. - About 2/3 and at the commencement of the brown dots is an irregular scalloped black line running parallel to the Margin all round. between this and the straight line is a small half moon of black. and in the center of the brown is a similar shaped but rather indistinct white band - the Margin is bound by a distinct black scalloped vandyked line and fringed - Antennae thin. The drawing represents a female. of exact size & general appearance. F.M.S.

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No. 300. Under view of the above. of a light grey with dark brown bands, irregularly shaped, running parallel to the margin & at some little distance. between these & the Margin on the upper wings is much darker grey. & in the lower ones, light brown blotches - somewhat star shaped - similar lunar streaks described before are seen below - F.M.S. Drawing of exact size & appearance -

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No. 301. Larva found on the Gum - Sydney and painted on the 4 Feby. 1841. full size - length 5/8 Inc. of a dull green all over, with a slight touch of reddish hue. Lived in the leaf, closed - with habits usual to this class. Drawing of exact size & appearance F.M.S. On the 4th. Febr. inclosed itself securely in the leaf and turned to a Chrysalis.----No. 302. Chrysalis of the above - length 2 1/2 / 8 Incs. of a light brown color all over - Exact size & appearance F.M.S.----No. 303. Moth of the above (Tinea). Took wing 19 Feby 1841 ?& drawn 20th. Length of expanded wings 3/4 Inc. Upper wings, deep brown, spotted with black and whitish towards the Posterior edge ^ margin fringed -. Under wings of a lighter brown with a bluish tinge & fringed. Body light brown - Antennae thin - Drawing of exact size & appearance F.M.S.

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No. 304 Larva (Polyommata)? found on the Gum (Eucalyptus) Sydney. 22 octr 1840. Drawn on the 27th. Full size - Length  $1/2$  Inc - of a light green color. in shape ^ & appearance like a Chiton. Habits dull & sluggish - fed on the Leaf of the Gum ^ hiding itself underneath feet 16 - on the 29th. it enclosed itself in a leaf by a thin flimsy web. very few in number - so that the Chrysalis could easily be seen through - Drawing of exact size and general appearance F.MS

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No. 305. Chrysalis of the foregoing, short & thick in appearance, wing cases of a black brown, body more of a cream color, with a few black dots - A few days after turning the Chrysalis was very transparent ^ painted on the 13 Novr 1840 - length  $3 \frac{1}{2}$  / 8 Inc - F.M.S.

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No. 306. Butterfly of the above, upper views. Took wing 14 Novr. 1840. Upper and under wings, near the Thorax and Body, and nearly  $1/2$  of the wings are of a rich lavender; the remainder towards the Margin of a rich brown ^ gradually mingling. On the lower wings are several round dots (black) with a whitish circle round them ^ representing Eyes near the Margin & running parallel to it. Margin White with nervures black, giving it a scolloped appearance. Two thin & delicate tails (one on each side) protrude from the Margin, & when see thro` a Magg. glass they have the appearance of brushes, tipped with white. Antennae, much clubbed, and white & brown alternately. The whole appearance of the Insect very delicate & pretty. The drawing represents a female - The Males ^ are without the tails & smaller. - Length  $1 \frac{1}{8}$  Inch. of expanded wings. The drawing is of exact size & appearance - F.M.S.

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No. 307. Under view of the foregoing of a light brown buff with darker, irregular, delicate transverse bands, all over, the Eyes are seen on the lower wing but only one or two are distinct - The drawing gives a good resemblance. Margins slightly fringed - (See No. 306.) F.M.S.

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No. 308. Larva found on the Acacia. Sydney. length  $7/8$ . Inc - of a light bright green all over. Curved in a leaf, or leaves, which it had joined together. quick & active in its movements - full size - and appearance - painted on the 4 Novr. 1840.- On the same day it enclosed itself amongst the leaves & turned to the Chrysalis - F.M S

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No. 309. Chrysalis of the above - length  $5/8$ . of a brown color all over.- Drawing of exact size - F.M.S.

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No. 310. Moth of the foregoing. Took wing 22 Novr. 1840 - Length of expanded wings  $1 \frac{3}{8}$  Inc - The Anterior Edge of the upper wings when open, forms a figure like the bow [[sketch of an archer's bow lying flat]]. Part of the Anterior Edge, Margin and Posterior Edge are bound by a broad band of Brown, clouded and irregularly shaped - and edged towards the middle of the wing with a deep brown line - leaving an oblong irregular shaped patch, of a light raw umber to occupy the remainder - This is striated longitudinally with brown; and from the anterior Edge .of the middle of this light color is a distinct band (longitudl) of brown. Under wings of a neutral tint with a shade of brown. Margins slightly fringed. Thorax & body light - Palpi long. Antennae long & thin - Underneath of a light brown with a golden line - Drawing of exact size - F.M.S.

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No. 311. Larva (sphinx) found on the North Shore, Sydney (Mr Brown's) on the 24th. Octr. 1840 - and painted the same day - Length full size  $3 \frac{3}{8}$  Inch - This Larva was evidently on the point of changing to the chrysalis state, therefore its proper color can scarcely be stated - When found it was of a dark dirty green and on each segment, on each side, from the 4th to the 10th are ^ oval marks similar to Eyes. The 1st. one, being black, with a whitish rim, and edged by a black line. The next red, with similar white, & black - The remaining 5, yellow, with dark black above, smaller & more oval than the previous ones - On the 11th Segment, the yellow ^ with the black above runs up to the Posterior horn - There are several distinct white specks on each segment. The underneath is lighter in color & spotted with white - The Posterior horn was black & very short.- This Larva probably was much brighter in the days previous to its capture. It fed on the leaves of the Evening Primrose. Drawing exact size & appearance on the 24th it enclosed itself amongst dead leaves, with a strong thread joining them together - M.S.

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No. 312. Chrysalis of the above - length  $1 \frac{5}{8}$  Inch. Wing cases & head of a pale ochrous tint - striated by black dotted lines - towards the head thickly dotted. The body nearly black much broken by irregular markings of the pale color. Drawing of exact size & appearance. M.S.

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No. 313. Moth (Sphinx) of the foregoing, Took wing 7th. Decr. 1840 - Length of expanded wings  $2 \frac{7}{8}$  Ins. Upper wings of a very rich brown (inclining to Plum) darkened much towards the margins - leaving however a whitish shade from the tip across the wing -  $\frac{1}{2}$  transverse. Under wings of a vermillion, rather dull, edged by black line, next to the margin, which is a thin white line - The body, thorax, & head of rich plum colour. on each side of the thorax and around the Eyes, a broad streak of white hairs (slightly yellowish). Antennae white - recurved towards the tip. There is a short black line from the tip of the upper wings adjoining the white shade already mentioned - Underneath of a rufous tinge - legs strongly spurred and white - There are a few white specks at the division of 2 or 3 Segments, which partly go round the body - painted 7 Decr. 1840. exact size & appearance. M.S.

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[[NB The following section 314 is neatly struck out, with another 314 below it.]]

No. 314. Larva found on the North Shore; fed on the Gum (Eucalyptus) and painted on the 4th. May 1840, full size,- Length  $1 \frac{1}{4}$  Inch - exclusive of spines -  
[[End of struck out section]]

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No. 314. Agarista - Larva of Phalaenoides Glycinae of Lewin 'Plate 1' - The Larva, Chrysalis & Butterfly have already been described (see Nrs. 13. 14. & 15-) - but a new drawing having been made, and a few observations omitted - an additional description is now given. Length of Larva full size - 2 Inches.- When touched it turns sharply round & soils the fingers with a dirty liquid matter from its mouth - They are in great numbers & would totally destroy the Vines if not timely checked.- (see No. 13) - This drawing is a great contrast with the 1st. F.M.S.

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No. 315. Chrysalis of the foregoing - length 7 1/2 / 8 Inch. The segments of the body are distinct & annular. The Chrysalis has a beak - of a brown color throughout. Se No. 14. - F.M.S.

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[start of page 104]

[Scott Sisters' page 196]

No. 316. Female Butterfly of the foregoing - Fly by day. -Upper side of upper wings. Deep velvet black with transverse band of yellow (pale) - The larger one extending nearly across. These bands become narrower towards the thorax - on which are similar ones but of a greenish hue.- Upper side of Under wings & body of a deep velvet black - forming with the whitish margin, decided scollops. The tail saturnine red & flush - Tips of Antennae recurved. Length of expanded wings 2 3/4 Incs Drawing of exact size & appearance - (see No. 15) M.S.

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No. 317. Under view of the above - color of wings similar to above - but the lower ones with 2 speckled whitish bands running parrallel to the margin. Legs fringed with Saturnine hairs - annular marks of the same color round the abdomen. A handsome Insect - The Male is exactly similar to the above . but smaller. The yellow in the wings being narrower & rather brighter. Lewin is wrong in stating that the males are distinguished by 2 circular spots - altho` the Insect he drew from, had them - His variety has not yet been found, altho the Butterfly abounds & is daily seen in hundreds - M.S.

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No. 318. Larva found on the North Shore. Sydney. fed on the Banksia. painted on the 7th. Octr. 1840 full size Length 2 3/4 - of a bright Vandyke brown on each segment are several white spots, each producing a small & thin hair - a whitish band runs from Head to Posterior horn - The three first segments are spotted with white - The adjoining ones ^ as far as that bearing the horn, & just above the division of the sides & belly, are white bands, with yellow centers & a red spot between them - The two last segments of a reddish tint with a few white spots, bearing hairs. Posterior horn black tipped by two black hairs. The middle feet are black (shining) fringed by black hair - Front feet reddish - Head of a light brown - Under the head & immediately before the 1st. feet the

Insect could thrust out, at pleasure, two feelers of a reddish color, parted at the ends (like an anchor)- This XXXXXX XXXX out suddenly and as suddenly taken them in (like the Antennae of the Papo. Larva) - This shines all over & is very showy. and justifies the name given to this class by Lewin, of Porcelain being very like it - (Notodonta?). - Drawing of exact size & appearance - The Larva went underground on the 9th. Octr. forming a cell with agglutinated earth - taking several days to turn to the Chrysalis.- Lewin's figure & this differs somewhat, probably being a difft species - Other larvae were had, but all similar varying however in shade of color. F.M.S.

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Nr. 319. Chrysalis of the above painted on the 21 Octr. 1840. length 1 1/4 Inc. of a shining black color and thick form - Annulations of the body distinct. tail rounded - Drawing exact size. F.M.S.

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No 320. Moth of the foregoing (upper view) Took wing 15 Novr. 1840 - Length of expanded wings 2 5/8 Inc - Upper wings of a purplish neutral tint ground on which are irregular but distinct rich black marks (delicate) & between, spotted with distinct white spots. Under wings of a light brown - The interior margin rising partly over the body & yellow. Head & shoulders black. ^ upper part of thorax black, & thickly spotted over with white - lower part of thorax spotted with yellow - Body bright Indian yellow. Tail, a thick tuft of Black hairs - Antennae yellow. Underneath the wings are of a dirty black (light) - body black appearing slightly between the segments above. legs very hairy& black. Altogether a very showy insect. This differs a little from Lewin, being paler, and smaller. Drawing of exact size & appearance. F.M.S.

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No. 321. The same, at rest. F.M.S.

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No. 322. Larvae of the Papilio Erechtheus or Aegeus.in different stages of growth. When young, they are of a shining brown, with patches of white, covered with strongish spines. When full grown they acquire a greenish color, with large patches on each side of brown, strongly edged by white. The spines likewise now appear very small, not having grown with the growth of the Insect. The 3 first segments & half of the 4th are green edged with white, all round forming as it were a shield over that part of the Larva. The remainder of the 4th Segment & underneath is brown. Longitudinal& dull band(?) of greenish white are seen thro the green. The front(?) feet are brown. the middle & caudal feet are white. These larvae feed on the Orange& Lemon leaves and have been very numerous this search. Its habits are very dull & sluggish.

[end of page 101]

[end of Scott Sisters' page 199]

[Diary reverses direction at this point]

List of Insects from Mr ?Roch July 1860

- No 1 - Papilio Turnus - Mexico
- 2 -"- Asterias - Jamaica
- 3 Argynnis Cybele (symbol for male) New York
- 4 -"- -"- (symbol for female) -"-
- 5 -"- Idalia -"-
- 6 Danais Archippus - (?Godart - Plexippus, Cramer)
- 7 Vanessa Antiopa - Mexico
- 8 Colias Philodice (symbol for male) - New York
- 9 Hesperia ?Labulon -"-
- 10 Dryocampe Virginensis - Virginia
- 11 Saturnia Luna (symbol for male) Jamaica
- 12 -"- Europa (symbol for male) - New York
- 13 -"- Polyphemus (symbol for male) -"-
- 14 -"- -"- (symbol for female) -"-
- 15 ?Hypergia lo (symbol for female) -"-
- 16 Sphinx Carolina - New York
- 17 Catocala Parta -"-
- 18 Noctua Celia -"-
- 19 -"- Albomaculata -"-
- 20 Tryphena ?timbria Europa

Helena Scott Ash Island

Spilosoma oblique (pencil drawing of two caterpillars)

- 12 sp Lepidoptera
- 47 sp. Coleoptera
- 12 sp Crabs
- 55 sp Ferns
- 52 sp Shells
- add: 1 ?, 3 ?Cyt?
- 3 or 4 Hel?, 1 Bal?



20 sp Mi?

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Green pale & bluish  
Yellow ? ?dirty gamboge

Memo from Josef Selleny - 7th to 10th Novbr 1858-

Never use gamboge & prussian blue as green - it always turns a brown color with age. Indigo & indian yellow makes a better green - but the proper kind is malachite green.-Never work your color up to the required darkness, but put on the shade at once, as dark as it is to remain, but never as dark as nature - always keep it lighter than nature.- First make your outline very accurately with a very sharp pencil held almost upright, & also the veins, spots, petals stamina &c., mark in pencil correctly. Then give a smooth broad wash of color over. Hold your plant always against a white surface, to make the lights playing on the surface^ of the leaves disappear, as they are not natural & therefore not to be imitated - & to see the proper tint of white on your flowers, as ^even if they appear white, by holding against a white ground, you will see if they are a yellowish white, a bluish white, &c &c &c- Never wash your shades over and over - it takes away the ?gum from the paints, & always looks dull.- You can prepare lithographic stones by washing them over with spirits of turpentine held in a large soft brush. If you make any error in your drawing on the stone you can erase it by applying strong vinegar to the place for a short time, then wash it off with a sponge dipped in water - dry the spot thoroughly and you can draw directly on it again-Metallic colors are got, by laying clear gum water on the drawing, & when it is dry take a piece of cotton (or wool) and dip it in gold powder & press it on the gummed place, then take the different preparations of copper & =/ according to the metallic color required, blue, red, yellow & =/& wash them over the gold ground - this gives the peculiar changeable tints as in Gould's Birds -Faber's lead pencils are the best. Columb (or some such name) a Frenchman, produces the best lithographic ? at the present day.

[start of page 3]

A No , *Cryptophasa pultenaea*, Lewin. Found on Ash Island, in July, feeding in the Callistemon, Turned to Chrysalis in the latter end of September, the Larva having secured the entrance to the nest with a silken webbing, with a small hole in the centre, like the prick of a pin. The outer covering of the nest all dropping off. Took wing in the middle of November. The caterpillar has the segment next the head horny, the two next with crop lines, thus, X. On the back of all the remaining segments are 4 yellow spots arranged in pairs, thus, 88, having a dark dorsal line between them. The Chrysalis has the posterior & anterior portions horny, & rough abdominal rings. The upper wings thorax and fringe of moth are beautifully white and glistening. Abdomen of male tufted.

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B. No - *Cryptophasa* in *Melaleuca*. Found at Ash Island in August, in tea bush. Turned to Chrysalis in latter end of September. Took wing in November. Larva Cylindrical, 16 footed. the sides lighter than the back, & very faintly and indistinctly marked with irregular lines. Slightly hairy. Secured its nest in an exactly similar manner to C. *Pultenaea*. Chrysalis has the horny abdominal rings, & is horny anteriorly and posteriorly. Moth nests with wings much folded to the body.

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C. No . *Cryptophasa* in Ash. Found on Ash Island in Ash in August. Turned latter end of September. Took wing in November. Caterpillar had a lateral row of yellow spots similar to the *Cryptophasa* in the Callistemon. When going to turn the outer covering of nest dropped off & the larva lined the tube& covered

the mouth with silk, having a small circular hole in the centre. Chrysalis has the head, part of thorax, and slight abdominal rings, horny. Moth nests as drawn, having the tips of superior wings curled round, which form it slightly retains even when spread out. It does not hang as *Phloropsychelt* had a short ovipositor.

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D. No. *Geometra* on small climber. Found in January, not very abundant. Took wing middle of February. Larva cylindrical, 10 footed, tail bifurcate, head slightly so, and a bifurcate projection on the 11th segment. Color yellowish brown, minutely striated horizontally with darker, & with a few white spots arranged somewhat in rows transversely. Made a silken cocoon, covered with particles of earth. Moth rests with abdomen curved round and the wings out horizontally, with the lower one partly folded over the upper as the one on the *Elaeodendron* is drawn.

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*Hecastesea fenestrata*.

E. No. *Agarista*, found in January, feeding on the *Cassythafiliformis*, hanging on the long pendant twigs. Took wing 1st February. Larva cylindrical, with whorls of small black spots each emitting a thin hair - these spots become more distinction the anterior segments - between the segments is pale pinkish yellow, the bands connecting being bluish slate color with black lines running longitudinally and connecting the spots. A lateral band of clear pale yellow, & the 11th segment tuberculated slightly, having red markings on. Made its cocoon entirely of agglutinated earth, fastening it to the bottom of the box. Would not turn till it had earth given in but wandered incessantly round the box. The *Agarista Agricola* likewise does the same. A proof that *Agarista* make earthen nests. The moth rests with wings decumbent & hangs in a slanting direction by its 1st and 2nd pairs of legs. Antennae curved at the point while alive, as drawn.

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[start of page 5]

Same probably as the *Lewinii*-

F. No. *Phloiopsyche* \_\_\_\_\_ Found in great abundance in December & [and] the beginning of February, mostly in the chrysalis state, taking wing in immense quantities. When turning prepared its dwelling as *Phloio*: in *Casuarina*. Take wing in the middle of the day or evening & [and] hang till twilight when they become very lively. No. 3 should be slightly larger, the silver bands very bright & [and] broader - the green deeply tinted with yellow round the bands - under wings & [and] abdomen silvery. No 2 & 3 & [and] also 1 & 4 took wing from these bag nests, the Larvae appearing to feed indiscriminately on this long leaved tree, the *Saturnia's* food & [and] the *Casuarina* - the different foods apparently imparting certain tints as those in the *Saturnia's* tree are more purplish than in this tree or *Casuarina*. No. 2 & 4 are all females. No. 1 & 3 Males No. 2 principally came from the *Casuarina*, with No. 1 Male. Caterpillar in *Saturnia's* food has the yellowish spaces on the back, between the purplish segmental divisions somewhat hard & [and] over the legs & [and] side are likewise small patches, distributed like those on the *Casuarina Phloiopsyche*, also hard.

