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Scott Sisters Notebook 1838-1840

1. New. Found on the 8th Decr. 1838 a pale green grub 3 incs. long - on the Grape leaves. On the following day it turned to a black brown color, and about 2 o'clock it began to spin, joining leaves together strongly by threads, the Chrysalis had no other covering. On the 14 Decr. I took the Chrysalis out of its habitation and placed it in bran. No 1. is the exact size and appearance of this chrysalis which on the 3rd Jany. 1839 turned to a beautiful Sphinx Moth. No 2 represents the exact size and appearance of the this moth, taken the day after its birth. This moth is very brilliant with Silver & Gold stripes

f/pd Dr.WH Harvey Pro[fessor] Bot[any] Trin[ity] Coll[ege] Dublin [sketch] [right margin]
Dr Harvey Cotula coronopifolia

Musical Repository 314 Pitt St[reet] Sydney 15th Feb[ruary] 1855 A.W. Scott Esq[ui]re Sir
In reply to your form of the 31 Ultimo respecting tuning your piano that I do not now go out tuning but expect a person from London soon for that purpose Thanking for giving me the preference I am Sir Yours very obedi[ent]ly W.I. [?] B) This was written some time since but mislaid

(2) stripes and edgings particularly by candle light. It's flight is strong and with a humming noise - MS No.3 the above moth at rest. (FS). F.S. 16 Dec 1838 a very hairy caterpillar, of a brown color about 2 inch long. It's nest was first with leaves joined together, then a very soft and strong cocoon. Cut the chrysalis out on the 23rd and placed it in bran. No.4 represents the exact size and appearance of this chrysalis which on the 2nd Jan 1839 turned to a moth. MS No.5 is the exact size and appearance of this moth. There are two roundish black spots, with white centers, on the underside of each wing

(3) The general color underneath is similar to above but darker. The grub fed upon Dock leaves, and invariably refused the Vine. The body of the moth thick & downy. ----- No 6. represents a grub of the natural size and appearance found on the leaf of the Black Grape on the 8th Decr. 1838. On the 14 it began to spin having attained to the size of 4 inch and got much duller in color. its next was simply leaves joined together by a strong thread. On the 26 Dec, I took the chrysalis out and placed it in bran. The grub ate voraciously of the Vine leaf. No 7. represents exact size and

14 and appearance of the Chrysalis of No 6 Grub. Nos. 8 & 9. Moth of No. 6 & 7. Turned to a moth 10 Jany/39 at 8 p.m. Very strong on the wing. ----- No 10. Chrysalis of a very hairy brown caterpillar with an orange stripe down the back. Caterpillar out of the Dock,

Cabbage and Canterbury Bell leaves. Chrysalis black brown & small. Turned to the above state 24 Jany. 1839 & was placed in bran. No 11 Moth of the above, on the 5th February 1839. Drawing exact size. Body saturnine red with black spots at the joints, white at the end. General color of the wings. White with a slight dash of yellow and spotted with dark brown, in rows. Legs. sat. red & black at the ends.

(5) underneath wings white with the slightest buff with a few spots of brown. Belly the same white with black spots at the junction with the red. ----- No: 12. Exact size. Caught in Sydney 8 Decr/38. Body lamp black with 5 white spots on each side of the joints. Wings like the Dragon Fly, but the fore ones with a deep black stripe edged with light brown stripes horizy. on the one side & on the other round spots of light brown. The after wings edged with a broad black stripe, and all the wings tipped with jet black with a yellow spot. The insect very strong on the wing & furnished with powerful nippers. -----

(6) Agarista. Phalaenoides glycinae Lewin ----- No. 13. Grub, covered with small thin hairs. 5 yellowish white streaks running from head to tail the whole body marked with transverse irregular black lines on a French Grey ground between these. Head & nippers gamboge, with deep black lines, part(?) over the tail, a circular row of lake colored knobs. No posterior horn and here and there lake spots over the body, chiefly over the legs. All the feet yellow. Drawing exact size - and turned to the Chrysalis state on the 24 Jany. 1839. Found in great numbers on the Grape. No. 14. Chrysalis of the above, exact size -v: drawing. which turned to a butterfly on the 31 Jany. 1839 It formed its cocoon by excavating a hollow in the dead log, and spun the pieces of wood with its web over itself. {In the left hand margin, written sideways alongside the No. 13 and No. 14 descriptions} See Nos. 314-315- & 316- p.195.

(7) No 15. Butterfly of the foregoing. Deep velvet black with broad transverse stripes of yellow. Smaller stripes near the head of a greenish color. Body black with saturnine red stripes. The legs fringed with the same red, and their tips alternately black & white - the tail a fluffy red - drawing exact size, the principal stripe of yellow ought to have been broader. -----
---- No 16. Aphis found on the rose(?) tree, Sydney. 22 Feby. 1839. Drawing natural size and appearance. General color white and cottony, with a lakish(?) streak around the body, the body fluted and the upper raised in slight lumps. Legs underneath (8), which the Insect moves quickly when detached from the tree - there were a great number on the bark. When this

8 animal was squeezed it furnished a quantity of thick gamboge colored matter, slightly tinged with red, the smell was disagreeable and somewhat like the Bug. ----- Nos. 17. & 18. Cocoon of the green Mantis. The one oval shaped and attached to the branches of trees and bushes, the other semi oval, the flat side attached to the trunks of trees, walls or sawn timber. Sydney. 22 Feby. 1839. No 17. exact size. No 18 a little too large. ----- No 19. Spider found plentifully in a garden, Sydney. It forms its habitation by joining the edges of a leaf strongly together, which shortly looks like a dead leaf hanging

(9) accidentally on the web. Inside of the leaf it watches for its prey. The spider itself is prettily marked. The drawing is exactly of the size and general appearance. Sydney 23 Feby. 1839. ----- No 20. Caught in Sydney, where hundreds are attached to the Rose, Geranium, Loquat etc etc. The head, shoulders & part of the body, bright orange color. Marked longitudinally and transversely with broad black stripes. The case is of a tough

webby substance spun from the mouth of the animal, to which small twigs of the tree on which it feeds are firmly attached.

10 In climbing it puts its body about 1/2 way out of the case then by suddenly contracting brings the case nearly to its head - proceeding slowly as it were by jerks. when disturbed it quickly disappears in the case, and shuts the mouth firmly - when at rest, the animal attaches the mouth of the case to a branch by means of a strong web, and closing itself entirely, dangles in the wind. the case is with difficulty cut with scissors, which the animal can again repair in a few minutes.

11. The drawing is of the exact size but not so well represented as it might be - Sydney 26 Feb 1839

_____ No. 21. Insect of a light dirty chocolate colour with a reddish yellow cup on the back shoulders high & prominent forming with the head a triangle. The head & eyes very small- Antennae about the length of the insect. Six legs, the hinder ones very strong - Under part of the body rather lighter colour with a small red spot just before the hind leg on each side. The drawing is of the exact size and general appearance. I do not know when the insect was caught - but drawn on 26 Feb 1839

12. No. 22. The insect caught 26 Feby. 1839. Body & Head deep shining black, with six small yellowish white spots at the annulation on each side of body. A few more dispersed over the thorax. The legs, Antennae and nippers bright Saturnine red. Drawing of exact size and appearance the projecting kind of sting divides into 3. The insect is ever restless & lively like a hornet - " caught while sucking a grape. Sydney 26 Feby. 1839 ----- No. 23. Beetle from Mr. S. Collection (common). Case over wings - yellow orange with numerous black spots having the appearance of holes burnt in the case. Wings (2) light chocolate colour. body Bright shining green. Thorax & head Black. Legs & body underneath

13 bright shining black. drawing exact size. Sydney 27 Feby. 1839. ----- No. 24. Beetle from Kidds. Case over wings, dark gamboge striated longitudinally the ends, deep crimson. Two black marks, the larger one heart shaped in the yellows, the smaller one in the red. there are two other small black marks on the sides. Thorax black with yellow sides. Head black, antennae, nippers, legs & body underneath, a beautiful shining green. Drawing exact size and appearance. Sydney. 28 Feby. 1839. ----- No. 25. Moth from Kidds. General color on the upper side light bistre clouded