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G. No. Lithosia \_\_\_\_\_ Found at Ash Island in February in great abundance, feeding on a species of Lichen, concealing themselves while at rest, in a crevice of the bark, or on the leaves of the tree. Are very restless when disturbed & [and] hang by a silken thread when shaken off the bough. Spun an oval, delicate flimsy cocoon to change in, attaching it to the gauze. The dorsal pencils of hair are on the 4th & 5th segments, the lateral on the 4th. Took wing in March. Moth deflexed in repose. Lewinii ?

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H. No. Phlosiopsyche \_\_\_\_\_ This variety principally came out from the bag nest, <indiscriminately & by> Tecoma Australis with No. 3 Male. Took wing from the bag nests, indiscriminately with No. 1, 2, & [and] 3 - Caterpillars & [and] chrysalis being precisely the same as those painted with No. 3 & [and] 4. All the specimens of this variety are females & [and] lay immense quantities of eggs.

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Scottiarum. Maclays

I. No. Macroglossa - Found the eggs in February - eggs round yellowish white, & [and] laid singly on the leaves. While young the caterpillars are in color green with yellow heads, & [and] long delicate caudal horns, in the first change they become light brown with the with the yellow head, & [and] lastly the color\* [colour] painted - about the middle of March they are full grown, eating from their birth voraciously. The Moth flies by twilight, with immense rapidity, & [and] making a loud humming noise all the time, continually exerting her sucker while flying & [and] laying the eggs. Turned latter end of March & [and] took wing beginning of April. The Males have a round spot towards the thorax on the upper wing which I think is deficient in the Females. The tufts on either side of the body are expanded to their full extent while in the resting position - the body & [and] upper wing have a beautiful pearly color\* [colour] over them varying in every change of position sometimes being pink, sometimes blue, at other times emerald green - the nest of this insect is made between dead leaves joined coarsely together with silken threads.

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J. No \_\_\_\_ Charocampa - Found on Ash Island in February fed on Cyssus - the Caterpillars are extremely plump eating voraciously - resting always with the head & [and] two anterior segments drawn right in - Went to turn in March, & [and] some took wing in April - the moth has a most beautiful golden gloss all over the wings when first out - the Caterpillars turn on the top of the earth, with the nest above made of the dead leaves of the Cyssus coarsely webbed together.

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K. No \_ Ophideres Salaminia Catocala \_\_\_\_ Found in February 1852 feeding on the same plant of the Dioscareia with number of the Catocala Dioscareae - In habits precisely similar - an extremely handsome insect - the skin being most beautifully rich & [and] velvety, & [and] the ocelliclear and striking - drawing not half bright or rich enough. Took wing in April 1852, upper wings most beautiful velvet green, app-eared sometimes brown, then yellowish green in different lights - the broad band along the Costa most brilliant silver. rests with wing decumbent - tufts on thorax erected. Found a caterpillar nearly full

grown May 23rd 1852 Some sent from "Glendon" March 1853 - black & dull red fed on Yam -L\_ No\_\_ Found at Ash Island in beginning of March feeding on the buds & flowers of <Callystha> Cassytha filiformis having its habitation amongst the intertwined stems of the <Callystha> Cassytha round tea bush - it weaves a slight silken web between the stems & hangs on it as drawn - Turns on it as represented, webbing round its body & hanging with the head upwards. Chrysalis angular on the thorax & has a lateral row of small projections. Moth rests upright, convoluted. Anterior legs on breast & resting by 2nd & posterior pairs - one sex with tuft of scales on anterior wing, near the basal half - other sex without.

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#### Chelepteryx Expolitus

M. No. - Found at Manly Beach in the beginning of February 1857 and subsequently at Toronga in the latter end of the same month. In both cases the caterpillars were in an exposed situation on low gum trees of the glossy reddish leaved variety. The larvae spun together the leaves of the gum with a coarse silky yellowish web, forming round the chrysalids a strong comfortably lined cocoon, in which they turned in the middle of March. The Caterpillars are similar in habits to the Chelepteryx. The ground color is a pale pinkish-drab, with fringes of stiff shortish yellow hair between the segments and down the back; and rows of 6 largish tubercles emitting stiff bunches of hair, yellow inter- -mixed with reddish, & yellow-grey, and a smaller tubercle placed anteriorly on the back to these, on each segment. A few occasionally longer hairs anteriorly & posteriorly & a couple of long hairs from the centre of each tubercle. Bunches of long hair on the 4th segment from head. Took wing 8th April 1857 - Male. Wings semi- -deltoid in repose & showing the posterior tip of lower wings projecting beyond the upper. A very rich handsome moth. A large Caterpillar found at Waratah in February 1861, was much lighter in color, the hairs being more yellowish white, & down the back a row of close short whitish hair, giving a brush the appearance of a dorsal line. Fork wing to a Female - wings same detail. March 1861. April 11 1863. Found 2 larvae at Waratah [?] River took wing next year.  
[left margin] Part 7

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#### Eulophocampe amaena

N. No. - Found crossing the Maitland Road 2nd June 1850, and at Tomago on the 1st March 1857, on the low gum (of the pale small leaved variety) springing from the old stumps, only one larva on each shrub. A voracious feeder, but very particular in choice of its food. Besides the <dorsal> tubercles as seen in the drawing, there <is> are lateral rows of smaller ones arranged in pairs this [sketch] just under the stigmata, and in an even line with the other 4 tubercles, below this row there is another row of yet smaller tubercles emitting tufts of reddish & white hairs intermixed.

#### many Ichneumonid

The ground color underneath, of the Caterpillar, is a beautiful velvety black with distinct lines and spots of straw color down the middle, and forming a connecting line between the feet - the feet are reddish with straw color[e]d markings. A very showy and beautiful caterpillar - the tufts are most beautifully pure white and soft. I cannot represent them half white enough. Made their nests 6th April 1857 - having previously wandered about the box for two days & nights, in a most restless & uneasy state, becoming at last quite weakened from constant movement. One nest was spun below a piece of

Casuarina bark, constructed with twigs &c[et cetera]. The other was attached to the top of the hat-box. They are large, somewhat oval cocoons, of a very irregular form, <attached> very light brownish color with the hair of the caterpillar sticking through in places. A web of light yellowish silk is spun in various directions to secure the cocoon itself which is much stronger in fabric. Note (no 1 This silky web can be <parted> peeled off in distinct layers, until it finally encloses the inner cocoon, which is exceedingly strong, coriaceous, &[and] inside beautifully smooth &[and] satiny. There is apparently a slit left of the end by the head of chrysalis, where the moth pushes thro[ugh]) Took wing 14th February 1858. Moth rests <in a> with the wings semi deltoid - with the <caudal> tip of lower wings projecting beyond the upper wings. 10 moths in pupae state

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O. No - Found at Tomago 22nd February 1857 feeding on the white gum. While not feeding it conceals itself on the back of a dried leaf, lying close to the leaf as the Noctua on the Fig tree does. Almost up to its last change of skin it is of a bright pale green throughout, with whitish specks over; but it gradually assumes, first a brownish, &[and] lastly the rich purplish hue as drawn. It is a smooth &[and] somewhat onisciform larva, with very small head, and black stigmata ringed with yellowish. Changed on the 29th Febr[uar]y weaving a nest on the surface of the earth with silk, pieces of triturated wood, portions of sand, &c[et cetera]. Took wing 21st March[18]57. Wings decumbent in repose. Thorax tufted. A raised oval spot on end of abdomen. Very rapid in movement.

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P. No - Found at Tomago in February feeding on Casuarina. Spun a strong silken oval cocoon of a brownish color, attached to the leaves of the Casuarina. Took wing 11th April [18]57 to the male of the yellow moth marked No 433 in book.

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[start of page 9]

Q. No 447 - Ephyra - Da[?]e - Found on Ash Island in March, feeding on the same tree as Chlorisses Macleayana - Larvae were first nearly black, but changed to the colours depicted, some being green with a lightish dorsal line - the green being longitudinally striated with darker, &[and] having small black points on each segment; and on the anterior portion of 7th segment a dark spot. Others were dark reddish brown striated - while others again were yellowish green mottled at the divisions of the segments by purplish red. The Larva sways its body to &[and] fro, with a wriggling movement like a snake. Turned early in April - attaching themselves by a silken web at the tail, &[and] a band round the centre of the body as with Papilio's - Took wing in May - to males &[and] females in about equal proportion - The mottled Larvae generally turned into chrysalids marked with red, which generally took wing to the black spotted geometra's.

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R. Chlorisses Macleayana. Found the eggs, on Ash Island, in the middle of March 1853. The tail of the Larva is bifurcate up to its 3rd change of skin, but after that it becomes entire. When quite mature <the> the projections or spines up the anterior annulations likewise almost entirely disappear, except the pair

on the 3rd segment, which are still visible. They are sluggish in their habits, only moving when disturbed by the light - but are extremely irritable & sensitive - darting forth the retractile tentacula at the slightest alarm. Like the Larvae the chrysalids vary much in general hue, some being bright emerald green (as painted) & others watery bluish - white - & likewise the reddish spot on the side, & the tip of horn, is quite deficient in many. The first butterfly took wing the 11th September 1853.

[left margin] part 7

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S. *Orygia* (?) Found on Ash Island in February, in an exposed situation, feeding on Couch\* [couch] Grass. Larva had whorls of six tubercles on each annulation; and additionally on the 4th 5th 6th 7th & 11th segments dorsal tufts, that on the latter having two hairs like battledores out of it. Turned in an oval, whitish, silken cocoon, with hairs of the caterpillar intermixed - inside this, surrounding the chrysalis, was another slight silken cocoon, of very flimsy texture, & separated from the outer one. The Chrysalis has an oval spot of little minute tubercles, like grains of sand on the back of the 3 first segments from thorax. abdomen hairy - moth rests decumbent with its very large antennae together & erect.

Memo: March 1860. Found this year two Sphinx larvae, very much like the brown ones of Celerio, but more mottled & having indistinct eyes along the sides - The shoulder ocelli large & bright

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[inserted page 9a]

\* *Papilio Macleayanus* (?) on *Sarpedon*'s food

When first hatched are velvety blackish brown on the sides, deepening on the upper, & paling on the lower side, the whole of the back whitish, interrupted by the black color passing in a band entirely over, & between, the 2nd & 3rd, & 11th & 12th segments, & also slightly at the anterior & posterior extremities - head black - whorls of 6 small bifid black bristles [diagram] on all the segments except 1st & last, which have each a pair of larger black tubercles terminating in several long black bristles (like *Hyalophora*'s) The 2nd bristle in 2nd row on the 2nd & 3rd annulation is likewise replaced by a similar large tubercle, forming in all 4 tubercles down each side of the caterpillar, 3 anteriorly & 1 posteriorly - over the legs a row of black setae. The larva is thickest towards the anterior portion which when at rest is generally erected up. The first change it loses all the bifid bristles (in the place of which are small white spots) & only retains the 8 large tubercles which change into horny black spines, slightly branched - that at the tail white at base & bifid. The body is of a delicate dull green, somewhat speckled - the anterior segment pale yellow, & the space on the back between the 2nd & 3rd spines, covered with a shield like patch of rich reddish brown. Tail reddish, head large, yellowish green. 2nd change, it retains color & becomes very fat & bright, the green being more vivid, relieving the white spots; the first segment & the caudal horn clear yellow; the head yellowish green, & the spines & patch between rich reddish black, the latter having the white spots continued over it. It now throws out large retractile tentacula of a watery greenish white color, out at the slightest alarm. 3rd change, similar but gayer, being a dirty yellow ground color on the back, speckled over with sap green, paler & more bluey along the sides, the 3 anterior

segments tinted with [?], the middle spine of these getting smaller every time, being now very indistinct. The caudal projection yellow tipped with black & [and] <the bifid portion always kept close together>, [?] like one spine, but 2 rows left on each side, of white spots. Some of the larvae are dark dirty green [?] of yellow & [and] some of them intensely bright dark green. 4th change, in color similar but brighter, & [and] the spines on 1st & [and] 2nd segments all but gone, only consisting of mere points. The connecting line between the first row of white dots getting very distinct & [and] bright. In some of the dark ones the red patch by caudal horn entirely wanting. When quite mature the shoulders pines are mere dots, those connecting them quite gone. Color bright. Changed to chrysalids in the beginning of May.

\* Eggs round smooth pearly greenish deposited singly on the leaves - found about the 27th March.  
[end of inserted page]

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T. Psyche (?) Found on Ash Island in April. Fed on Lichen, eating only the upper green surface, and leaving, when finished, the Lichens beautifully white - the nest is open at both ends. The Caterpillar has extremely small middle feet, but very powerful front ones, and always carries its nest upwards, as drawn. Changed to Chrysalis in the nest. The perfect insect is speckled all over with gold - it has a small ovipositor.

---

U. Hyberina (?) Fed on "Fat hen" & found in February. Head & 11th segment slightly bifurcate - Spun a very weak silken cocoon, with earth & leaves attached. Chrysalis has a small prominence on each shoulder. Took wing to Male of No 521. Antennae very plumose.

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V. Geometra found at Ash Island in September 1857. Fed on Eleodendron. Has 10 feet. Head rather bifurcate. 2 rather prominent spines on the 6th. segment, & 2 small ones on the Caudal segment. Turned under ground, in a cocoon entirely covered with earth. Took wing 27th Septr. /51. Rests in a most singular manner, with the under wings folded over the upper ones, & then again slightly reversed. The abdomen is thin, but swollen at the tip, and when at rest is slightly turned up, and always carried on one side. The under wings are colored underneath at the place where they fold over the upper ones, & similarly colored to the upper wings, so as to match exactly, & seem as only one wing.

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W. (Limacodes) - Larva onisciform, & so plump that the annulations are not visible - head small, light green, concealed except when feeding - body entirely covered with small dark green raised points like prickles. These are apparently pointed tubercles each emitting two hairs, so, [[sketch]] - I have teased the Larva, & felt over it with my finger, but cannot make it sting, or irritate the flesh in any way - It was found in the end of January on the food of Persoonia (?) - eating voraciously of the young shoots. Turned on the 10th. March 1854 - spinning an oval nest of a coriaceous texture, on the branch of the tree. Took wing 5th. November 1854 - Male - very active in its movements. In February 1861, these larvae were found in great numbers feeding upon Native Pine - Eleodendron & scrub at the bottom of I. Greens.



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X - (Apterous) Found at Stockton in November 1855, feeding on the five-corner - Head densely covered with short yellow brown hair intermixed with a few longer hairs. Spun a brownish, strong, oval, cocoon attached to the twigs of the plant, & intermixed slightly with the hair of the larva, in which it changed early in December. Was born, & died in the cocoon, the body being a mass of eggs -

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Figd. by AWS. in Ent. Soc. Pro.

Y. Hyphantidium sericarium - Wollombi Tinea - Fed on dry maize, eating into & living in the heart of the grains, & connecting them together by a slight silken web - Each Larva forms a separate cocoon, in which to turn, by webbing a delicate & very slight silken envelope, among the maize. Took wing middle of October 1856. Superior wings somewhat arched in the center of costa - covered with a silvery lustre - inferior wings semitransparent fringe very deep. Very rapid in its movements, & runs quickly about the box - wings slightly convoluted in repose.

Papilio Sthenelus - Found on the 1st November 1857 at Ash Island, feeding on the Orange Tree. They were then about a week old. Underwent their transformation into chrysalids on the 21st & 22nd November. In all their habits & movements are precisely similar to Erechtheus & Anactus, but in shape & appearance agree more with Sarpedon & Macleayana - A very showy caterpillar. In its younger changes is dark brown in color, with yellowish marks on the sides & on the caudal extremity. Two rows of small spines down the back, with an additional one on each of the first 3 annulations. At the last two changes the ground color becomes velvety sap green, merging into a bluish hue at the sides. Whorls of 6 bright yellow or pinkish(?) spots ringed with black, on each segment, except the anterior & posterior, which have each a pair of small yellowish horns. The spines down the back gradually disappear & when the larva is perfectly matured are merely raised spots. In some specimens the ground color is more yellowish & the black spots on the beginning of each segment & the dorsal black spots are so much enlarged as to form a continuous black pattern between the yellow spots. The same is the case with the row over the legs which are quite connected by the black pattern. A white band runs immediately over the feet. The feet are powerful, brownish white speckled with darker. The yellow spots in the 3rd segment from the head are larger & more connected together with black, forming a sort of diadem over the back, connected on the top by two small, black eye like spots ringed with white. When irritated the larvae throw out the retractile tentaculae with great force, diffusing a powerful odour. Took wing indiscriminately in December, January & February.

NB. When first born, the little larva had whorls of branched spines on each segment, which get smaller in its 2nd change & entirely disappeared in the 3rd, only leaving a dorsal row down each side of the back, & one on each side of the first three annulations (the anterior ones being very small).

Deilephila Livornica? Eggs laid by above Sphinx in latter end of December 1858 (24th Decbr.). Fed on Grape vine. In their earlier changes somewhat resembled the full grown caterpillar, tho' on a small scale & with the markings indistinct - & some of them were of a dirty olive greenish color, changing finally to the black. The three specimens which attained maturity were all of the blackish color drawn. The stripe down the back was very distinct. Spun

their cocoons on 24th Janry /59. Merely connecting coarsely a few dried leaves& a little sand, with coarse silk threads, forming a covering over a hollow in the earth. took wing on the 15th February 1859. - rests &c. precisely like *D. Celerio*.