14 regularly with darker. Under wings, deep orange edged with dark brown. Upper part of legs tipped with orange. Under color, light bistre with a slightest yellowish tinge. Under part of upper wing broad patch of yellow. Drawing of exact size and appearance. Wings when stretched out are 6 Inch. Sydney 28 Feby. 1839 ----- No. 26. Chrysalis, supposed to be that of No. 25 moth, given by Kidd. The Insect was dead & therefore the chrysalis is probably much darker than when alive. Kidd brought it 2 Feby. 1839 -----

No 27. Butterfly brought by Kidd. 2 March 1839 General color Black and white Upper wings black near body then white, shaded at the tips with dirty brown with small bright yellowish

white marks, forming scallops. Under wings, black near body, then white, then to the tips a broad mark of deep black velvet, in this are seven crescent shaped bright vermilion spots. These wings are strongly scalloped with bright yellowish white marks around the head. Drawing is of natural size and appearance. the extreme breadth rather more than 4 1/2 inch caught in Botanical Gardens Drawn 2 March 1839 Underneath exactly the same as above

(16) No.28 Grub from Mr Scott's. length when stretched 3 1/4. General color lightish green with 7 distinctive bright broad lines on each side commencing at the under part from each annulation and terminating at the back, at the succeeding one. these marks have a dark purple line on the upper side, and between them the green is strongly tinged by yellow. the back is light and purplish tinge. Posterior horn black and spiny, the hindmost part red speckled. Caught in the Jasmine. Sydney 3 March 1839 --- Note: No 28 died before changing to a chrysalis.

(17) No. 29. Grub from Mr Scotts. length rather more than 3 1/2 inch. Similar to No 28. but the color's more dead. and more purple on the back and sides. This grub had only six white bands. I should think that the difference of color arose from this grub being close upon changing to a chrysalis state. and that it is probably the same animal as No 29. Caught on the Jasmine. 15 April 1839. F.S. Two other specimens 17 April /39 Confersins open? length 3 3/4 ins --- No. 30. Chrysalis of No 20. General color. Deep black-brown and shining. Length 2 inch. breadth 5/8. Found in Mr Scott's garden. 15 April 1839. replaced it in its case, and put it on bran. M.S.

18. No.31. Mantis from a specimen in a collection at Sydney. Body of a yellowish brown tinge. head and thorax. brighter yellow. Wings of a slight crimson tinge and from tip to tip 1 inch and in breadth 2. Two? crude? wings rather under 2 inch. and having the appearance of deadish? beans?. length from head to end of body. 4 7/8 inch. Six legs. 2 foremost and 2 hindmost. 2 1/2 inch long. middle ones shorter. The wings fold under two-? somewhat like long thin? beans? ending towards the body with crimson stripes. Drawing exact size and general appearance. 13 April 1839 ? ? A.W.S.

No 32 .19. Moth caught in Government Domain Sydney. 18 March 1839. Expanded wings upwards of 2 inch. Upper wings. Vandyke Brown with square and oblong spots of gold. near the body, yellow. 2 square spots also. yellow - Under wings, black with a broad yellow mark and scalloped with yellow. Under side of upper wings of a yellowish burnt umber. with several square marks of gold. (the ones above showing through). Under side of under wing yellowish burnt umber. with 5 distinct round spots of white edged with blue & black. Body black & yellow alternate stripes. Tail yellow. Thorax greenish brown and fluffy. Eyes prominent & black. Antennae long and thickened at the tip with a crimson hook. legs yellowish brown.

20. Drawing exact size & appearance at rest. F.S. ----- No. 33. The same as the above above. altho rather smaller. Wings expanded. F.S. ----- No. 34. Beetle from Mr. Scott's. Case wings, bright light green Head and thorax, golden yellow. legs reddish brown. Drawing exact size & appearance. Sydney 1 March 1839. F.S. ----- No. 35. Case wings & thorax bright dark black with yellow marks. Antennae small, thin & ?black. legs black. Wings light brown. Drawing exact size - ?but the yellow ?not large or bright enough. Sydney 2 Mar. 1839. F.S.or

21 No. 36. Butterfly - under side - Tip to tip 3 1/4 ins. Under side of upper wing - black, with an irregular grey mark and toward the tips broad yellow spots. Under wing, black with several grey stripes (circular) and a circuitous row of deep red spots, meeting at the thorax. these red spots are so remarkable that the butterfly can easily be distinguished. Drawing exact size and appearance 4 March 1839. F.S. ----- No. 37. The upper side of the above. Upper & under wings of a dirty yellowish white, tipped with a broad stripe of black. in the black of the upper wing are a row of yellow spots. drawing exact size & appearance. 4 Mar. 1839. F.M.S. -----

22. No 38. Grub found in Sydney in the Acacia. Light green allover length 5/8 Inc. Mar 1839. F.S. drawing exact size and appearance ----- No 39. Chrysalis of the above, brown, 3/8 Inc. length. drawing exact size and appearance Sydney Mar. 1839 ----- No 40. Moth of the above General color above, light yellow ochre with smaller black spots all over. Head very pointed. Antennae yellow. drawing exact size and appearance. length 1/2 Inc. 12 March 1839 F.S. ----- No 41. Grape(?)hopper. Flag Staff Sydney. 10 March 1839 Upper wings speckled brown. Under wings, yellow towards the body, fringed by a broad stripe of brown. Tips white, slightly

speckled brown. Head salmon color with brown marks. Antennae small and brown. Legs slightly pink. Drawing exact size and general appearance. altho a small specimen F.S.

----- No 42 Butterfly from Kidd Common in Sydney. General color deep black with a white band above and below upper wing. Upper part of under wing with a broad patch of greenish white and one red spot. Under side of ? 7 crescent shaped crimson marks. Wings scalloped and tipped at the leading with white. Drawing exact size and appearance 13 March 1839 M.S.

(24) (43). Similar to No 20. but smaller and insect of different color. Head yellowish, speckled black. at each annulation black stripes, on a whitish ground. The small twigs attached to the case appear in all the specimens to be of the whole length of the case and not of different lengths as in No. 20. Sydney 21 March 1839. Drawing exact size & appearance. F.S. ---

(44). *Scutigera araneoides*. Caught in Sydney 7 March 1839 Comes out in night time and caught & eat flies - ran very swiftly. Drawing exact size & appearance altho' a small specimen. The insect had a very disagree

able smell F.S. (25) (45) Locust from Kidd. Body black with red stripes, on each side a red bladder, thorax black simarly marked with light yellow, head black speckled red and yellow. Wings (?) part yellow ochre. Drawing exact size and appearance. in Sydney 15 March 1839 F.S No.46 Moth from Mr Scotts Varigated like a shawl. Antennae large and feathery. Colors simply(?) marked and distinct. Shape of upper wings 6 1/4 inch length from head to tail. 2 1/2 inch similar to the male of No 47 Sydney 18 April 1839 - Drawing infact(?) size and appearance. M.S.

(26) No. 47. Moth from Mr. Scotts, of a shawl pattern but much paler & delicate, than No 46, and the insect much larger. Antennae feathery but very thin. Span of upper wings. 7 1/8 Incs. Body from head to tail. 2 1/2 incs. Supposed to be female of No. 46. Drawing exact size and appearance. Sydney 18 April 1839. F.S. ----- No 48. Butterfly caught in Mrs. Scott's Garden. Sydney 4 May 1839. Back, upper wings dull white, marked at the ends with black forming oblong white marks. Under do., white, slightly tipped with black. Underneath upper wings, black with distinct white marks & near the body bright yellow in the white

(27) under wings. brownish black delicate with 6 yellow spots towards margin & a small bright stripe of yellow towards thorax - one white spot near the center. -----
----- No 49. The same butterfly shares the underneath view No 48 giving the upper Drawing of exact size & appearance. F.S. ----- No 50 Butterfly caught in Sydney 16 May 1839. Upper part of upper wings dull white tipped with black leaving white marks. Do of under wings dull white very slightly edged with black - under pair of upper wings black with a broad yellow stripe towards the top. Do of under wings cloudy black with a vermilion shape forming on both wings a large oval the red is relieved on the inside.