\* but at last, it pokes out first its head, & so on until half the body is exerted, shooting out like a finger from the hole, it remains so for a time, then begins to jerk violently the head up, at slow intervals - after this has been repeated some time, the back of thorax splits & the beautiful moth pokes out its wings all wet and sticky, then its long legs appear with which it catches hold of the wood above, then after a few seconds draws itself out, & crawls heavily to some place of suspension. In January \* (towards the end of the month) 1860, we found these large *Phloiopsyches*, principally in the Lilly-pilly, but also in the *Alectryon* & several other trees - those in the Lilly-pilly were all in the Chrysalisstate, two or three inhabiting the same tree which was also invariably swarming with white ants, perforating the trunk almost side by side with the Larva. The smaller plants of Lilly pilly growing around the larger tree were also full of the smaller *Phloiopsyches*, probably *P. Splendens* or *Lewinii*. In the *Alectryon* they were all in the Larvastate, 4 large caterpillars being in one small tree. In their habits & method of closing the entrance of the nest up when turning into Chrysalids they perfectly resemble the *Phloiopsyches* in *Casuarina* &c. The Caterpillaris very muscular in appearance the divisions of the segments being strongly marked & raised, as in *Rh: Swainsonii* - these, as well as the dorsal line& the divisions over the feet &c &c are all marked & mottled with purplish red - the caterpillar has a hard, marbly look, & is sufficiently transparent to see the working internally. Head & 1st segment horny - 16 powerful feet. The moths (both males) were born, late in the afternoon of the 2 & 3rd March 1860.18th & 19th Janry Abdomen very flat at the sides. The spots on the upper wing are brilliantly silvery in hue - impossible to imitate. The female was born on 7th March. Hangs pendant from the (?)gauze, by the 1st & 2nd pairs feet like the other kinds, but does not curve the body round - wings folded very flat to the sides, the tips meeting underneath. The pupa works itself with great rapidity up & down its hole. When coming out it appears for about an hour previously with its head & shining eyes, peering out of the mouth to the hole, & at the slightest noise or motion, pops down like a shot to the bottom & does not reappear for several minutes- \**Phloiopsyche* (small sort, in Lilly Pilly) found in large quantities in the smaller trees of Lilly-pilly, on the 19th January 1860 - as many as three inhabiting the same sprig - the greater portion were in the chrysalis state - out of 23 specimens we cut down, 13 were chrysalids. The larvae are paler than the Ph: in *Casuarina* & *Tecoma* & have the yellowish dorsal spots scarcely visible. They all make the long, bag shaped covering, drawn tightly around the stem they are in. Took wing (as also from the Gum, *Callistemon*, & other plants) to the Ph: *Splendens*, & *Lewinii*. Principally females of the former.

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April 11th. 1865. Went to Waratah for the purpose of getting some specimens of *Ch. Ramsayi*, but unfortunately arrived too late, as the exuviae of the chrysalids were sticking out of the holes - one not very large tree of the *Acmena* had 8 or 9 habitations in, principally up the trunks at some distance from the ground & on the lower side where it leant over a small watercourse or hollow -

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\*bark- eating around the hole - & weaving a flimsy web covered with the debris of the food, all over the place.

Charagia in dead Tea-tree. Found in January 1860, same day as Phloiopsyches - in a dead & partially rotten bough of Tea tree, which had been blown off & was resting in a Lilly-pilly plant - the caterpillar lived in a hole down the centre of the bough, & apparently fed upon the rotten bark, as it was eaten all round, & holes occasionally hollowed out, while the whole was carefully enveloped in a flimsy, loose, covering, formed of triturated rotten wood & bark, webbed slightly together. The ground color of the caterpillar was a greenish brown, tinted & mottled with reddish purple, darker over the sides - the spots or plates (4 on each segment) down the back & over the legs, were darker brown & slightly horny. the whole caterpillar had a purplish red tint.

Found a similar larva in September /?59, feeding upon white fungus, growing upon a prostrate log in which the caterpillar had its nest ?or hole - it webbed the fungus to the tree & eat the underneath away, leaving a hollow where it had been feeding. It also fed partly upon the \*Memo: In the Christmas of 1860, & beginning of 1861, there were immense numbers of the larvae of *Acraea Andromacha* feeding upon the *Disemma Herbertiana*. Directly they were touched they dropped to the ground. They rested with the anterior portion the body almost erect, not holding but with the two last pair of pro legs. The spines of the larva in the drawing, are too long.

*Cryptophasa* - from Macquarie Fields, sent by E. P. Ramsay in the beginning of February 1860. Tolerably abundant up there, in the broad leaved *Acacia pendula*?. Many were in the Caterpillar state, but the greater portion were Chrysalids. The Caterpillar was in no respect different from the common *Cryptophasas*, either in appearance or habits -the principal color being a dark greenish brown, wrinkled with blackish brown, & in the anterior portion of each segment a reddish clay colored patch, paling at the sides. The three anterior segments were entirely dark greenish brown. The most peculiar appearance was presented by the head of the chrysalis which was furnished with a large horny projection with two (apparent) mandibles, very similar to the mandibles of an earwig, or some beetles - this projection was, as it were, inserted in the neck of the chrysalis, a cleft being apparently formed in the top of the head, the mandibles being turned downwards, or, towards the back of the chrysalis -It was dark shining black-brown, horny, & all covered with raised projections, like shagreen, & at the sides, appeared as if it had eyes, which was however mere deception. We at first imagined this projection was a deformity, but this cannot be the case as every specimen hitherto found by Mr. Ramsay, have the same formation,- Last season he forwarded a specimen, & this year the 4 chrysalids we have are all provided with it. Took wing end of February 1860. The caterpillars at Macquarie Fields are found sometimes 2 1/4 inches in length. (Lewins *Cryptophasa rubescens*)

Green *Geometra* from Macquarie Fields. Sent by Mr. Ramsay in the beginning of February 1860 - feeding on *Eucalyptus* - green throughout, with a delicately pencilled black lateral line, & on the 5th segment from head, a largish black spot on each segment, head yellowish, speckled with red - 10 feet - formed a cocoon of agglutinated earth, in the end of February- Took wing 11th February. Wings flat in repose.

Brown *Geometra* from Macquarie Fields Sent also with the upper one, in the beginning of February, but was then very small - reddish brown - speckled with white - grew very large until beginning of March - feeding on *Eucalyptus* - a ravenous feeder -10 feet. Pale yellowish brown throughout - speckled with darker - & on 7th segment a dorsal spot, & lateral marks of jet black. head & tail reddish - the only pair of pro legs, large, & marked with purplish red - a flat, projection, like a plate, on 11th segment - like a stumpy tail, edged by black. Went underground 10th March, forming a cocoon of agglutinated earth. Took wings about 19th February 1861. Wings decumbent in repose. Agrees in many respects with that beautiful large yellow underwing from Ramsay.

Fruit eating Caterpillar (*Arctia* ?) from Macquarie Fields. This, & the next species were also sent by Mr. Ramsay in the middle of February 1860 - it was fed by him on slices of quince & pear fruit, which it eat freely, but on ascertaining that an English species (*Arctia villica*) whose larva much resembled this, fed on chickweed, I offered it to ours, & it ever afterwards eat ravenously of the chickweed, & refused the fruit - it runs very rapidly - on each segment are whorls of 12 large tubercles. the dorsal pair much smaller & placed more forward than the others, these tubercles (which are somewhat paler than the rest of the larva) exist(?) stiffish black pairs, shortest on the dorsal pair) The ground color is brownish black but becomes dark black, all around the row of tubercles - large white stigmata - head & feet reddish yellow marked with black - Spun a very flimsy irregular cocoon of silk (with hair interspersed) attached to the side of the box & bits of chickweed in the end of February. Took wing middle of March - Wings decumbent - a very delicate beautiful insect when just born - the white ground color has a silvery lustre all over it.

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*Arctia* (?) on Mimosa, from Macquarie Fields. A very handsome larva. eat sparingly of Mimosa, but preferred the slices of quince & pear which offered to it - probably thro having this fruit in the box during the journey from McQuarie Fields, & very little of its own fresh food. The central rows of tubucles were arranged precisely as in the preceding species, but the hairs were longer & thicker. Ground color bright orpiment yellow, with a velvety black pattern arranged down the back (see drawing) & smaller down the sides of the segments – tubercles pinkish-yellow-large-&project considerably - head & feet yellowish - marked with reddish - stigmata large - whitish yellow. Spun a flimsy oval cocoon of silk & hair, end of February. attached on the leaves of the Mimosa & to the box -Took wing in the beginning of April to the same as the preceding species.

Green Caterpillar on Mangrove. Found in February & March, feeding on young shoots of Saltwater Mangrove - when not feeding lies flat to the stem, or back of the leaf. Formed a small oval cocoon of strong texture, attached to the sides of the box & between the folds of gauze, early in March 1860. Took wing on 16th October 1860. Wings decumbent in repose.

Caterpillar from Macquarie Fields. *Porthesia* Stephens Tolerably abundant - sent down with the other insects at the end of February. Made long, oval, thickish, white cocoons, \* early in March, fastened to the sprigs of Mimosa upon which they fed. Some had the pencils of hair perfect, but the greater number were very imperfect, & ragged - tufts of velvety short greyish hair on all except the three anterior segments. Took wing in middle of March, to snow white moths, with bald thorax, & yellow tufted abdomen - in female. In male abdomen tufted white & large feathery antennae. When just born, they expand & rest for a long time on the cocoon, with wings very close to the side, & have an exceedingly pretty appearance, like snowflakes - lay quantities of eggs, enclosed in the tufts of hair, from abdomen. \* with an open aperture at one end-

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The small apterous insect, brown & orange yellow, marked 350 we have found this year at Darling Point feeding on the flowers of *Eriostemon salicifolium* & other plants. Its cocoon is a small elongated oval – brownish white in color - & fastened to the bottom of the box. The female has rudiments of wings, like little feathers.

Large *Pyralis* on Native Apple - Found on Ash Island, towards the end of March /60, nearly full-grown - webbing the top shoots of the native apple, into compact nests - these they inhabit only during the night, deserting them in the day time, and only appearing at night to feed - where they hide themselves we cannot ascertain, but very probably they go amongst the dead leaves and rubbish under the tree, as those we kept under cover, always buried themselves in the loose earth etc. lying in the box - without they are secured in a wooden box, they invariably manage to escape. A shining glassy yellowish caterpillar - darker green down the back - head & front of 1st segment glossy black - on each annulation an irregular row of small, hard spots - the front feet large, strong, & black - the middle to very small & pale green. head small & somewhat pointed. Runs very fast. Immense numbers on the apple in November 1860. When about to turn they form, in the sandy soil, round nests of silk covered with agglutinated sand. Took wing in middle of January 1861. Moth rests with the wings almost horizontal.

*Mitrocephala* from Macquarie Fields - Sent by EP Ramsay in February. Feeding in Gum - in habits and appearance precisely like *M. Cinerea*. Made its nest by joining together a few gum leaves with silken threads. Took wing 23rd March. Differs principally from *M. Cinerea*, in the bluish gray color above, and shortness of the superior wings & in having on the under side, three black spots near the base of upper wings and a golden brown triangular patch dividing the middle of the wing.

Caterpillar in tube-Wattle. From Macquarie Fields -1

Sent by EP Ramsay in March 1860. Made a cocoon in the corner of the box, of triturated wood & silk, whitish color and strong texture, in the latter end of the same month. We had previously got these caterpillars in the neighbourhood of Hexham, also feeding on Wattle - living in a tube open at both ends, coming out at night to feed, biting off pieces of the leaves & fastening them to the nest entrance. There are two rows of small black spots along the side; & the two intervening segments between the caudal and false feet, & the false feet and pro legs, have each a band of 4 black spots transversely, underneath. Color light pinkish neutral tint.

Hairy Caterpillar on Wattle - Macquarie Fields -2

Sent by EP Ramsay in March /60. Lies close to the bark when at rest, but runs quickly if teased. The hair down the back is pressed close to the body, & is of a silky black color, & rises more into a tuberculated form at both extremities. Spun its cocoon in the corner of the box, in beginning of April - of an irregular oval form, & of white thick silky texture, having a sort of thinner covering woven outside to connect it to the box. Took wing 3rd November 1860 - dashes about the box so as to destroy all its plumage. Female took wing in September 1860.

Green Caterpillar on Wattle - Macquarie Fields - 2.

Sent in the end of March - Fed on Wattle - one had turned in the bottom of the box, making a coriaceous cocoon of whitish color, with some dead leaves attached - 2 rows of tubercles tipped with black, down the back; those on the 4th & 11th segments being largest - emitting black hairs - in the 3 first segments, become small black spots. Took wing 12th October 1860 - wings decumbent in repose.

Young Chelepteryx larva to be formed during the months of October & November.

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Harpanota Harpalyce. Sent from Macquarie Fields in the middle of September 1860, in the Chrysalis state - the perfect insects taking wing at the same time. Dozens of chrysalids were attached to the same sprig of Mistletoe. They were found in great abundance in December, at Macquarie Fields, feeding on the Loranthus. The chrysalis perfectly resembles that of *P. Nigrina*, in its formation & the disposition of the black projections (six down the back; 4 smaller ones behind the wing cases; a bifid one on the head with two smaller ones behind it) but it is of a brighter orange color, marked with black & more robust in shape. E.P. Ramsay describes the caterpillar as being of a yellowish colour, with rows of yellow dots down, each emitting a black hair. Received the larvae 25th February 1861, feeding on the Loranthus with long, thin, leaves - they were of a rich plum color with two rows of yellowish spots emitting strong hairs - & between each segment & above the legs close fine whisk hairs. Mine were much stunted, & came to very small specimens.

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Geometra(?) (with swollen head) Found at Darling Point, feeding on *Cassytha filiformis*, but afterwards eat gum leaves. The anterior segments, as the creature rests, are gathered together in a swollen form, the head being drawn down to meet the front feet - the second segment projects at the sides, & is larger than the others - the 5th, 6th, 7th & 8th segments (from the head) are slightly tuberculated at the sides - 10 feet - the pro-leg being almost between the 10th & 11th segment. Formed a loose cocoon & earth in October - took wing early in November - wings horizontal in repose.

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The small yellow & pink moth marked No 390, has been sent from Macquarie Fields, in the chrysalis state, in strong oval cocoons, entirely covered with the refuse like the *Cryptophasa* holes - several were fastened together on Loranthus leaves on which Ramsay says they feed - but of the habits of the Caterpillar I am as yet ignorant.

Caterpillar, in the interior of the *Banksia serrata* flowers - Found in great abundance at Darling Point in July 1860 - The mature larva has no perceptible traces of feet, & much resembles a Coleopterous species; but the smaller ones have the proper number of feet (16) very distinct - A glassy, fat larva, of a pale creamy yellow color, with soft, slight, hairs occasionally emitting & a reddish brown head - Took wing beginning of November - Wings decumbent

XYZ

Large hair caterpillar found at Darling Point in middle of June 1860 - We found three specimens, in every case crawling in the Verandahs of the house, but I never could ascertain upon what they fed - they refused gum, grass, & a variety of other plants with which I tried them - two of them died, but the third spun a very large cocoon, on the 18th. of June. Connecting it to a quantity of grass in the bottom of the box - The cocoon was perfectly double - the inner one being a long oval ; of strong , firm texture & greyish color, blotched with whitish - This was only connected to the outer shell by a few slight, silky

threads, spun around it - The outer nest was greyish, & of uniform, smooth texture, free from loose hairs or threads, & rather transparent - giving more the idea of a coarse, whity-brown, tracing paper - In both the shells there appeared at one end as if the thread had been left partially open to allow the moth to escape. Took wing 19th. March 1861. Wings semi(?)-horizontal in repose. Has a very glossy pale-green reflection all over it when just born –E Kirchner says these double nests were in great quantities at D Point - placed between the crevices of the rotten hollows of Tea trees –

Caterpillar on Five corner - Darling Point. Found feeding on the low, young, single plants of Five corner, in August 186X. The caterpillar was in its first stages, brilliant emerald green with a rosy lateral stripe - It then changed to a reddish yellow throughout, & finally became of a purplish-reddish-brown, with longitudinal interrupted stripes, of blackish brown the whole length, the dorsal & lateral ones being the broadest & darkish - under the lateral stripe runs a reddish shade. Stigmata very distinct - minute pinkish white specks & lines mottling the whole surface - Head yellowish brown with two dark markings up the centre - 16 feet - A very plump caterpillar - Made oval cocoons, with agglutinated earth, stones & bits of wood &c. attached, on the surface of the ground, in the end of September 1860 - Took wing 4th. Novbr. 1860 - wings deltoid in repose - on the thorax two projecting tufts of scales, like ears, viewed from above - Small hairy caterpillar, on tea bush, Darling Point - June 1860 - found near the Dripping rocks - Color at the sides ashy grey, finely speckled with black - a broad dorsal line of white, which widens into large sulphur yellow spots on the 3 posterior segments interrupted lines of black run down each side - whorls of small reddish tubercles on each annulation, emitting bunches of dark hair. The 1st. pair of pro-legs are deficient - Spun an oval cocoon with the small leaves of the melaleuca attached regularly all over it; on the side of the box - at the end of June - Never Came out –

Noctuidae ' - Sent from Macquarie Fields 2nd. June 1860 - feeding on the White Gum, the large leaves of which it completely folded over & spun together at the edges, to form a habitation - The larvae lived in these & having eaten off the whole upper surface of the leaf, which soon caused it to become brown & withered, it would afterwards come out at night to procure fresh leaves for food, & after eating, retire again to the nest - When about to turn, it deserted the leaf, & formed a cocoon of earth & silk on the surface of the ground. A pretty, gay, caterpillar - yellowish ground color, streaked longitudinally with light red - two round yellow spots on the back of the 5th. segment - an irregular blackish lateral line on each side, darker under the yellow spots, & near the head & tail . A very lively caterpillar. Took wing 3rd. April 1861 - wings deltoid –

Phisicampa (from Darling Point - November 6th., full grown - fed on Native Fig - A gummy, fleshy caterpillar - so covered with a viscous substance as to attach everything it touched to its body. 16 footed - first annulation small, & drawn under the shoulders when at rest - head small, shining, brown marked with black. the white, dorsal band is on the 2nd. 3, 4, 5th. segments from the head & 9, 10, 11th, 12th at the tail - intermediate three segments light saturnine Formed for themselves, oval brown, coriaceous, cocoons, under bark, between leaves &c. like Ph: Sapotearum - Took wing in end of March & beginning of April 1861 - wings decumbent . The cocoon has at one end a join or aperture, to allow the moth to escape - the same in Ph: sapotearum .

Green caterpillar on climbing plant - Ash Island - Found on 1st November 1860, in tolerable abundance, in the paddock at the back of the garden, feeding on the back of the leaves of the climber, which it had completely stripped in places. When touched it instantly dropped to the ground. A fat, glassy looking larvae. Segments produced much anteriorly, then tapering again to the head which was small - pale, whitish green, tinted with yellow both anteriorly and posteriorly - Turned in a few days after being found, spinning a coarse brownish web between the leaves and through which the Chrysalis could be seen -

Took wing 19th November - rests like the geometras, with wings extended - Apuda (W. Idstein) - Found at Ash Island in the begining of November 1860 - feeding on white gum - solitary - Head shining black, small, and concealed beneath first annulation - Feet so small and fleshy, as to be scarcely discernable –  
???Charocampa Cineraea (No 3) Found end of December - nearly full grown in beginning of January 1861 - feeding upon ? - At first it is pale bright green with the shoulder ocelli very bright and large. Otherwise very much resembles Celesis - Where the front segments are extended in the act of walking and the shoulder ocelli look very beautiful and resemble the spots in the tail of a Peacock - they are connected over the back by a shade of delicate sulphur-yellow. Some are pale bluish green with a whitish stripe - and brown stigmata - web a few leaves carelessly together on the surface of the ground - Took wing C. Cinerea (?) Wings deltoid. Abdomen very much pointed. Larvae very plentiful and of all intermediate shades of brown and green in April 1861. Specimens of this sphinx have been sent from Port Macquarie and the Clarence River. (written sideways in the margin beside above entry) Caterpillar on Menispermaceae - Ash Island - found on 14th January 1861 - feeding on Menispermaceae. 1st pair prolegs deficient. Dropped to the ground when touched. Formed a long irregular shaped cocoon covered with rough pieces of earth, and formed to the side of the box - a few days after being found - Took wing to an old species - Wings decumbent –

Tryphaena (?) 1861 - found 14th January 1861 - resting on the underside of some dead twigs - when young an of a yellowish colour on the back, with a few black lines on the sides - formed a cocoon and emerged a few days after being found - Three larvae of a pale green with dark markings were found at the same time - Took wing as Tryphaena renigera

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Geometra with shoulder horns. Found 14th January 1861 - feeding on the plant with white berries figured with Antheroa simplex Could retract or protrude the horns at pleasure – drawing them within a slit in the body. Formed a cocoon underground a week after being found. Took wing 8th Febry. 1861. Wings semi horizontal –

(?)ocea Hipparchia. Found 19th Janry 1861, feeding on the small wiry grass growing in the scrubs of Dairy paddock. Dropped from the leaf directly it was touched. Has the protuberances on the head very distinct, like ears & tipped with red. The whole body finely powdered over with raised dots. Otrcampe(?) protensuis (?) (the brown sort).