28/ leg deep black. The upper part of the butterfly very similar to the upper part of 48. Drawings exact size and appearance. FMS v No. 236 No.51 Same butterfly giving view of upper side. No 50 that of underneath F.S No. 52 Butterfly from Mr Scotts collection. Upper part of upper wings, light bright brown with head bright patch of yellow ? nearly center on each wing and 2 spots of small blue. The ? near the yellow much larger than that near the top. Likewise ? shape of yellow a little near ? of wing than the broad patch Upper part of under wings Same brown with one spot on each wing of bright red with a

29. blue center - these wings slightly scalloped. exact size & appearance. M.S. Specimen having been destroyed, the under part to be described & drawn(?) hereafter. Drawing exact size and appearance - & drawn 23 April 1839. Hab. unknown. ----- No 53 Butterfly from Mrs. Scott's collection - Upper part of wings Indian yellow marked irregularly with Bistre stripes. 4 black(?) spots with white centers, one on each wing. Under wings slightly scalloped. Under side of a paler color & less(?) distinctly marked, the spots showing thro. Under part of under wings (?) in lines with bistre th(?) stripes(?). Hab. unknown. Drawn 2 May 1839 & exact size & appearance. F.S. -----

30. see No. 293 No 54. Moth from Mr Scott's collection - Hab. unknown. Upper part of upper wings light vandyke brown (clouded) with a large triangular patch of darker, on each wing. Upper part of under wings about 1/2 of dark yellowy towards the thorax and the remainder dark brown. Body large light(?) yellowish brown. Head & thorax (?) green brown and hairy having (?)size and appearance underneath of a paler color and upper wings at the root yellow under part of body white. FS No. 55. Moth similar to No 40 but a difference in color. A great number of small chrysalis and caterpillars found on different plants have come to these shrubs

31. of moths, varying only & that slightly in coloring & marking - the two (Nos. 40 & 55) may be taken as extremes. The Chrysalis when newly turned in towards the head green - from nature 30 April 1839. Sydney. Drawing exact size & appearance. Moths readily fed on drops of sweetened water thrown on grass. Heavy & stupid during day but restless at night. F.S. ---
----- No. 56 Caterpillar found on orange tree. ----- No. 57 Chrysalis of do. ----- No. 58 Caterpillar found on an Acacia. ----- No. 59 Chrysalis of do ----- The moths of No. 57 & 59 similar to No. 40 & 55. Slightly differing in markings & from each other. Their Eggs of a green color

32 These Caterpillars make their nest by a slight web. They remain only 3 or 4 days in the Chrysalis state. The Caterpillar made itself an habitation by forming the ends of green leaves together by a web from which it could spin at pleasure. When disturbed it suspended itself by a thread (like a spider). ----- No. 60. and No. 61. Moths Male & Female. Caught in Sydney 22 April 1839. Drawings of general appearance altho No 60 a little too large & d(?)

colored. this generally kept its body partially(?) turned up. AWS. & F.S. ----- No. 62. Moth very common - a light slate color & very delicate. Caught in Sydney 29 April 1839. Drawing exact size & appearance. (M.S.) -----

33 No 63 (? Beetle) - from W Scotts collection Hab. unknown - drawing rather large but of (?) general appearance(?) - (?) 1 May 1839 FS No 64 from Moreton Bay Drawing exact size and appearance. Drawn 8 May 1839 FS No 65 Spider and its Egg (?). This species was found on the acacia 22 May 1839. (?)Sitting upon 3 round (?) coloured (?)balls containing Eggs - and attached to each other and to the tree (?)branch by(?) dirty coloured web - the animal itself on the back and sides appeared crustaceous and like a crab - Drawing of exact size and appearance

34 as the spider was taken & disturbed in the act of spinning it is probable that the whole process is not completed. From nature. Sydney. F.S. ----- No. 66. Beetle from Mrs. Scotts collection. vivid blueish green & deep black alternately in small squares. Legs & under the body lighter green. Drawn 29 May 1839. Drawing & general appearance & size. *Curculio spectabilis* F.S. ----- No. 67. Caterpillar found on an Acacia in Mrs. S. garden. Upper side convex. general color dirty green with 2 raised spots to each annulation. on each side. Hind nippers much divided like the tail of a fish. Under side quite flat. to adhere strongly to the stem.