Lithosia on Orange Trees. In great abundance on the stems of the Orange Trees in January (23rd 24th &:) 1861 \* feeding upon a small green moss growing on the trees. Groups of twenty & upwards were collected on the shady side of the trunks, & in the rough knobs & holes of the bark - they are active, & run quickly when touched. Whorls of six tubucles on each segment, those on the anterior & posterior segments being largest. The hairs are strong, & some of them very long & dark brown tipped with white. In the drawing the hairs are too uniformly long. The upper row of tubercles on the middle segments are bright orange yellow - those antly. & postly. gamboge yellow. The cocoons are placed either between the crevices of the tree, or in secure places under the rails of the fence & are most beautifully & regularly formed of the long hairs of the caterpillar interlaced in a regular design, like net work. The base is of



stronger white silk. The cocoon is large & oval & the chrysalis is distinctly seen within. The chrysalis has a pale golden lustre over the back & a lateral row of black spots which project slightly. The head is large & projects. Moth rests like *L. Replauae*. \*\* also in September 1861

Caterpillar on rotten Tea Tree & Fungus. Found 19th January, 1861 on a perfectly rotten piece of Tea Tree, lying upon the ground, in grass & weeds, & afterwards upon a species of fungus of a salmon color, growing upon some rotten wood & almost buried in the ground. The caterpillars much resemble the dead wood & have a sort of mouldy, decayed appearance about them. They are of various colours, some being grey, yellow white, others tinted with pink, brown &c. &c. . They are much tuberculated, each tubercle emitting a brown hair. They lay close to the wood when at rest, but are otherwise

Memo: *Bombyx Lewini*. The diamond shaped markings on the back are formed of velvety brown stiff short hairs, erect - & the edging is similar, only bright silvery white. They stop at the 3 anterior segments, connecting lines, yellowish.

loopers the 2 first pair of the prolegs being deficient - Form cocoons of an irregular form with pieces of rotten wood attached, & fastened between the crevices of the wood - Took wing in March 1861 - wings horizontal in repose –

*Chelopteryx* (*Collesi* ?) Found at Darling Point in January 1861 - hiding between the dead wood & bark, & apparently feeding upon it - very sluggish - principally remaining below the bark, & disliking light - A faint greyish line up the back, between the rows of tubercles - formed of close hair. Very much like *C. Collesi*, but was smaller, had the tufts of hair shorter & scantier, & looked as if sick or injured - Formed its nest between the dead bark etc. brownish - Close texture & with very few hairs intermixed –

Whitish larva on Wattle (*Hargraves*) Sent from Macquarie Fields on 14th. February 1861 - Fed on Wattle - Was partly in the Chrysalis state when received & turned the day after - The chrysalis had a darkish point on the shoulder - Took wing 4th March 1861 - Wings decumbent (like the *Noctuidae*) One got at Ash Island, Decbr. 1861 –

Aquatic Larvae from Macquarie Fields - (*Hydrocampe* ?) Sent by Edward Ramsay 21st. Febr. 1861. He found them first on 1st. Febr., in a Lagoon\* at Macquarie Fields, abounding in Water Lilies - There are two sorts of Lilies upon which they fed indiscriminately - one sort with leaves on long footstalks, & another with the leaves alternately branching out from a main stem - The Larvae live either on the lower side of the leaf webbed to another (floating on top of the water) or else cut & fold over a piece of the leaf - or else form a regular little case out of a piece of green leaf, in which they float about from leaf to leaf, to eat - Sometimes when about to form a new nest or anything else, they will propel themselves by aid of their long filaments & writhing the body from side to side, thro' the water, until they reach the spot they require - when they have also cut off a piece of leaf & want to get to another leaf to attach it, they hold on by the hind & pro-legs to the piece & work themselves forward by the front annulations, drawing the piece along with them - The bunches of filaments are generally composed of four or five, diverging from a main trunk, & each contain a trachea which runs quite to the tip, & is contorted & bent in various ways - These filaments are arranged principally along the side of the body, above & below the stigmata, & form when the caterpillar is in the water, a working, living, fringe, something like the feelers of a polypus. The Caterpillar is pale yellowish white, & very soft & transparent, & when on the

leaf. out of water, has a jelly like appearance, & form like a Syrphus. The caudal feet & pro legs are small - the anterior feet, largish - The nest is of a semi-oval shape, & coriaceous texture, & formed between two leaves floating on the surface - It is of silky texture inside, & perfectly dry - The chrysalis is pale yellowish color, & has the legs projecting beyond the abdomen - The perfect insect took wing 26th. Febr. - Wings decumbent. Upper wings have a bluish, metallic - lustre over them. \* which connects with the Bunburry-currant creek -

In obtaining the lilies for the purpose of feeding the larvae, we afterwards found the caterpillars rather numerous, & of various stages of growth. The plants were obtained from the railway cuttings &c. up near Minmi - In flower in January & February.

Gortyna on Water-Rush-Sent by EP. Ramsay 28th February 1861 - Larvae were found near the root of the Rush, & all under the water - the heads of the Larvae were all (with the exception of one large one which had made its cocoon) with their heads downwards.- The cocoon was long thin & cylindrical, of a yellowish color, & strong leathery texture, & was formed outwardly, on the stem of the rush. The false feet were exceedingly small - Larvae soft - fleshy - first & last segments slightly scutellated - Chrysalis soft - milky looking - abdomen large & rounded - Moth laid a quantity of eggs enveloped in the down off the body - Wings slightly convoluted in repose -

Small black hairy caterpillar - Found at Ash Island in March 1861 - living concealed between stones & rubbish &c. Had a most singular appearance when viewed from the side, the hair being in Ridges - very thick, soft & close together, like the velvet-pile carpet - below this, & forming a fringe round the sides, a row of finer hair, projecting to front & behind - feet large, & seen from the side - 16 - Could not ascertain upon what it fed, but probably upon grass, as it was always found in thickly-grassed places - Formed its nest between a small stone & piece of bark - Cocoon thin texture, oval, & blackish in appearance, owing to the coating of the hair of the larva with which it was thickly intermixed - Moth flies in day time, in bright sunlight - whether it is equally active at night I cannot say, having never seen them about - Wings decumbent - Very plentiful, flying over, & resting on the beds of coarse grass in front of the cottage -

\* Took wing to a fine female 20th Decbr. 1861 - rests with wings decumbent. Eyes singularly minute - Last Decbr at this time, I received a pair of these moths which were caught lodging on the grass, at Molong near Wellington - the female laid hundreds of eggs.

Large flat caterpillars (Gastro. pacha?) from Macquarie Fields. Sent by EPR on 7th March 1861. Fed upon Gum. Very handsome caterpillars - showing when stretched out two bands between the 2nd & 3rd, & 3rd & 4th segment, bright yellow, with two blue & black edged spots. I think it very probable that in travelling down, the hairs & tufts of hair were rubbed off, as judging from similar species, the larva should be more tufted - over the legs, on each annulation, was a short bunch of hair finishing in small flat yellow battledore shaped things. Made its cocoon a few hours after arrival, of a flattish oval form & thin semi transparent brownish texture, concealed between & attached to two large dead gum leaves. Chrysalis has the abdominal\*segments, thorax, & back of head, sparingly covered with short yellowish hairs.

A new species of *Hydrocampe* found on the Hexham swamps, towards the end of September 1861 - two sorts took wing - a large blackish brown one, & a small golden brown like from Macquarie Fields.

Paraponyx ? - on round leaved Water Lily (*Villarsia germinata* ?). Received same time as the *Hydrocampe*. Larvae are similar in appearance to the others, only they have some small brown speckles on the head & 1st segment. In habits it also resembles them, forming nests by bending the leaves almost double & covering the exposed side with short pieces of grass, or some aquatic plant. It also makes nests like a case insect, but does not fasten itself by the entrance when going to turn, but webs the fresh leaf to the side, making a portion of the nest. The cocoon is quite dry inside, but if the leaf & cocoon is removed from the water the pupa dies. The pupa has at the side of the first 4 segments, three projecting stigmata (or something) very large. The caterpillars never go very deep, or can swim for any distance, they principally keep on the surface, passing from one leaf to the other, or webbed between the leaves. Took wing to several sorts of moths, some brownish marked with yellow, others whitish-silver, marked & barred with golden yellow, edged finely with brown.

Ramsay sent me several nests down in beginning of April formed of the small leaves neatly joined together of swamp weed with yellow flowers like buttercups or stars. Where no water lilies are to be had, he says the larva feed upon this - the nests resemble those made by terrestrial case insects. They make them of rushes, bits of stick, grass &c. &c. &c. when they cannot get lilies.

Long leaved W. Lily with white flowers, *Villarsia germinata*.

[start of page 25]

:eggs, which were sent to me, but I could not rear any, as they refused all nutriment - The male moth has been caught & sent to me from Macquarie Fields - it is very dissimilar to the female, only resembling it in the row of yellow spots across the wing -

Apterous larva on Gum - Sent by EPR 21st. March 1861. Fed upon white gum - The tubercles on the back were grouped together, several small & irregularly shaped ones, forming a large group emitting tufts of greyish white hair, those on the 4th to 7th. , & 11th. & 12th. annulations being densest . between the 4th. & 5th. segment a short band of velvet black . Head & 1st. segment yellowish red, with a red protuberance on either side, tufted with greyish hair. Head & feet large - reddish . Down the back greyish color, with longitudinal irregular lines of darker neutral tint - sides yellowish red, picked out, under some of the third row of tubercles, with black. Several large ones sent by Ramsay 20th. April - all smashed but one. He says they web several gum leaves together as the *Charaxis* does the leaves of *Acacia* - & in this cradle they rest - A horrid caterpillar to feed, always wandering about, & sometimes not eating for a week. Nest flimsy, showing the chrysalis distinctly - Never took wing.

Small *geometra* on Fungus - Sent by EPR in February - then about a week old . Fed upon Fungus of various sorts - lying concealed close to the dry wood. some were deficient in the dark mark on the side - the hairs were strong & distinct, & proceeded from minute tubercles - The nest was formed in a crevice

of the fungus, of silk, covered with various pieces of chip, exuviae, &c. Moth with wings horizontal. The smaller specimen was the one reared, but from similarity I suppose the larger to be the other sex.

Charaxis, or Morpho, from Grafton - Clarence River Chrysalis sent by A Kirchner 12th. April 1861. Nothing peculiar in its appearance, which was just as drawn. Took wing 22nd. April /61 - When just born the butterfly is excessively rich in its appearance - the black margin being densely black & velvety, & the golden yellow interior portion shining with a fiery golden lustre impossible to delineate - The tails bend downwards & inwards - rests with wings erect. For description of nervures &c. see end of this book.

March 20th. 1863, received two of the larvae from the Kirchners, one already suspended & turning to chrysalis; the other feeding voraciously on the small plant enclosed in its box - In its movements it greatly resembles the larva of *Diadema lassinassa*, being quick & restless - The colors ^ of the spines are so metallic that no painting can do justice to them, they, & the head & feet are of that deep blue black metallic lustre that we see sometimes on fine steel - There are whorls of 7 of these branched spines on all the segments bearing orange spots (8 segments) On the posterior segment there are only 4 spines, the two at each side proceeding from the upper row of white spots. The spines decrease in size, with the exception of the dorsal pair, on the anterior segments ( bearing the

[[25a contains a picture of a caterpillar, and one word, probably "best":]]

[[25a reverse:]]March 1862

[[25b contains a picture of a caterpillar and a leaf, with no text]]

[[25b reverse:]]Found in March 1862 -turned before it reached me

[[25c is an inserted piece of paper torn off but leaving some printed text: ...HANSON, GOVERNMENT PRINTER, Phillip-street, 19th May, 1856.Below that is the following handwritten text:]]

The caterpillars were generally found at the Clarence, resting upon the maiden hair fern, or upon trees or plants in the vicinity, but which they refused to eat - the plant sent up with them was supplied on chance, & it is evidently the proper food as they eat it voraciously --- Turned to chrysalis 23rd March /63, took wing 13th. April/63 - Chrysalis suspended as are the Nymphalidae - Butterfly rests with the wings erect - very strong in flight -

[[Insert 25c reverse is upside down on this side; appears to follow on from the page text:]] bearing the thoracic feet, on the first segment they are no larger than mere tubercles - On each segment with the exception of the 2 posterior ones, are two small tuberculated spines, placed in a line immediately over the feet. A pair of long spines proceed from the head, which is somewhat bifurcate & metallic blue - The color of the body is velvety black, becoming somewhat

reddish below - The orange spots are raised like cushions - The macular bands are tinted slightly with yellow; over the middle feet there are sometimes 4 & sometimes only 3 of these macular patches connecting the orange spots -

Septb. 12th 1861. Found in the paddock below our garden numbers of Spheria proceeding from the larvae of a coleopterous insect. The fungus came above ground a little more than an inch & had a round button at the top covered with minute spots - a transverse section of this button appeared below the microscope thus: {a diagram in the text here} the inside being pithy, & the surrounding envelope composed of small semiglobular vessels, filled with some liquid matter. the stems were distorted in some, & flattened; becoming in some instances much thinner towards the base so that it was exceedingly difficult to get them up without breakages. particularly as the small sorts of trees were interlaced in every direction with them, in some cases even passing between the double stems of the spherion. The stems proceeded from the front of the head, the side of the head, the mouth, & in one instance from the side of the abdomen & numberless fibrous roots also issue from about and around the stem. In some two stems were produced. The larvae were placed in the earth in the position drawn, the fibrous roots all being underground. We could only find these Spherias in one place, at the edge of the thick brush just about midway between our garden fence & Idsteins farm. they were found just after rain, & although we hunted everywhere for them afterwards we could not succeed in finding any after the first few days - 14 or 15 specimens were found in all.

The larvae which produced these Spherias were probably similar to those we get under timber, and in the rotten date palm &c., as, from comparison, no difference can be discerned in their formation, legs &c. whereas in the other coleopterous larvae the legs are shorter and smaller. Perhaps it may be produced from the larva of Cystosoma, but not being able to procure a specimen, it is impossible to say.

The female laid large quantities of yellowish eggs en masse covered & (?) with the down from the abdomen. The young larva at first collected bits of sawdust to cover themselves.

Case insects, found in the middle of Septbr. 1861 Ash Island.

No 1. Discovered in considerable abundance, in the neighbourhood of Cobham, in the vicinity of a swamp, principally between the bark & wood of prostrate logs, where they appeared to be feeding – nothing but coarse grass was about the place, & I do not think the insects fed upon it, as they appeared to be eating the bark &c. of the tree upon which I found them. In captivity they eat chickweed readily, & also summer grass, but the latter very sparingly. They walk with a quick, jerking motion; carrying the case in various ways, sometimes even upright. The case is very large & baggy & nearly twice the length of the caterpillar inside. Some of them have like lappets or wings at the sides, as drawn in the small specimen. The caterpillar has the abdominal & hind feet almost obsolete. They attach all sorts of things to their nest - bits of rotten wood, bark &c. & in one instance even a white hair of the cat! Eat voraciously of the dead leaves of Moreton bay fig. Before they went to turn, they collected in great numbers {the text below is written sideways in the left hand margin} in the holes of dead wood, or beneath the loose bark of trees &c. & fastened themselves in groups or clusters; the nests became as it were inflated or swollen, & it could be easily told which were in the chrysalis state by their appearance.

[start of page 27]

Novr. 1861 - Caught one of the black Caper butterflies (Clytic & Seutonia ) with the abdomen full of eggs -

Case Insect No 2 - Found two specimens of this sort in the dairy paddock, one fastened to the small wiry leaved tea tree, & the other upon the swamp oak. The leaves were attached to the nest with the ends sticking up & outwards, just the contrary way to the usual arrangement of the twigs or leaves on these nests of case insects - The leaves were all bleached white, of the same colour as the body of the nest. The Caterpillar carried the nest upright when it walked, proceeding with a jerking movement - The aperture of the nest was very large -

Case Insect No 3. Tolerably abundant, under violets & verbenas - nest with an aperture at each end, covered with small pebbles, pieces of flint, sand etc etc neatly arranged side by side - In one specimen pieces of wood were nipped in neat lengths, & fastened alternately over the nest.

Case Insect No 4. Only one specimen found feeding upon the rush. A very singular nest, covered with knobs or protuberances, & looking somewhat like a rolled up spider - Very hard & strong in texture. only one aperture to the nest.

Case Insect No 5 - Great numbers, feeding upon white fungus, growing upon the dead trees in the bush - the nests principally being attached to the lower surface of the fungus, & having nearly always the large end downwards - The caterpillar was only about half the length of the nest, & of a delicate whitish yellow colour with the abdominal feet nearly obsolete - head & 1st. three segments somewhat horny & brownish, - the head was formed in rings, & under the glass looked just like a cigar - the lip was of greater size than the top of the tube, which was curved, & generally carried obliquely. After a great number of these little larvae had been feeding upon the fungus, it presented a perforated appearance, as if covered by minute spots - They were found also upon a yellow kind of fungus, but not in such quantities as upon the white, which appeared to be their favorite food.

\* first day & night, but afterwards left them - returning however a second time two days after, & enclosing them within the mantle, but again left them & did not return afterwards - \* these eggs were no good; they all shrivelled up –

During the early part of February 1863, the common brown garden Helix laid large quantities of white eggs, about as large as duck shot.

Septbr. 12th. 1861. Found several large Bulimi in the brush below the Garden, &, at various times, others scattered over the brush, in all making with Ramsays & our own 18 live, & 4 dead specimens. One of the largest we found under the dead leaves of a cabbage tree, but the greater number were on the surface of the ground, partially buried & so covered with dead leaves that they could only be discovered by groping with the hands amongst the rubbish - Some were quite in exposed situations, & the greatest number were grouped about a space not exceeding a dozen yards – We placed 7 live ones in a box with moss, dead leaves, earth, & cabbage leaves, the latter of which they eat voraciously, preferring however the curly savoy cabbage; they also eat the blue paper lining off the box, & indeed seemed to try most substances placed in their way - even orange peel not coming amiss to them.