35. with 4 deep red circular spots between the hinder feet, several lighter red spots towards the head & streaks towards the tail, connected by a lightish purple blue streak from head to tail. The legs at the root are bright yellow & at the tip greenish. this insect is strongly fringed with hair round the body, having the appearance of Moss(?). It is probable Plate 5 of Lewin is a similar insect. (*Bombyx nasuta*) This caterpillar was exceedingly sluggish, scarcely moving for days from the spot on which it was placed, but when touched writhed quickly & suddenly. It was unfortunately destroyed by the larva No 69, being confined with it & found in the morning with No 69 eating it. Drawing of exact size and appearance No 67 upper side & 68 under side. Drawn Sydney 21 May 1839. FMS

36 No. 68. Under side of No 67. ----- No. 69. Larva found on a geranium Botanical Gardens Sydney. 20 April 1839. Drawn 7 May. It went under ground on the 12 May 39 forming a covering with glutinous matter and earth. General color green with 2 stripes of dull white edged on the upper side with dark brown. several small black specks to each annulation. 2 orange colored spots towards the head on each side. This grub destroyed No 67 by eating it. See 70 F.S. ----- No. 70. Chrysalis of the above was taken from the earth and cut out of its case 19 June 39 of a clear light brown color. see 71 F.S. ----- No. 71. Moth of the above of a rich brown color with a yellowish border and marked with dark brown under wings, light color with

37 a darker edging leaving 2 small white spots at the tip. The drawing is of exact size & appearance. & represents upper side. Eyes greenish. Antennae long & thin. Under side of a light dirty brown with a few blackish marks. This moth came from the chrysalis 21 June 1839 & drawn 28 augt. the larva & chrysalis are of exact size & appearance. F.S. --- No. 72. Larva found on a geranium. on the back greenish brown with reddish marks, 2 whitish streaks along the side. edged with brown. lower part greenish spotted white. found april 1839. went under ground on 10 May/39 and made its nest similar to No 69. see No. 73. F.S.

38 No. 73. Chrysalis of No. 72 - taken from the earth 20 June - of a clear brown color - see No. 74 ===== No. 74. Moth of the above - of a light brown color - marked with dark lines - eyes greenish. drawing of 74. 73. 72 exact size & appearance. These are very similar to No. 69 70 & 71 altho the caterpillar has much more red. This moth came from the chrysalis 8 Augt 1839. F.S. ===== No. 75. Larva found on the Trumpet flower of geranium and other plants in May 39. General color light green striped longitudinally with a black spot on each side of each annulation. It has but 12 feet being 4 less than Nos 69. & 72 - and when moving from place to place

39 doubled its body by bringing the hinder parts close to the front and so on. It frequently kept its body extended from the branch as if a twig. On the 31st May it spun a fine white transparent web, in which it became a Chrysalis. the Chrysalis is seen thru this web. Drawing exact size and appearance . V: No.76 F.S. ----- No.76 Chrysalis of the above was of a greenish brown color. See the drawing F.S. ----- No.77 Moth from the above took wing on the 5th July 1839. This moth is of a singular appearance. the general color is a dark brown bronze with two spots of ?silver on each

40 wing. The anterior one is like a hook. On the thorax is a triangular raised ruff which the insect can raise & depress at pleasure - & towards the head two circular raised fringes. On the back is another raised ruff smaller than the one on the thorax but still very distinct. Antennae long & thin. Drawing of exact size & appearance - MS. ===== No. 78. Caterpillar of Nos. 10 & 11. General color dark brown & hairy all over. Yellow orange stripe down the back & similar ones on each side. Fed on the Lettuce Cabbage etc. Cast its skin

41. these caterpillars came from the egg 26 April 1839. very small, whitish with black heads. On the 12 May it cast its skin & again a few days afterwards becoming at each change more hairy & darker color. it began to spin on the 4 June lining the inside with the hairs from the body. The moth took wing on the 30 August. v: p. 4 - AWS. exact size. ----- No. 79. Under views of the Moth No. 11. & of the above caterpillar - Male - known by the antennae & rather darker spots. Sydney 4 Sept. 1839. exact size and appearance. FS -----