On the 20th. March 1862 one of the *Bulimi* laid 16 eggs, some separate, but the greater number placed together in a large mass, in a hole in the earth, without any covering - They were at first of a white gelatinous substance, but on the second day became of a dirty brownish shade, & tougher consistency - in size they were about as large as an ordinary pea - The *Bulimus* remained on them during the first \*

Tineidae ? Ash Island Septbr. 1861. EP.R. Found two larvae inhabiting the dead & soft semi rotten wood of a dead gum tree (standing upright) below Cobham - the caterpillar had formed a short tunnel in the wood in an upright direction, just below the bark, & the entrance to this, as well as a small space around, was covered with a slight web, encrusted with debris, pieces of triturated wood etc. - The caterpillar fed on the soft rotten wood - When about to change to the pupa, it formed a semi oval cocoon, covered with portions of the decayed wood, & attached between the bark . A delicate, transparent larva showing sometimes the internal workings. small raised black spots arranged round each segment, emitting hairs - head & 1st. segment flattish - runs with great rapidity, endeavoring to conceal itself beneath the wood when disturbed - Chrysalis very obtuse & almost a perfect elongated oval - shining reddish brown . small raised spiraculæ . Moth decumbent, having the thorax tufted, & raised in a sort of coronet as drawn –

\* During the latter end of March 1863 many young *Bulimi* were born from another batch of eggs which after depositing the female scarcely ever left . Noticing that she scattered them about & being afraid of them receiving injury, I carefully lifted her away to the opposite end of the box, but she shortly returned to the eggs & resumed her place amongst them - I repeated the [[inserted page]] experiment three times, & each time she invariably returned, burrowing among the eggs & scattering them about so that she really injured some - two or three days before the first young *Bulimius* was produced she left them & did not afterwards return. When first born the young shell was almost transparent & in shape more like an ampullaria, the aperture being very large & the whorls depressed so : [[sketch]] Pale brownish striation ran down the large outer whorl - I gave the young shells fresh moss & shreds of pumpkin &- which they appeared to thrive upon, as they increased considerably in size, the whorl or spire gradually elevating & the colors becoming brighter & more distinct.

[end inserted page]

Small green caterpillar on *Eleodendron australi* - Ash Island - Found in tolerable abundance at the latter end of September 1861, feeding upon the tender fresh shoots of *Eleodendron* which they exactly resemble in color dropping to the ground when touched, by a delicate silken thread . Caterpillar viscous - head & feet very small - bright light green throughout, slightly furrowed & raised at the sides, & with a few delicate hairs - a black shining patch on the anterior & posterior segments. Nest formed between dead leaves, pieces of bark etc of a coriaceous texture, brownish color, & inform exactly similar to *Physicampas* on apple & fig –

Ovo-viviparous *Tinea* - figd Ento Socty's proceedings AWS.

During the first week of October 1861 we caught numbers of small *Tineae*, who, immediately they were captured, produced great quantities of minute larvae exceedingly active & lively in their movements, running over our hands with rapidity directly they were produced from the mother - The fact of any moth producing perfect larvae instead of eggs, was so incredible that I could at first scarcely believe it, but having pinned out a female moth upon black paper, we so distinctly beheld ^ her laying the living caterpillars, which at once ran quickly away, that the fact was undoubted - Various articles like grain, woollens, flour, lichen &c were offered to the young larvae, but they eventually took to a sort of thin brown mantle-cloth, & fine flannel, forming for

themselves at first thin tunnels or tubes on the surface of the material, & afterwards small portable cases of two pieces of flannel, of a somewhat oval form, which they inhabited like the common clothes moth. They grew very slowly, at the end of two months being no larger than those marked n.s. in the drawing - which I attribute to the evident fact that we have not succeeded in offering them their natural food, & that they are only "existing" upon their present - They are soft, fleshy, & colourless - head & 1st. segment slightly corneous & brownish - head large, somewhat flat - a few scattered fine, whitish hairs over the body - 16 feet - the thoracic large; the abdominal & caudal, small.

Larva living interiorly in *Hibiscus splendens* - Abundant in November & beginning of December, boring in the tender stems of the *Hibiscus* eating the pith out & forming a roomy dwelling for themselves, in which they remain during the heat of the day, coming out in the afternoon to feed upon the green leaves of the tree. While in the tubular cavity they always have the head downwards - the entrance is not protected in any way, but is always open. This dwelling is deserted when the caterpillar is about to change to the chrysalis, when it forms for itself a strong coriaceous cocoon, attached to the bark, and sometimes between leaves, in form thus (small sketch inserted) with a slight protuberance at one end. The larva is very shining, fleshy and slightly nuciform - with whorls of tuberculated spots emitting hairs, & two small caudal protuberances, which with the whole caudal segment are setigerous - head shining black - larva very sluggish in its movements. Took wing end of December - wings decumbent - some of the specimens were more greenish in their tints than others.

*Scoliopteryx* on *Hibiscus splendens*. A single specimen found at the end of November 1861, exposed upon the leaves of the above plant. When touched, dropped to the ground with great rapidity. A very handsome caterpillar owing to the regularity and richness of its ribbon-like marking - formed a cocoon by webbing coarsely together the few dead leaves. Turned a few days after being found, webbing together the few dry leaves with coarse silk, in the top of the box. Took wing 17th Decbr 1861 - wings deltoid.

*Geometra* from I. S. Ramsay, Decbr 1861 Sent from Macquarie Fields 6th Decbr 1861 - half grown - Fed on red Gum. A plump & rather glossy looking caterpillar - the 1st pair of abdominal legs deficient, the 2nd pair just visible, & the remaining two pairs graduating in size, the last pair however being the only ones used by the caterpillar in walking. Formed a cocoon of agglutinated earth, under ground, on the 15th Decbr /61. Took wing early in February 1863. The moth rests with its wings almost convoluted, being from the shoulders to the apex of wing almost straight. A very delicate looking insect, & when fresh, a silvery grey lustre plays all over the wings.

(Following written in margin sideways against this entry) - A very similar larva was found at Stockton in 1855 feeding upon broad leaved *Melaleuca*.

Small *Agarista* /like *Nyctemera* - Found a single specimen early in November 1860, at Ash Island upon *Cyssus Heterophylla* - two pairs of very long white hairs bending forwards, on the back of the 4th segment - and the same number on the antepenultimate segment - taking the ?rise from raised black tubercles - each segment encircled with a reddish band, edged finely with white & black, & having in the centre a row of small black raised spots, edged by white - general color pinkish brown. head & feet pale yellowish - setaceous - formed a strong oval cocoon of agglutinated earth, attached to the box, close to the surface of the ground. Took wing 5th. December 1861 - Wings decumbent. Very much resembles the *Nyctemera Annulata* in general appearance.



Case insect on *Melaleuca ericifolia* -E.R.R. Found in abundance upon the young shrubs of *M. ericifolia* in the Wentworth swamps, in September 1861 - the habitations were covered with the smaller twigs & top shoots of the plant upon which the larvae fed - they also eat *Eucalyptus* - In habits assimilated to the other case insects - The larvae of both sexes were similar - the female only being larger by about 1/4 inch than the male - the female pupa is of a bright light chestnut brown, & in shape like that of the *Psyche ?Australis* (?sp: ?) on grass - Male dashes about with such violence that its plumage is rapidly destroyed - The caterpillar from one of these cases having been ejected from its own habitation one day, crawled into the end aperture of a nest occupied by one of its companions, & for several days the two occupied the same nest, one head appearing out at each end of the case ! it was exceedingly absurd to watch the efforts of the two larvae to pull opposite ways when in search of - food - the contest generally ending in the strongest winning –

Small case insect on *Elaeocarpus obovatus* -Tolerably abundant in the larva state in the end of September the habitation formed simply out of a piece of dead twig about an inch long, hollowed out to admit the larva. open at both ends - when walking was carried either down or at right angles to the base. Chrysalis very fragile in appearance & with the antennae cases projecting much beyond the abdomen - Moth ^ rests with wings close to the sides - Antennae always in motion,- moving quickly about - Moth flies well in day light -

[start of page 32]

*Charagia Virescens* - N Zealand. " Found in tolerable abundance, in or near the town of Auckland , in the end of November 1861, inhabiting trees of the *Metrosideros* ? varying in size from 2 in: to 3 ^ & 4 ft in diameter. In some trees as many as 30 of the larvae had taken up their abode, the bust of the tree being literally studded with their holes. Some of these were in the chrysalis state, with the bagging torn away, & the entrance sealed up, as with our Australian *Charagias*; but the greater portion were in the larva state," & the logs in which they were being too heavy for transport, were cut down & left in charge of a person residing at Auckland - "Of the few that were brought on to Sydney, one produced a female (*C: rubroviridans*) on the night of the 26th. January 1862"- two of the others died when just at the point of emergence, probably owing to the wood drying, & causing the tube to become too small for the passage ^ upwards of the distended chrysalis; as the moth was so near emergence, that the skin down the head of the puparium was split open, & all the colours & markings of the perfect insect were brilliantly visible - one, a female, which I opened, had the abdomen full of eggs, & in its coloring & marking, agreed minutely with the *Ch: rubro viridans* as described in the *Cat: Brit: Mus: -*

"The formation of the covering to the nest, & the way in which many of the larvae will have their tubular excavations running almost side by side, agrees closely with our *Ch: Ramsayi*"; a slight difference however existing in the formation of the entrance of the tube, the New Zealand caterpillar generally having a small circular excavation of this form, [[sketch]] at the turning of the joint - some had it very much - marked like this [[sketch]] Ramsay says, in no instance has he met with the larva in the roots of the tree, or under-ground in any way - A very beautiful snail frequently takes possession of the deserted holes of the *Charagiae* . R has found them repeatedly .It is worthy of remark that these *Charagiae* in all their stages are much smaller than our *Ramsayi*; whereas the larva upon which *Sphaeria Robertsia* is produced (said to be the *Ch. Viriscens*) is much larger; as large indeed as our *Pielus Swainsoni* ! "Mr. Huntly (a school master at Wellington) says the *Sph: Robertsia* is on the larva of a large brown moth."

April 8. Received these specimens of the *Viriscens*, to paint from. 2 females, & one very bad specimen of a Male - one of the females, caught near Wellington, measures in expanse 5 1/10 inch; this is the one I have taken the size from, making my drawing however a trifle larger, to allow for the shrinking which must have taken place in the dried specimen. The other female, bred from a pupa in Ramsay's possession, is much smaller, only measuring 3 3/4 inch in expanse, but the colours are bright, & the markings, altho' precisely similar to the larger specimens, are well defined & bright purplish brown - I have copied the colors & markings from this specimen. The under side of the female is pale salmon red, glossed over with a golden lustre - veins yellowish - Costa ^ of anterior wing towards the base, greenish, barred indistinctly with purple brown - Thorax & legs, dark green, shaded here & there with dark purple-brown - posterior leg with a tuft of pinkish hair ext(?). Antennae tawny.

The Male is dreadfully faded, but the silver markings, the bluish indistinct wavy lines, & the deep yellowish ^ green tint which relieves the silver band, are still distinct - The under side is pale silvery bluish-green, glossed with a pale golden tint towards the tips Veins yellowish - legs & body pale bluish green - tuft of golden hair on the posterior pair . The Male was exactly the size drawn - When Ramsay first got it, it was above of a much brighter & lighter green than the female - under wings of a light silvery green, similar to the male of *Ch: Lewini* -

The drawing represents the two insects as truthfully as I can possibly manage , -

*Charagia scripta* - Macleay jour.MSS.

Brought from King George's Sound in June? 1861 by a German named Damel who gave them to Mr Macleay junr. Many of the larvae were then alive, living in channels in the roots & the portion of the trunk immediately underground, of a species of *Leptospermum* growing in damp situations. I believe none of these larvae came to maturity, but perished in consequence of the wood being allowed to dry - Three perfect insects were also given to Mr. McLeay at the same time & a puparium, from which one had issued - Of these specimens McLeay imagines that two are in such good preservation that Damel must have reared them; & the third is probably one he captured, & the first procured.

The under side of the [[female sign]] *scripta* is entirely pale salmon-red glossed with a golden hue towards the tips of the wings . costa very faintly barred with brownish - Of the [[male sign]] the color is pale bluish-greenish-white, with a golden hue at the tips - abdomen greenish white - legs ditto with a tuft of golden brown hair - The puparium exactly agreed in form & color with those of the other *Charagiae*.

Edward Ramsay, who, at our desire, examined the pieces of wood in Mr Mcleays possession, describes them as follows - "All the larvae, as far as I can see, have bored their holes in the butt of the tree, & worked downwards, even into the the roots, the mouth of the nest being above ground, & the long chamber or channel (a) in the roots thus: [[two sketches of a tree above ground with roots below, showing the channel (a) mentioned]] The web & eaten bark was very coarse; more like sawdust "

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April 1863. The large Moreton Bay fig tree at the back of the Cottage shews traces of great numbers of Caterpillars, but from the great height of the branches we cannot ascertain the species - a caterpillar of either the brown *Noctua* which we originally found upon the native fig, or some closely allied species, has been picked up on some stones just below the tree, so it has probably dropt down from the branches overhead - It is not so vividly green as the common *Noctua Fici*, & has a purplish rosy tint all along the back, brightest at the divisions of the segments - rests close along the leaf, with the caudal feet flat & extended as with *N. Fici* - Some larvae which fell from the tree afterwards, were quite pinkish purple in colour.

April 11th. 1863. Found at Waratah 7 specimens of *Hecatisia fenestrata* feeding upon *Cassytha filiformis* (?) 2 sp of *Danima* (?) *Acaciae*, & 1 of *Eulophocampe amona* - & great quantities of small beetles upon the low shrubs of *Bursaria Spinosa* –

Octr. 1863 - A larva of *Danima Banksiae* sent down by EPR, found at Dobroyd feeding upon *Grevillea punicea* - fed with me, on the *Grevillea robusta*. Two similar larvae exhibited by Masters at the Ent: Tvc: same week. Formed an oval nest of agglutinated earth, pieces of wood dead leaves etc, placed just on the surface of the ground. Took wing 21st. Novr./63. rests with wings decumbent in repose –

Oct. 1863. Several specimens of living *Orcinea Felderi* sent down by EPR, procured from Mr. Masters at Petersham - all had small flaps or projections from the side of the nest & the nests were of darker colour than those of ?*A.Scotti*. They fed upon couch grass with Masters, but would scarcely touch it in my possession. In habits quite similar to the *Scottii*. Masters exhibited the larvae at the Ent. Society.

Serial(?) Kingi Found two young larvae feeding on the White Gardenia in early part of January 1864. They were in about their second change of skin, & exhibited the colour & markings that they retained up to maturity, but the caudal horn was larger in proportion to the body, & the tuberculated shield on the anterior portion of 1st segment was more like a coronet over the head, than exhibited in the mature larvae. In their habits they closely approximate to *Macroglossa*(?) *Scottiarum* (?) - being more lively than the *Sphinx* or *Charocampa*(?) larvae. One specimen grew slightly larger than that drawn, & became more subdued in colouring - the black being deeper & duller, & the yellow more shaded with brown. When examined with a glass, the tubercles in the shield of the 1st segment are conical & emit very fine setae. The caudal horn is long & curves gracefully; yellow thickly tuberculated with black. Formed their cocoons, slightly under the surface of the ground, of a coarse web, closely covered with loose earth, pieces of dead leaves, sticks &c. &c., on 20th Janry /64. Took wing towards the end of February 1864 - moth resting like the *Macroglossa T*(?), & with the terminal tuft of the abdomen expanded into a large brush on each side. When first (?) the wings are covered with a powdery dust of scales, but the insect is so violent in its movements that this is soon rubbed off & the wings become quite transparent.

[sketch of birds page 44]

[sketch of bower page 45] Ash Island Sept[em]b[er] 22nd 1867 Helena Scott A wretched sketch of the bower of the *Ptilonoryncus holosericeus*

[Sketch of nest page 53] Helena Scott Ash Island Sep[tember] [?] 1861

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[Scott sisters' page 9]

(Magnified portions - continued)

Part 7 Pl[ate] 21. *Geometra lentiginosa*

Antennae, Male (fig[ure] 2)(only six in our possession) Long, moderately bipecti =nated to the tip, the pectinations <delicately> frayed with delicate ciliations.

Palpi - small (fig[ure] 3) projecting forwards a little in front of the head; basal joint fully 2½ times as long as 2nd,(fig[ure] 4, divested of hair) both being thickly covered with feathery scales; terminal small, somewhat pointed, slightly covered with scales.

Legs - slender; 2nd pair with 2 (fig[ure] 5) &[and] posterior pair with 4 longish spurs in tibiae; tibiae &[and] tarsi closely covered with scales.

Part 7 *Geometra recte-fasciata*. Antennae - Long Male (fig[ure] 3) Moderately bipectinated to the tip, the pectinations frayed with delicate ciliations; female (fig[ure] 2) slightly bipectinated to the tip, pectinations ciliated as in male.

Palpi - <male> small male, project forwards &[and] upwards to rather more than the middle of the eye, basal joint more than twice the length of 2nd; both thickly covered with scales &[and] hair; terminal small, nearly naked (fig[ure] 5, divested of hair) Female (fig[ure] 4) similar, but smaller, &[and] the terminal joint more rounded at its apex.

Legs - Slender, but rather thickly clothed with elongated scales; Anterior pairs small (figure 6 [female]) 2nd pair with 2, & [and] posterior pair with 4 longish spurs on tibiae, & [and] in the male (fig[ure] 7) this joint is furnished on the underside of the base, with a long fur shaped tuft of delicate hair.

I have examined most of the Geometridae in our cabinet, that resemble in form &[and] colouring the foregoing species, but they all, while agreeing generally, exhibit such specific differences that no two are exactly alike - the only point in which they all agree being the size of the legs &[and] the number of spurs - Otherwise the length of joints in the palpi &[and] the antennae are just as different from each other, as shown in the four specimens selected for illustration

Pl[ate] 22. *Papilio Erectheus*.

Antennae. (fig[ure] 1) terminate in an elongated club.

Palpi. (fig[ures] 2 &[and] 3, 4 divested of hair) small, scarcely projecting in front of the mouth; covered with scales, &[and] a few hairs exteriorly; basal joint about ¼ longer than the 2nd, &[and] 4 times longer than terminal, which in the male is more pointed than in female.

Legs. Long, slender; (fig[ure] 4, Anterior leg) nearly naked, with several rows of setae down the tibiae &[and] tarsi; 2nd <pairs [?] 2 [?]> and posterior pairs with 2 small spurs at apex of tibia.

Part 7 Pl[ate] 23. *Chelepteryx expositus*.

Antennae. male, (fig[ure] 2) long strongly bipectinated from the base to the tip, pectinations finely ciliated, &[and] each terminated by a strong seta: female rather short; slightly bipectinated from the base to the tip

Palpi. Very small, much more so in the female than in the male (fig[ures] 3 &[and] 4 divested of hair); projecting forwards in the male &[and] downwards in the female; moderately hairy; in male basal & 2nd joints about equal, terminal small; in female basal &[and] terminal joints equal, 2nd joint twice as long as either.

Maxillae obsolete.

Legs. moderately stout, the anterior pairs in both sexes being more pilose than the others (fig[ure] 5, anterior leg  $\hat{a}^m$ , [male]) 2nd &[and] posterior (fig[ure] 6  $\hat{a}^m$ , [male]) with 2 small spurs at apex of tibiae; tibiae &[and] tarsi closely covered with hair; femora thickly pilose 2 males and female in Cabinet

Part 7 Eulophocampe amaena

Antennae. Rather short; male (fig[ure] 2) rather strongly bipectinated from the base to the tip; <pectinations> female (fig[ure] 3) very slightly bipectinated from the base to the tip, the pectinations in each being finely ciliated, &[and] terminated by a strong seta.

Maxillae obsolete.

Palpi - Moderately large in male, (fig[ures] 4, 5 divested of hair) <very> projecting <small in female> upwards to quite level with the top of the eyes, thickly clothed with hair; in female very small, projecting forwards &[and] downwards, slightly hairy; in both basal &[and] 2nd joints about equal, &[and] double the length of terminal, which in female is more acute than in male.

Legs - Stout, compactly covered with hair &[and] with a few rows of short setae down the tarsi; tibiae of anterior pairs (fig[ure] 6,  $\hat{a}^m$ , [male]) more thickly hairy than that of the <other> 2nd and posterior pairs with (fig[ure] 7,  $\hat{a}^m$ , [male]) which are each provided with 2[two] short, thick, spurs. Male and female in cabinet.

Pl[ate] 24. Thera nigella

Antennae - (fig[ure] 2) Rather long; bipectinated from the base of the top, the pectinations ciliated.

Palpi - Distinct, rather robust (fig[ure] 3) and in form somewhat truncated; projecting forwards, &[and] about level with the middle of the eye, covered with scales; basal joint about  $\hat{A}\frac{1}{4}$  longer than the 2nd; terminal small &[and] acute.

Legs - Moderately strong, thinly clothed with elongated scales; 2nd pair (fig[ure] 4) with 2, and posterior pair (fig[ure] 5) with 4, longish spurs on tibiae.

Agrotina [symbol] signata

Antennae - (fig[ure] 2) long, filiform, covered with elongated scales.

Palpi - (fig[ure] 3) distinct, recurving in front of, &[and] separate from, the head, to level with the top of the eyes; 2nd joint about  $\frac{1}{4}$  longer than basal, &[and] twice as long as terminal, which is slender &[and] <pointed> acuminated; basal &[and] 2nd joints thickly covered with scales; terminal nearly naked.

Legs - Anterior pairs small, tibiae very short; 2nd (fig[ure] 4) &[and] posterior pairs very long, slender, thinly covered with scales, &[and] with 2, u[or] 4 long spurs on their tibia.

N.B. The femur in <of> 2nd leg, is considerably longer than in either anterior or posterior legs.

*Antithesia maculosa*

Antennae. (fig[ure] 2) setaceous, stem covered with long scales above, slightly pubescent beneath.

Palpi- (fig[ure] 3) distinct, projecting upwards & forwards to almost level with the top of the eyes; closely covered with scales & a few pairs; basal and <[?] joints> terminal joints equal the latter rather obtuse at the point; 2nd joint almost twice the length of either.

Legs- Moderately stout; anterior pairs rather small; 2nd pair (fig[ure] 4) with 2, & posterior pairs with 4 long spurs on the tibiae: titrae & tarsi rather thinly covered with scales & hair

*Nascia albo-maculata.*

Antennae- Long, filiform, stem above with elongated scales (fig[ure] 2) & an exceedingly minute lateral row of setae.

Maxillary palpi, very small, but distinct & projecting straight forwards.

Labial palpi; large, somewhat truncated in form (fig[ure] 3) & projecting forwards; clothed thickly with scales; joints almost of an equal length, the terminal slender & bending slightly downwards.

Legs- Anterior pairs (fig[ure] 4) rather small tibia very short; 2nd and posterior pairs (fig[ure] 5) long, very slender; nearly naked the former with 2, & latter with 4 long spurs at the apex & middle of tibiae

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*Hemithea roseo-marginata*

Antennae - Male, rather strongly bipectinated to about  $\frac{3}{4}$  this of its length, (fig[ure] 2) thence to the tip the pectinations become almost indistinct: female, setaceous.

Palpi - (fig[ure] 3) very small, projecting forwards a little beyond the head, slightly hairy; basal and 2nd joints about equal in length; terminal very small, somewhat pointed.

Legs - Weak, slender, almost naked; 2nd pair (fig[ure] 4) with 2, and posterior pair with 4 thin spurs at apex & middle of tibiae.

*Timandra rufo-strigata*

Antennae - Rather Long Male (fig[ure] 2) with tufts of ciliations beneath, continued to the point; female (fig[ure] 3) also ciliated but in a much less degree.

Palpi - (fig[ure] 4) very small, slightly hairy & with a few scales, projecting upwards to about even with the middle of the eyes; basal & 2nd joints nearly equal, terminal about  $\frac{1}{2}$  that of either, & slender.

Legs - Long, slender, nearly naked; 2nd pair (fig[ure] 5) with 2, & posterior pair with 4 thin spurs at apex & middle of tibiae.

*Polycephala inornata* Antennae - Moderately long, joints slightly moniliform: male (fig[ure] 2) rather strongly bipectinated to the tip; female (fig[ure] 3) ciliated.

Palpi - (fig[ure] 4) very small & slender, almost naked & of an equal thickness throughout\*; male a little larger than female: basal & terminal joints very minute, 2nd about 5 times larger than either. \*projecting in front of & almost level with, the eyes.

Legs - Weak, slightly clothed with fine scales & hair; 2nd pair with 2, and posterior pair with 4 (fig[ure] 5) longish spurs at middle & apex of tibiae.

*Tortrix Eleodendri*.

Antennae - filiform; stem scaly above, beneath pubescent. (fig[ure] 2)

Palpi - (fig[ure] 3) Rather large curving in front of, but quite separate from, the head; to a level with the top of the eyes; joints nearly of an equal length, moderately hairy.

Legs - Anterior pair (fig[ure] 4) rather small; 2nd & posterior pairs robust, closely covered with scales & hair, the former with 2, & latter (fig[ure] 5) with 4 longish spurs at middle & apex of tibiae.

*Acleris Croceo-maculata*.

Antennae - Long, setaceous; beneath with delicate ciliations, arranged somewhat in groups (fig[ure] 2) & of an unequal length.

Palpi - Large, prominent (fig[ure] 3) porrected forwards; the 2nd joint about 3 times the length of either basal or terminal & having the scales arranged at the apex in a truncated form; terminal joint slender, pointed.

Legs - Rather weak, thinly clothed with scales; 2nd pair with 2, and posterior pair (fig[ure] 4) with 4 long spurs at apex and middle of tibiae.

Pl[ate] 25. *Zeuzera Ruppelli* - (see *Z. Macleayi* page 1)

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Part 6 Pl[ate] 26. *Papilio Sarpedon*

Antennae - Terminate in a rather obtuse club, compressed near the apex, & somewhat grooved (fig[ures] 1, v 2)

Palpi - Small (fig[ure] 3) scarcely projecting beyond the mouth, thinly covered with a few scales & longish hairs; basal & 2nd joints equal, terminal very small, globular.

Legs - Slender, almost naked, having down the tibiae and tarsi rows of small setae; tibiae of 2nd and posterior pairs provided with 2 small spurs at their apices (fig 4, posterior leg)

Part 6 *Papilio Eurypilus*

Antennae - Terminate in a gradually formed club, compressed & grooved near the apex (fig[ures] 1, and 2)

Palpi - Small (fig[ure] 3) scarcely proceeding beyond the mouth, thinly clothed with scales and <hairs> fine hairs; basal joint a shade longer than 2nd, terminal very small, globular.

Legs - Slender, almost naked, with rows of small setae down the tibiae &[and] tarsi (fig[ure] 4, Anterior leg). 2nd and pos- -terior pairs with 2 small spurs at their apices.

(Pl[ate] 27. This board has not yet been decided upon)

Part 5 Pl[ate] 28. *Antheraea <simplex> astrophela*

Antennae - 4 - pectinated on each joint (fig[ures] 2 <sup>â™€</sup>[female], 3 <sup>â™€</sup>,[male]), the pectinations in the male very long, arranged in pairs, and finely ciliated at their sides.

Palpi - Very small, more so in the female than in the male (fig[ures] 4, 5, &[and] 6, divested of hair), bending rather downwards, hairy, in both sexes is the <joint> 2nd joint is about twice the length of basal, and four times that of terminal joint the latter being rounded at its apex, <[?]> particularly in the female. Maxillae obsolete.

Legs - Very densely pilose, particularly in the male, (7. anterior leg, [male] &[and] 8, 2nd leg, [male]) In the female the joints of the tarsus[?] are more marked, &[and] the terminal one is provided with a larger brush of hair; 2nd and posterior legs with 2 very small spurs at the apices of the tibiae (9, posterior leg [female])

Part 6 Pl[ate] 29 *Papilio Anactus*

Antennae - (fig[ure] 1) Terminate in a gradually formed club, not com- -pressed nor grooved at the apex.

Palpi - Very small, (fig[ure] 2) hairy, projecting scarcely beyond the front of the mouth; basal joint at least double the length of the 2nd, terminal about ½ the length of 2nd somewhat blunt at its apex (fig[ure] 3 divested of hair)

Legs - Long, slender, nearly naked, having several rows of setae down the tibiae &[and] tarsi; 2nd and posterior legs (fig[ure] 4) with 2 small spurs at apices of tibiae.

Part 6 *Danais Corinna*

Antennae - (fig[ure] 1) Long thicken very gradually towards the point where they form a somewhat obtuse club.

Palpi - (fig[ures] 2, &[and] 3 divested of hair) Rather large, projecting in front almost even with the top of the eyes, &[and] thickly covered with elongated scales. 2nd joint at least three times the length of <terminal> basal; terminal rather blunt at the tip, &[and] not as long as basal.

Legs - Anterior pair (fig[ure] 4) very small Rudimentary, the tarsus being composed of one club shaped articulation, with several pairs of small hooks at the extremity; 2nd <[?]> posterior pairs (fig[ure] 5) long, slender, nearly naked, with rows of small setae down, &[and] 2 small spurs each at the apices of tibiae. It is worthy of remark that the females of the *Corinna* frequently may be met with having curious appendages to the pulvilli of their 2nd &[and] posterior pairs of feet: these appendages are of considerable size, glabrous, of a yellow colour, and tear-shaped form; perfectly flat, &[and] generally in pairs, which are opened or shut according to pleasure; [sketch] but I am inclined to think this is caused by some disease of the pulvillus, as the same peculiarity appears occasionally in specimens of the large yellow *Callydryas*, not appearing in every one of the feet, but sometimes only in 3 out of the 6, &[and] so forth.



Pl[ate] 30- Colpophora Linnosa

Antennae- Male (fig[ure] 2) rather deeply pectinated to about  $\frac{3}{4}$  of its length, the pectinations delicately ciliated: female, setaceous; joints somewhat serrated beneath, & slightly pubescent.

Palpi-Very large (fig[ure] 3) broad, porrected straight forwards in front of the head; densely covered with feathery scales; middle joint about  $\frac{1}{4}$ "[inch] longer than either basal or terminal which are equal in length.

Legs-Robust (fig[ure] 4 , anterior leg) moderately covered with hair and scales: 2nd pair with 2, and posterior pairs with 4 strong spurs at middle and apices of tibiae (fig[ure] 5, posterior leg)

Thriophaga 15 - maculata (Hypsa plagiata)

Antennae - Long, setaceous, covered above with scales, and with several rows of fine setae beneath (fig[ure] 2).

Palpi - Conspicuous, projecting upwards and forwards to a considerable distance in front of the head (fig[ure] 3) basal joint not above  $\frac{1}{2}$  as long as either 2nd or terminal which are nearly equal; basal & 2nd joint hairy, terminal nearly naked & slender.

Legs - Strong; moderately hairy; 2nd pair with 2, and posterior pair with 4 strong spurs at middle & apices of tibiae (fig[ure] 4, posterior leg)

Catocala varia.

Antennae - (fig[ure] 2) Setaceous, stem scaly above, below very delicately pubescent, with a lateral row of fine setae.

Palpi - Large, robust (fig[ure] 2) projecting upwards to nearly even with the top of the head; basal & terminal joints about equal, 2nd twice as long as either, & with the basal thickly covered with hair like scales; terminal slightly hairy and obtuse at point.

Legs - Rather stout, (fig[ure] 4, anterior leg) moderately clothed with elongated scales and hair; 2nd pair with 2 (fig[ure] 5) and posterior pair with 4, largish spurs at middle and apex of tibiae.

2 specimens in Cabinet.

Tryphaena renigera

Antennae - Long; <setaceous> male, with bunches of delicate ciliations beneath, continued to the tip; female (fig[ure] 2) setaceous.

Palpi - Very large (fig[ure] 3) approximating, & porrected for- -wards, resembling the snout of some animal; thickly & compactly covered with scales; basal joint small; 2nd and terminal about equal in length, the latter thin and somewhat acute.

Legs- Powerful; tibiae hairy, and in the 2nd leg (fig[ure] 4) provided with 2, & in posterior with 4, stout spurs- tarsi moderately hairy & with a few rows of small setae.

Helena Scott Ash Island 30th January 1863

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Magnified portions of Insects figured from Part 5-10

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Zeuzera Macleayi – [female] Antennae (fig[ure] 2 [female]) shorter than thorax, rising from a cup shaped tuft of hair - setaceous - the joints somewhat produced beneath & [and] set with short ciliae; above scaly.

-Maxillae obsolete

Palpi - (fig[ure] 3) Rather small, distinct, projecting forwards & [and] downwards to about even with the front of the head; moderately hairy, basal and terminal joints about equal, & [and]  $\frac{1}{4}$  as long as the middle, terminal somewhat conical at the point:

Legs - powerful, the tibia of anterior pairs only, [diagram] [female] being pilose (fig[ure] 4) the coxae & [and] femura of all densely lanuginose. 2nd & [and] posterior (fig[ure] 5) pairs with 2 small spurs at apices of tibiae.

Abdomen densely lanuginose beneath. Ovipositor exerted.

PI XXV Other species

Zeuzera Rufapelli (liturata?) [female] Antennae, shorter than thorax, rising from a cup shaped tuft. setaceous; joints somewhat produced beneath, set with short ciliae - above scaly, [male] Antennae (fig[ures] 2,3 [male]) deeply pectinated to two thirds of its length, the remainder ciliated beneath to the top, the joints being slightly produced.

Maxillae obsolete. Palpi [female] Middle joint only about  $\frac{1}{3}$ rd longer than terminal, which is again  $\frac{1}{3}$ rd longer than basal, and somewhat conical at the point [diagram [female]] Male (fig[ure] 4) basal & [and] terminal joints equal in length and about  $\frac{1}{4}$  the length of middle, terminal obtuse [diagram [male]]. In both project forwards & [and] slightly downwards, and moderately hairy. In female smaller than in male. Legs - powerful, tibiae of anterior pairs pilose. (fig[ure] 5) In others set with close hair; coxae & [and] femora of all densely lanuginose. 2nd & [and] posterior pairs with 2 small spurs on tibiae. (fig[ure] 6) Abdomen beneath thickly lanuginose. Ovipositor exerted.

Largest species of all.

Antennae [female] Setaceous, shorter than thorax, rising from a cup shaped tuft; joints not produced beneath; set with fine ciliae. Maxillae obsolete.

Palpi [female] rather small, projecting forwards & [and] somewhat downwards & [and] nearly even with the front of the head, moderately hairy; middle joint about  $\frac{1}{2}$  as long again as basal, which is  $\frac{1}{2}$  as long again as terminal, the latter being globose.

Legs - similar to the preceding species.

Abdomen, also lanuginose, with ovipositor ex- [diagram [female]] -serted.

PI XIV. Hesperia Coreeba. Part.4 Netrocoryne repanda

Antennae (fig[ure] 2) About  $\frac{1}{2}$  the length of upper wing - terminating in a fusiform club, which attenuates gradually from about the middle &[and] tapers to a long, strongly uncinated point.

Palpi (3 &[and] 4 divested of hair) large, porrected forwards considerably in front of the head; middle joint about twice as long as terminal, which is slightly longer than basal, somewhat pointed &[and] inclining downwards; 2nd &[and] basal joints thickly clothed with scales &[and] hair, terminal moderately hairy.

Legs - Slender, <not> sparingly clothed with fine hair, and on the tibiae of posterior pairs (fig[ure] 5) additionally provided with an external tuft. 2nd pairs with 2 &[and] posterior with 4 slender spurs on tibiae.

Wings hang out[?] in repose. [Left margin] Maxillae

Pl 14 Pamphila Palmarum. Phineas Part 4

Antennae. In female about  $\frac{1}{2}$  the length of upper wing. In male (fig[ure] 2) a little over. Clavate scaly the club tapering off to a long, naked, uncinated point. Palpi, (3, 4, seen from below; 5 divested of hair) Large, broad; proceeding in front of &[and] about even with the top <front> of the eyes; basal &[and] terminal joints small, 2nd large and inflated; terminal slender, rather obtuse: the whole thickly set with feathery scales which almost envelop the terminal joint.

Legs - Slender, sparingly covered with hair &[and] with rows of small setae down the tarsi: 2nd pair with 2 &[and] posterior (fig[ure] 6) with 4 spurs on tibiae, the upper pair in female being exceedingly small. A few long hairs terminate the last joint of the tarsi.

Pl 15. Agarista Lewini - Part 5

Antennae (fig[ure] 2) thicken very gradually towards the middle, thence taper to the point, which is not hooked (as would appear by dried specimens) but when alive the insect always keeps it in a gentle curve, thus: [diagram]

Palpi. (fig[ures] 3 &[and] 4, divested of hair) Joints almost of an equal length, the basal being slightly the longest; porrected forwards &[and] upwards &[and] almost even with the top of the eyes; terminal joint nearly naked and somewhat obtuse, basal &[and] 2nd thickly clothed with scales &[and] longish hairs.

Legs. 2nd pairs with 2, &[and] Posterior pairs (fig[ure] 5) with 4 largish spurs on tibiae, which is also clothed with long yellowish hair, of anterior pair with short, close, hair. Tarsi with short hair &[and] a few setae: Femora of all with long yellowish hairs.

Plate 15 Agarista Glycinae. Part 5

Antennae (fig[ure] 2) Very gradually thickening towards the middle, thence alternating to the tip, which is not hooked.

Palpi (fig[ures] 3, &[and] 4, divested of hair) Rather robust, porrected upwards &[and] forwards to level with the top of the eye; terminal joint slender, nearly naked; basal &[and] 2nd thickly covered with scales &[and] longish hairs; basal &[and] terminal joints about equal, middle a shade longer than either.

Legs. 2nd pair (fig[ure] 5) with 2, &[and] posterior with 4, largish spurs on tibiae, which <is> are also provided with long hair, of anterior legs, with close, fine hair. Femora and coxae of all, with thick orange-coloured hair.

Plate 15 *Agarista Donovanii*. Part 5

Antennae (fig[ure] 2), almost filiform, being very slightly thickened past the middle towards the point, which is not hooked.

Palpi (fig[ures] 3, &[and] 4 divested of hair) Longish; project straight forwards &[and] upwards to quite even with the top of the head; terminal joint slender, &[and] nearly naked, 2nd and basal moderately clothed with scales &[and] longish hairs; basal &[and] terminal joints about equal in length, middle slightly longer.

Legs. 2nd pair with 2, &[and] posterior <with> pair (fig[ure] 5) with 4 largish spurs on tibiae; tibiae &[and] tarsi of all covered with close, short hair; femora with bright yellow hair.

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plate 15 *Agarista Latina* Part 5

Antennae (fig[ure] 2) very gradually thickening towards the middle, thence tapering to the point, not hooked.

Palpi - largish (fig 3[ures], &[and] 4 divested of hair) porrected upwards &[and] forwards, about level with the top of the eye. Terminal joint slender, nearly naked, 2nd &[and] basal thickly clothed with scales &[and] longish hair; basal &[and] 2nd joints of equal length, terminal about  $\frac{1}{2}$  that of either.

Legs - 2nd pair with 2, &[and] posterior pair with 4 longish spurs on tibiae; tibiae &[and] femura of 2nd &[and] anterior pairs <with> (fig[ure] 5) with longish yellow<ish> hair, of posterior with close, fine hair &[and] femura with long blackish hair.

Pl[ate] 16. *Charagia Ramsayi*.

Head, large, eyes prominent, with a double row of long ciliations bending over

Maxillae, obsolete

Antennae. Very short; In male, slightly granulated (fig[ure] 1, [male]), almost naked, having only a few fine setae beneath &[and] some delicate ciliations above; the terminal joint rather longer than the rest, &[and] oblong. Female similar but ciliations are still smaller &[and] scantier, &[and] the terminal joint not so long.

Palpi. Very small (fig[ure] 2[male]) projecting forwards &[and] slightly downwards, just in front of the head. 3-jointed. In male the basal joint is about  $\frac{1}{3}$ rd longer than the 2nd, which again is  $\frac{1}{3}$ rd longer than the terminal. Terminal joint somewhat globose, oblong, with a slight protuberance on one side: in female (fig[ure] 3, divested of hair) the basal &[and] 2nd joints are about equal, the terminal being  $\frac{1}{2}$  as long as either, &[and] not so acute as in male. Basal &[and] 2nd joints rather thickly covered with fine scales &[and] hair, terminal with close fine scales <[?]>.

Legs. Anterior and 2nd pairs large, powerful, densely pilose, the hairs being close set &[and] graduated towards the tarsi which terminate in a pair of very strong claws &[and] pulvilli. Posterior leg (<fig[ure] 4 [[male]]>) small - particularly in male (fig[ure] 4) being only slightly longer than the tibia of 2nd leg; tarsi almost naked, very slender; tibiae densely pilose, furnished exteriorly in male with a large tuft of golden coloured hair; the bone of the tibiae <being> is also inflated, &[and] produced at the exterior apex, resembling somewhat a blunt spur thus: [diagram] In female, the tuft of long hair is deficient.

Pl[ate]. 17. *Macroglossa Scottiarum*

Antennae - (fig[ure] 2) <[?]> Rather long clavate, with transverse rows of short ciliations, &[and] terminating in a hooked point, bearing a few setae. Palpi (fig[ures] 3, &[and] 4 divested of hair) Very large, approximating, projecting straight forwards considerably in front of the head, &[and] densely covered with feathery scales &[and] hair; 2nd joint very large, inflated; terminal minute, rounded. Legs - Tibiae short - with 2 spurs on 2nd &[and] 4 robust spurs on posterior legs (fig[ure] 5) which is also provided with longish hairs exteriorly - Tarsi long, with a double row of setae down.

There is a second species of Australian Macroglossain the Cabinet, from Port Denison; which corresponds exactly, in all respects, with the above.

Chaerocampa Lavinia

Antennae. (fig[ure] 2 &[and] 3) Clavate, slightly hooked at the extremity &[and] terminating in a few setae. In male with transverse rows of ciliations arranged in pairs - stem scaly.

Palpi (fig[ures] 4 &[and] 5 divested of hair) Smaller than in the other Sphingidae - 2nd joint about 2½ times the length of basal; terminal small, somewhat obtuse; the whole densely covered with close set scales &[and] projecting in front to about half the width of the eye.

Legs - Strong - 2nd pair (fig[ure] 6) with 2 &[and] posterior pairs with 4, large spurs in tibiae which in all is closely set with longish hairs; tarsi hairy with a few rows of short setae.

Pl[ate] 18. <Catocula fusea> Spanocala atrata Part 6

Antennae, setaceous; <squamose above> above, with scales; in male (fig[ure] 2) below with ciliations arranged in bunches; these ciliations are continued to the point which terminates in a few setae (fig[ure] 3): in female, below <slightly> pubescent; point terminating in a double seta.

Palpi - 2nd joint almost twice the length of either basal or terminal which are nearly equal, in Male however the terminal being slightly longer &[and] more acute than in female (fig[ure] 5) Basal &[and] 2nd joints thickly, &[and] terminal thinly, covered with feathery scales; the whole projecting forwards &[and] upwards to even with the top of the eyes. (fig[ure] 4)

Legs. Anterior pair (fig[ure] 6) rather small in comparison with the others; 2nd pair with 2 &[and] posterior pair with 4 strong spurs on tibiae (fig[ure] 7); tibiae &[and] femora of all thickly clothed with hair; tarsi moderately hairy, with a few setae beneath.

In the 2nd[second] species of Spanocala (triangularis) the anatomical details correspond very nearly with those given above, the only differences being that the pubescence in the female antennae, is thicker &[and] more resembles ciliations - &[and] the basal joint of palpi is slightly longer in proportion than in atrata. With these slight differences, it otherwise corresponds.

[start of page 91]

Catocala fusca Part 6

Antennae - setaceous - stem <squamose> covered with scales above; beneath slightly pubescent, &[and] with a lateral row of minute setae (fig[ure] 2).

Palpi - 2nd joint  $\frac{1}{2}$  as long again as either basal or terminal, which are about equal: basal & 2nd joints thickly clothed with hair like scales; terminal moderately so, & somewhat obtuse at the tip: the whole projecting forwards & upwards to not quite even with the top of the eye (figure 3)  
Legs - anterior pair small, comparatively. 2nd pair with 2 (figure 4) & posterior pair with 4 largish spurs on tibia, which in all is thickly covered with feathery scales - tarsi moderately so, & with rows of small setae<sup>1</sup> beneath.  
(But 1 specimen in Cabinet, other deformed. both females.)

*Catocala albo-fasciata* Part 6

NB.[nota bene, note well] (This species should here follow, but has been misplaced on plate) –

Antennae - setaceous - stem covered with scales above, beneath pubescent, with a lateral row of small setae, the tip terminating in a horny seta emitting a few hairs (figure 2)

Palpi - 2nd joint nearly twice as long as either basal or terminal, which are equal: basal & 2nd joints thickly covered with feathery scales, terminal moderately so & rounded at the point. The whole project forwards and upwards to even with the top of the eyes (figure 3).

Legs - Anterior pair comparatively small - 2nd pair with 2 (<figure 4>) & posterior pair with 4 largish spurs; the tibiae in anterior & posterior pairs thickly covered with feathery scales; in 2nd pair thinly, but in the male this joint is provided with a large fan-like tuft of long hair, at the base (figure 4) which is concealed at pleasure in a groove down the side of the joint. tarsi moderately hairy, with a few rows of setae.

There are two other species of *Catocalae*, viz[videlicet = namely] . *C. Ricini*- & *C. varia* which both agree in all essential points with the preceding ones- altho[ugh] there are a few slight differences.

*Catocala varia* has the antennae, setaceous - stem scaly above, below very delicately pubescent, with a lateral row of fine setae.

*Catocala Ricini* - similar, but the setae are more minute.

*C. varia* - palpi - basal & terminal joints about equal. 2nd twice as long as either, & with the basal thickly covered with hairlike scales, terminal slightly hairy,& obtuse at point- the whole project upwards to nearly even with the top of the head.

*C. Ricini* - has the 2nd joint only  $\frac{1}{2}$  as long again as basal, which is slightly longer than terminal. 2nd & basal thickly covered with hairlike scales, terminal thickly so, & obtuse at point-projecting upwards to almost even with the top of the eye.

*C. varia* - has the legs provided with the usual 2 & 4 spurs, but the tibiae are not so hairy as in the preceding species.

*C. Ricini* - has also the 2 & 4 spurs- but the tibiae of all the legs are thickly hairy.

*Anocala Cabbalistica* part 6

Antennae - setaceous; stem, above with feathery scales, below pubescent with a double row of setae commencing at some distance from the base & continued to the point: in male the setae <are longer,&> commence nearer the base <(fig 2)> and are longer (figure 2)

Palpi - Long; (fig[ures] 3, &[and] 4, divested of hair) 2nd joint 3 times, and terminal <joint> 2½ times the length of basal - terminal rather slender, pointed; the whole moderately covered with feathery scales, &[and] near the base, a few hairs; and projecting forwards to a considerable distance in front of the head, but not quite lined with the top of the eyes <(fig>

Legs- 2nd pair with 2, &[and] posterior (fig[ure] 5) with 4 strong spurs on tibiae, tibiae <&[and] tarsi> of all thickly clothed with feathery scales- tarsi moderately so, &[and] with a few rows of fine setae.

There are two other species of Anocala in the cabinet, neither of which we have reared, but the anatomy of the perfect insects (which are label[le]d Anocala) agrees exactly; with the single exception that the 2nd joints of the palpi are only twice the length of either basal or terminal which are nearly equal. The Antennae and legs are perfectly similar.

(turn back to page 9)

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Pl[ate] 19 - Antheraea janetta.

Maxillae obsolete –

Antennae - 4 - pectinated on each joint, the pectinations in the male (fig[ure] 2) being long, arranged in pairs, &[and] delicately ciliated at the sides; in the female smaller &[and] furnished at their points with setae.

Palpi - Very small, but distinct - (fig[ure] 3 [male]) moderately hairy - in the male, the 2nd joint is about 4 times the length of either basal or terminal which are about equal; the terminal being rounded at its apex (fig[ure] 4). In the female the 2nd joint is about 3 times the length of terminal or basal, &[and] the terminal is slightly pointed (fig[ure] 5).

Legs (\* fig[ures] 6, anterior leg [female] - 7 posterior leg [male]) - 2nd &[and] posterior pairs with 2 very small spurs at the apices of the tibiae. Anterior legs of male so densely pilose that the joints of the tarsi are not visible from above; <In both sexes the> the other legs, as well as the whole of those of the female, are densely pilose, but the articulations of the tarsi are distinct, &[and] the terminal joint is concealed by a large bunch of hair.

Part 7 Pl[ate] 20 - Papilio sthenelus (<Lycaon ?>).

Antennae - Terminate in <a somewhat> an elongated club (fig[ure] 1) very slightly compressed laterally, &[and] <terminates> pointed at the apex.

Palpi - (fig[ure] 2) very small; projecting <forward> immediately in front of the <mouth> head, the whole covered with fine scales &[and] fringed exteriorly with fine hair; basal &[and] 2nd joint about equal in length (fig[ure] 3) terminal joint very small &[and] <rounded> slightly globular

Legs - Anterior (fig[ure] 4) with a horny sac <inside the> on the inner side of tibia; 2nd &[and] posterior pairs (fig[ure] 5) with 2 small naked spurs at the apex of tibia; tibiae &[and] tarsi of all very slightly scaly &[and] nearly naked, with several [?] rows of short black setae.

Part 7 Papilio Macleayanus.

Antennae - (fig[ure] 1) rather long; terminating in <an abrupt> a short &[and] slightly hooked club <club> compressed laterally.

Palpi - <Very> small (figure 2) projecting forwards <in> a slightly little beyond the head; clothed with short scales & rather with longish hair<y>s <exteriorly> on the [?][?]; 2nd joint fully

fully twice as long as basal (figure 3, divested of hair); terminal joint very small, somewhat globular.

Legs - Anterior pair (figure 4) with a horny sac <inside> on the inner side of tibia; 2nd and posterior pair <(figure 5)> with 2 small naked spurs at apex of tibia (figure 5); tibiae & tarsi nearly <naked> smooth, with several [?] rows of short stiff black setae.

Part 7 Pl[ate] 21. Geometra <Gilsia> Cameli-pilo

Antennae, of male (only sex in our possession), long; rather deeply bipectinated to the tip, the pectinations finely ciliated (figure 2); stem above scaly.

Palpi - (figures 3 & 4 divested of hair) moderately large, projecting forwards & upwards to about even with the middle of the eye; 2nd joint about twice as long as the basal, & 4 times as long as the terminal joint, which is rather slender, & pointed at its apex - the whole moderately hairy.

Legs. Long & slender, closely covered with scales; 2nd pair with 2, & posterior pair (figure 5) with 4 longish spurs on the tibiae.

Part 7 Geometra gilva

Antenna, of Male (only sex in our possession) bipectinated to about three fourths of its length, pectinations finely ciliated & each terminated by a seta, slightly bent inwards (figure 2) stem scaly.

Palpi. (figures 3 & 4 divested of hair) moderately large, projecting forwards & upwards to almost the top of the eyes; basal joints about twice the length of 2nd, both being thickly clothed with scales & hair; terminal small, slender, somewhat <pointed> obtuse at apex slightly hairy.

Legs. Long, slender; 2nd pair with 2, & posterior pair (figure 5) with 4 longish spurs on the tibia, which in the latter, is also provided with a fan shaped tuft of long hair, placed below the base of the joint; tibiae & tarsi closely covered with scales.

turn back to page after birds nest

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Primary or Anterior Wing

[diagram]

Terminology of the Wings of Papilionidae

Copied from Brit[ish] Mus[eum] Cat[alogue] J.E. Gray

Lepidoptera 1852

[newspaper clipping]



TRANSACTIONS OF THE ENTOMOLOGICAL SOCIETY OF NEW SOUTH WALES.

The first monthly meeting of the Entomological Society of New South Wales was held, in accordance with resolutions agreed to at a preliminary meeting, on the 5th of May last year, at 153, Macquarie-street, when Mr. William Macleay, M.L.A., the president of the society, was placed in the chair. At that time the rules of the society, as prepared by a committee of members, were formally agreed to with some few verbal amendments, and those scientific researches were commenced which have now been published in the neat serial form in which they are presented to the public. The Entomological Society of New South Wales was instituted for the improvement and diffusion of entomological science, and principal officers consisting of a president, a treasurer, and a secretary. Its affairs are managed by these officers, assisted by a council of six elected annually. The society holds its ordinary general meetings on the first Monday in the month at eight o'clock in the evenings. At these *réunions* entomological papers are read, verbal communications received, candidates for admission balloted for, and other necessary business transacted. Meetings of this character, the proceedings of which are recorded in the "Transactions," were held during the last year, on the 5th of May, 2nd of June, the 7th of July, the 4th of August, the 1st of September, the 6th of October, the 3rd of November, the 1st of December, and on the 5th of January last. The annual general meeting was held on the 30th of January this year, when the President, Mr. William Macleay, read the following address on the state and prospects of the society:-

Gentlemen,- As the first stage in our history has now been reached, it may not be amiss that I should take the opportunity of saying a few words on the objects and prospects of the society.

The advantages which the original promoters of the institution anticipated were of a twofold character. They wished to give all who were interested in the science of entomology opportunities of social intercourse; and they also wished to be the means of assisting in the publication of such papers connected with the science as might be deemed worthy of their sanction.

Viewing these as the main objects of the society, I think I am justified in saying, that it has already been as successful as its most sanguine promoter could have desired. A number of gentlemen, previously unknown to each other, have been afforded opportunities of meeting together, which, without the intervention of the society, would, perhaps, never have existed; an impetus has been given to collecting in a degree hitherto unknown in the colony; and from the facilities given of communicating information, an unusual amount of observation has been concentrated on the history and habits of the insect tribes.

During the few months of the society's existence, six papers have been read. Mr. Schrader's paper on the Gall-making Coccidae of Australia was the first in point of date, and, perhaps, the first also as regards the interest and originality of the subject, since the knowledge which entomologists have as yet acquired of the insects which produce manna may be considered as very restricted. The Rev[erend]. Mr. King has contributed a most valuable monograph on the Pselaphidae of New Holland. The Hon[orable]. A.W. Scott, Esq[uire], has given us an interesting account of the habits of an Ovoviviparous Moth of the genus *Tinea*. And I have read three papers on Coleoptera, mostly descriptive of new species.

These papers will be immediately published, and will, along with an abridged account of the proceedings of each monthly meeting, the rules of the society, and the list of original members, form Part 1 of Vol[ume] 1 of the Transactions of the Entomological Society of New South Wales.

As regards the monthly proceedings, I may observe, that the members generally have derived much pleasure and information from the ample collections of insects exhibited at each meeting, and it is to be hoped that a practice which adds so much to our knowledge of species and their habitats will be continued; but the Council have, while entering these exhibitions in their minutes, not thought it necessary to mention them in their published proceedings, except in those instances where some specific information has been derivable from the exhibition. The mere mention of the exhibition of a fine collection conveys no information to the reader, nor is even the recital of a list of names of any value unless accompanied by a statement of some peculiarity of habit or structure.

With respect to our financial position, I may state that the sum which the treasurer's report shows to our credit, though small in appearance, is sufficient for our wants, and the Council calculates upon being able to bring out the first part of our transactions without exceeding our small means, and to present each member of the society with a copy free of charge.

While success, therefore, may truly be said to have crowned our efforts hitherto, I regret to say that our path has not been altogether unclouded. Though the number of our members is small, the hand of death has already snatched away two, Mr. J.B. Turner, and Dr. William Houston. While the former gentleman was but little appreciated beyond the small circle of his immediate acquaintance, the latter was almost universally known and respected throughout Sydney. Both, however, were devoted to entomology, and are deeply lamented by every member of the society.

As to our prospects, I can scarcely doubt that the efforts of the members will be followed by the same success which has hitherto attended them; and I believe that an increased acquaintance with the science will be evinced in the number and character of the contributions to our next publication.

The chief difficulty which the entomologist has to encounter in this country is the impossibility of ascertaining what has already been done with respect to the nomenclature and description of its Insect Fauna. Isolated descriptions of species are to be found in the natural history periodicals of almost every country in Europe, but few attempts have been made to consider the Australian Fauna as a whole. Boisduval's "Faune de l'Océanie" is, I believe, the latest work of the kind published, and it is of little use as a means of investigating species; the descriptions are short, and would for the most part apply to all the species of the particular genus mentioned. The number of insects, moreover, described in the work is scarcely a tithe of those to be found in the most ordinary collections. To obviate such difficulties should be our first endeavour. In order to enable us to make our observations on the habits of an insect known, we have to ascertain the name by which it would be at once universally recognised by entomologists, for I need scarcely say that an acquaintance with the names of species greatly increases our powers of observation. Nevertheless, though a correct knowledge of the nomenclature of insects is indispensable to the entomologist, it ought only to be regarded as a means towards an end, that is, as the dictionary by which the science is to be acquired, and, therefore, the first, but not the ultimate subject of our investigation.

It may, possibly, be expected by the younger members of the society, and by those about to commence the science of entomology, that I should give them some advice on the proper course of study. Such persons must recollect that every science is to be studied analytically and synthetically. We begin always by analysing, that is, by resolving into parts, because until we have an accurate knowledge of parts, it is impossible to synthesize, i.e. [id est "that is"] to put them together. Thus, before a student can think of arranging objects of natural history, he must be conversant with the structure and habits of these objects. He ought, for instance, to be able to make out the name of an insect by its scientific description, and then to try his hand in describing new species. It is only when he has thus made himself familiar with what may be termed the grammar of the science, that he can safely proceed to attempt to arrange. Two books are quite sufficient to enable him to attain both these objects. The first is Kirby and Spence's Introduction to Entomology, in four volumes; the late editions of the two first volumes are useless to the entomologist, the last two volumes of the complete work being those that give the

general history of the science, and, what is still more useful, the orismology, or definition of those technical terms which will enable the student to make out the name of an insect, and to describe his new species. The other book is "Cuvier's Regne Animal," the French editions of which are, of course, the best, but in the event of the student not being familiar with the French language, there are plenty of English translations procurable. The use of this work is not merely to make him familiar with that arrangement of insects hitherto made use of by scientific men, particularly on the Continent of Europe, but also to show him the relations which insects bear towards the other departments of zoology. I would, therefore, I repeat, recommend Kirby and Spence for analysis; and for synthesis I would recommend Cuvier, or rather Latreille, since it was the latter eminent naturalist who wrote the volumes on insects, which form so bright a part of the far-famed Animal Kingdom of Cuvier.

There is another matter to which I must allude before I conclude. When the society was first formed, it was unanimously resolved that Mr. W. Sharp Macleay should be our honorary president. This idea was suggested by the example of the Entomological Society of London, the members of which had elected the late Mr. Kirby as their honorary president. It was thought that, while it was only due to Mr. Macleay as the most eminent of living entomologists, that such a compliment should be paid to him, the society itself would benefit by having associated with it a name so distinguished in the scientific world. However, while Mr. Macleay has joined us as an ordinary member, and, with cordial expressions of goodwill towards the society, has offered it the invaluable advantages of his advice and assistance; he has, nevertheless, I regret to say, judged it desirable for several reasons, that he should decline to accept the responsibilities of any office in the society.

And now, gentlemen, I have only to add, that, should I be spared to occupy the chair at our next annual meeting, I hope to be able to point to the efforts of our society as not the most insignificant or the least useful in the history of entomological science for 1863

The principal papers which have as yet been read before the society at their meetings are as follows:-

- (1) A paper containing observations on certain Gall-making Coccidae of Australia by H.L. Schrader.
- (2) Another paper, on the same subject, by the same author.
- (3) A paper containing the scientific de-scription of twenty new species of Australian Coleoptera, belonging to the families of Cicindelidae and Cetoniidae, by Mr. William Macleay, jun[ior], M.L.A.
- (4) The description of twenty new species of Stigmodera, by Mr. William Macleay.
- (5) The description of an ovoviviparous moth, belonging to the genus Tinea by the Hon[ourable] A.W. Scott, Esq[uire], M.A., M.L.C.
- (6) A paper on the Pselaphidae of Australia, by the Rev[erend] R.L. King, B.A.; and
- (7) a paper on Scaritidae of New Holland, by Mr. W. Macleay.

The first part of the first volume of the Transactions of the Entomological Society of New South Wales is now ready, and is got up in a style which reflects the highest credit upon Messrs. Reading and Wellbank, of Bridge-street, by whom it has been printed and published for the society. The printing is excellent, and the five lithographic plates are very artistically finished, and well struck off. They appear to have been drawn upon stone by the authors of the papers illustrated, with the exception of Plate 4, which has been drawn by a lady.

These volumes, as they come from the press, will form welcome additions to the libraries of the learned and scientific, both in this colony, and also in Europe.

The officers of the Entomological Society for 1862 were, Mr. Macleay, the president; Dr. Cox, the secretary; Mr. Ramsay, the treasurer; Mr. Hugh Houston, Mr. W.J. Stephens, and the Rev[erend] R. L. King.

Friday, March 20th, 1863

[end of newspaper clipping]

N[ew] S[outh] Wales Entomological Society  
established in Sydney 1862

First meeting at Mr W. Macleay, jun[ior]'shouse, on Monday 5th May 1862.

President, W.S. Macleay, Elizabeth Bay.

Vice President, W. Macleay, jun[ior]

Treasurer, E.P. Ramsay, Dobroyd.

Secretary J.C. Cox, MD. Phillip St

Members:

W.S. Macleay Esq[uires], Elizabeth Bay

W. Macleay Esq[uires] M.P. Macquarie St

A.W. Scott Esq[uires] MLC. Ash Island

Alfred Roberts Esq[uires] MD.W.J. Stephens Esq[uires] Grammar School?

W. Blackmore Esq[uires] -d[itt]o-

Edward P. Ramsay Esq[uires] Dobroyd

James C. Cox Esq[uires] MD Phillip St

Gerard Krefft Esq[uires] Aust[ralian] Museum

W. Reitmann - Newtown.

H.L. Schrader -(Watchmaker)(left the Colony since)

W. Hyndes (Cabinet maker)

Dr. H. Houston- Surgeon Sydney Infirmary

Dr. H Houston ( since deceased)

Rev[erend] W.J. Creeny M.A. Lyceum School

-Masters-

Hon[ourable] T.A. Murray ( President Leg[islative] Council)

Sir W.T. Denison, Governor General, Madras.

Rev[erend] R.L. King – Parramatta

[left margin] 1st Part of Transactions of the Society published Thursday March 19th 1863

[left margin] On Monday 1st Sept[ember] Papa read a paper on "Tinea vivipara" on Monday

[start of page 98]

(Green's Bot[anical] Dict[ionary]) {Filices Cryptogamia }

Osmunda (over)

division of the frond, sessile, sub-globular, opening transversely, without any ring - Seeds, very many, extremely minute.

Trichomanes

Fructifications inserted into the margin of the frond, separate. Involucre, one-leafed urn shaped, undivided, opening outwards. Columns, extending beyond the involucre like styles. Habit, membranaceous, semi-transparent.

Hymenophyllum

Involucre bivalve - column short. (This genera, Hymenophyllum (Filmy-leaf) was created by J.E. Smith, who separated it from Trichomanes, on account of the bi-valve involucre, & short column)

Woodwardia

Groups of capsules oblong, distinct, straight, ranged in a simple row in bordered cavities, parallel to each side of the rib. Involucre, superficial, vaulted, separating towards the rib.

Woodsia

Fructifications, in roundish groups on the back of the leaf - involucre cup-like, open, small, nearly flat, jagged, fringed with awl shaped, incurved, jointed hairs. Capsules, several, obovate, on short stalks, crowded in the centre of the involucre, each bound by a vertical, jointed, elastic ring, & bursting irregularly at one side. Seeds numerous, kidney shaped, granulated, extremely minute.

Aspidium (Salisbury's Botanist)

Fructifications in roundish dots on the margin of the leaflets. Involucre, targeted.

Scolopendrium (I.B)

Fructifications, in lines dispersed between the veins of the frond – Involucre, superficial, the edges folding over each other.

Cyathea (I.B)

Fructifications, in roundish dots, scattered. Involucre, <[?]> hemispherical.

Fructification, on, or near the roots. (I.B)

Pilularia

Fructifications on a round receptacle 4-celled.

Isoetes

Fructifications, Male, within base of inner leaves. Female, within the base of the inner leaves. Seeds, angular, rough.

[start of page 99]

(Green's Bot[anical] Dict[ionary])

{Filices Cryptogamia }

Acrostichum

Fructifications cover the whole under surface of the frond.

Adiantum

Fructifications assembled in oval spots at the end of the fronds which are turned back, or at the reflex tip of the frond underneath.

Asplenium

Fructifications disposed in eight lines along the under disc of the frond.

Blechnum

Fructifications disposed in two lines approaching to the rib of the frond & parallel.

Caenopteris

Fructifications in submarginal lateral lines, covered with a membrane, gaping on the outside.

Dicksonia

Fructifications kidney shaped, lying under the edge of the frond at the lower surface; outer valve formed on the surface of the leaf itself - inner membranaceous.

Equisetum

Fructifications disposed into a long, ovate, oblong spike; each orbiculate, gaping at the base, with several valves, connected by a flat shield shaped top.

Lindsaea

Capsules; annulated, continued, nearly marginal, lateral or terminal lines. Involucrum arising from the surface of the leaf, membranaceous, continued, entire or slightly crenate; at length reflexed, permanent.

Pteris

Fructifications in an uninterrupted marginal line. Involucrum, from the margin of the frond, turned in, uninterrupted, separating on the inner side.

Polypodium

Capsules, annulated, distributed in roundish dots, on the back or lower surface of the fronds. Involucrum, entirely wanting.

Lonchitis

Capsules, disposed in lunulated lines, lying under the sinuses of the frond.

Meniscium

Capsules heaped in crescents, interposed between the veins of the fronds.

Onoclea

Capsules under the recurved and contracted pinnules of the frond, resembling pericarpia.

Ophioglossum

Capsules numerous, connected by a membrane into a distinct spike, sub-globular: when ripe opening transversely, without any elastic ring. Seeds, very many, extremely minute.

Hemionitis

Capsules digested into lines, meeting together, either intersecting each other, or branched.

Osmunda

Capsules, distinct, dispersed in a raceme in such a manner as to look the same way, or else heaped on the back of the pinna, or division of the frond.



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Ash Island - January 1859

- No 1 Yellow Robin *Eopsaltria Australis*
- 2 Brown bird (thrush) {line crossed out}
- 3 Brown bird (thrush) *Pachycephala*
- 4 Silver eye *Zosterops dorsalis* ?
- 5 Chickup - *Ptilotis Ptilotis ?lunulata, lunai*
- 6 Cobblers awls (honey sucker) *Acanthorhynchus tenuirostris*
- 7 Red head *Estrela temporalis*
- 8 Brown butcher bird *Cracticus destructor*
- 9 Leather head or Friar bird *Tropidorynchus Corniculatus*
- 10 Razor grinder or Water wagtail *Rhipidura Motaciliodes* ?
- 11 Fan tail *Rhipidura albiscapa*
- 12 Superb Warbler *Malurus Cyaneus*
- 13 Black Cap *Melithreptus gularis*
- 14 Diamond wood pecker, *Sittela chrysoptera*
- 15 Diamond sparrow *Estrela*
- 16 Hanging dicky *Acanthiza*
- 17 Speckled cuckoo supposed to be the same as *C. Lucidus* the bronze cuckoo. cuckoos often lay varieties
- 18 Martin A. *Soridus (Artamus soridus)*
- 19 Ewbane, *Ptilotis auricornis*
- 20 Bronze wing Cuckoo, *Caecitis (or Chrysococix) lucidus*
- 21 Harmonious thrush *Colluricincla harmonica*
- 22 Bee-eater *Merops ornatus*
- 23 Quail *Synoicus australis*
- 24 White throat (like chick-up) *M. Soricea?*
- 25 Mottled thrush - *Oriolis viridis*
- 26 Wood dickey - *Acanthiza* ?
- 27 Frog bird - *Petroiea bicolor*
- 28 Sky lark - (long tailed) - common ground lark
- 29
- 30 *Porphyrio melanotus*

[start of page 136]

Euschemon Rafflesia - Large blue black and yellow Hesperia.

Rhipicerca (tufted antennae) Lamprina (golden green on ? everlasting)?

Cotonia (on roses) ? Nilia (Lady bird)?

Areola (golden, on gum) Lampyrus (glow worm)

Rhipidura rufifrons - yellow wagtail Cygnus atratus - black swan

" albiscapa - brown ?ditto Chrys[oc]ephalus- Regent bow.

Syngnathus or Sea-? Eel. ?

Previous family to the Hippocampus, or Sea Horse - Cereopsis novae hollandia (word partly obscured ? Mangrove)

Nettapus Coromandelianus

Ptilonor[h]ynchus Holosericeus? From ^? Grafton

[ inserted ink drawing of wing et al.] The small indistinct discoidal cell upper wing, is seen in one specimen, but not in the other.

Differs from our Nymphalis in the discoidal cell of upper wing being open; in the tail of lower wing, in the oscillated spots on under side; & in the form of the Chrysalis.

Differs from Morpho in the antennae which are clubbed, but seems otherwise to agree with the drawing, ( ^?Morpho actorion) in form of wings - coloring beneath & shape of chrysalis - (Discoidal cell of under wing of Morpho, closed?)

Differs from Pavonia in the discoidal cell of lower wings being open. Agrees in form with P. phidippus, type of genus Amathusia of Fabricius.

Scutellera - ?Crimex with scutellum covering with abdomen & wings.

Reduvius personatus - ? Crimex with long sucker, ? ?severely.

[start of page 135]

Mems from "Woodwards Conchology"

The sailors of HMS "Rattlesnake" became expert in collecting Geotrochi in the trees of the Australian Islands.

The great tropical Bulimi & Acliatinae will sometimes lay their eggs in captivity.

The Auriculidae are especially met with in damp places by the sea - in mangrove swamps & creeks & river-banks where the water becomes brackish.

The River openings of this coast/ Panama/ are bordered by mangroves, amongst which are found Potamides, Arca's, Cyprina's, Potamomys, Auriculas & Piopuras, whilst Litorina climb the trees and are found upon their leaves.

Insects sent to Miss Lucy Denison

January 1862

Papilio Erectheus (male & female symbols)	Chaerocampa Bernardus (F)
Charaxes Lempronius (M&F)	Catorala Ricini(Achaea Meliceuta)
Chelopteryx Collesi (M)	Cryptophasa Irrorata (F&M)
?Autherea ?Tanetta (M&F)	Nyetemera Annulata(M)
Acraea Andromadea	Physicampa Sapotearum (F&M)
Hepparchia Merope (M&F)	Agarista Lesvici
Pieris Harpalyie	Polycyma absimilis (F&M)
Danais Corinna (F)	Teara Tristes (F)
Vanessa Itea	Doratiophora Vulnerans (F&M)
Agarista Agricola (F)	Pieris Aganippe (F)

Colias Flora (Calidryas Phillipina)

Pieris Negrina (F)

Papilio Macleayanus

Cynthia Cardui

Chaerocampa Cinerca

" Erotus (M)

" Celerio

Sphinx Convolvuli (F)

Gaultheria hispida is the only species of the Heath family described by Brown as indigenous - grows at the Tumut.

Ophideses - Part 13- p 1219 Lep Het –

[start of page 134]

The following species of Ferns grow at "Waratah", about 5 miles from Newcastle.

Asplenium nidus

--- " --- flabellifolium

Adiantum assimile

--- " -- formosum

Blechnum cartaligineum

--- " -- lavigatum ?

Botrichium australe

Cheilanthes tenuifolia

Davallia pyxidata

Dordia aspera

A species from Clarence, name unknown.

Gleichenia microphylla

Lindsaea linearis

Niphobolus rupestre

Polypodium rugosulum ?

Pellaea falcata

-- " --? (Newcastle sp)

Pteris vespertilionis

- " – tremula

" – esculenta

Platyterium alcorni

Nephrodium molle has a reniform indusium on the sori-

Asplenium difforme is rather a variable plant.

Polypodium rugosulum has an indusium on the sori.

Helena Scott Ash Island

List of Insects from Mr. Wm. Macleay August 1862.

No1 Papilio Agamemnon

2 Junonia

3 Messaras Susanna

4 Diadema Alimena

5 ---- ----

6 Macroglossa Micacea ?

7 Synemon

8 Mycalesis

9 Terias

10 Junonia Orythya

11 -----

12 -----

13 -----

14 Terias Nivea ?

15 Neptis

16 Papilio Capaneus

Collected at Port Denison

Cramer "Papillous Exotiques" Vols 1&2

PI XXX,A.B.C.           our Ophideras Dioscoreae.

" LVIII,A.B.C.           Callidryas Pyranthe (our Colius pyrene.

" LXVII,D.E. (female)   our Diadema Lassinassa

" CXXII,B.C.           Papilio Eurypilus

- " -,D.E.               -- " -- Sarpedon

" CXXIV,B.C.           Terias Hecuba. our largest yellow Terias-

" CXXXIII,D.           Aloa Lactinea - same genus (if not species) as the beautiful white Euprepia? from Macquarie Fields-

" CLXV ??

" CLXXIV.A.           our Ophideres Atkinsoni.

-- " - B.               our Ophideres, 3rd species, not named.

CXC.A.B. (male)       Diadema Lassinassa (ours)

Danais Hamata (MacLeay) -- " - Chrysippus

[page 133]

Tom thumbs lagoon - Beltria Berrie (make haste)"guenonbetang" (quail)

[back cover]

34,650 lenses - each a perfect eye !

1. patagia, or tippets

stemmatic or simple eyes - two in number, like pellucid spots - on the crown of head

2. Scutellum

---

Haustellum - two tubes (1,2) composed of annulose rings like the body of an earth worm - held together by projections like the laminae of a feather, interlacing with each other (3)

Tetrapod or 4 footed butterflies like Vanessa

caterpillar - from a cat (food or provisions) & piller, to rob or plunder - two old French words –

Buttorfleoge - Saxon - because the insects first became prevalent in the beginning of the season for butter !

{3 diagrams (of the eye, thorax and haustellum) appear in the text here}

NB. Jabiru - Mycteria Australis

Emu Rhea Nova Hollandia

N. Companion Ardea Antigone

Swamp Pheasant Centropus phasianus

---

The Acacia are aphyllous - the old trees having only dilated foliaceous footstalks - the true compound leaf appearing in seedling plants, or in particular circumstances, where plants have been injured. Only two species of Casuarina found beyond Terra Australis - one in the Moluccas & on the continent of India & one at New Caledonia.

[on outside of cover]

Harriet 1863 Harriet