42. No. 80. Larva found on the Dahlia - fed on the other plants likewise - general color reddish brown, deeply marked on each side. drawn 21 May 1839 & went underground 23 May - forming its nest by glutinous matter & earth. drawing exact size & appearance. F.S. --- ----- No. 81. Chrysalis of the above taken in the 4 June /39 of a light bright brown - exact size. FS ----- No. 82. Moth of the above born on the 10 July 1839. upper wings of a greenish brown hue - regularly marked with brown streaks. Under wings of a lighter color inclining

to pink with a dark broad band toward the edge - body much longer than the expanded wing and of a light color. Eyes green with long thin antennae drawing of exact size and appearance. F.S. No 83. Larva found on the cabbage 20 April 1839 - brown on the back and green belly divided by a white longitudinal stripe edged with dark brown above drawing exact size and appearance burrowed underground. v:80 F.S. No 84 Chrysalis of the above of a bright ?glossy transparent brown - turned to a chrysalis on the 1st May 1839 F.S. No 85 Moth of the above took wing 12 May 1839 ? color yellowish brown speckled 2 broad transverse dark brown bands on each wing, with 2

44 white spots between, antennae long and thin - of a yellowish color drawing exact size and appearance. No. 86 Moth from a similar larva to the above No 83 general color upper wings light straw speckled with minute black spots - under wings of a paler tinge from several of the Larvae No. 83 Moths similar to this and to No. 85 appeared, so that it is probable they are male and female - drawing exact size and appearance Sydney 24 May 1839 F.S. No. 87 Papilio Itea ?Donation Upper side - drawing of exact size and appearance, caught in Sydney 17 July 1839 F.S.

45 No 88 Papilio Itea. Under view exact size and appearance. 17 July 1839. F.S.

===== No 89 Under view of No 82. light reddish brown. Under part of upper wing 3 broadish black marks - on each side - One broad mark on under side of under wing - as if showing thru from upper side - body light colored - Drawn 12 Sept /39 exact size and appearance. F.S. v: Nos 80-81-82. ===== No. 90 Chrysalis of the male Oiketicus. Of a dark black chocolate color. Thin and pointed at the end. Turned a chrysalis on the 15 July /39 MS ----- No 91 Male Oiketicus No 92 Ditto(?) took wing on the 11 Sept /39 head and thorax bright yellow

46. Body and wings jet black Tail yellow, annulations tipped with jet black. Antennae feathery and black fore legs upper part yellow and fluffy. Underside black. This insect has a bluff appearance about the head and somewhat resembles an owl. It has the power of elongating its body and tail to a considerable length and ucurves it continually (see 92) The motion of the wings so quick as to render them invisible. It soon destroys its plumage by its velocity and violent motions.

(47) See, Revd. L. Guilding's West India Oiketicus. Tranns. Linn. Society vol. 15. p. 371- F.S. ----- No. 93. Case of the Male Oiketicus - showing the final affixment to a stem, previous to changing to the Chrysalis state and likewise the method of its escape to the winged state with the remains of the shell. the whole of the above taken from nature & of exact size & appearance. F.S. ----- No. 94. The Larva of the Female Oiketicus. The color of the Insect of that part which is seen when crawling of a bright deep yellow, with

48 deep black longitudinal strips feet six and shiny and of a vermilion color. Of that particularly ? the case. Of a brown tint(?), with a yellow stripe on each side and yellow spot with a black ?? that each annulation 10 feet, yellowish, on the tail part a vermilion spot drawing exact size and appearance drawn 12 Augt 1839 F.S. No. 95 Chrysalis of the female Oiketicus. Head of a saturnence (?)red with a little yellow, showing the head and front part of the ani

49 Male. Body of a black red and much lighter red between annulations. Light spots near the under part on each side on each annulation, small black ones above. drawing of exact size and appearance drawn 17 Sept 1839 F.S. No 96 Female Oiketicus of a semi transparent yellowish hue, perfectly apterous. the lower part of the body continually working about towards the end a broad ring of soft straight silky brown hair and one bright spot of the

50 same on the belly and a patch of lighter db? on each side where the front feet are, on the side of the neck, the color is of a lighter yellow. The female is much larger than the male. The inside of this insect could be plainly seen it is so transparent. Drawing of exact size and appearance, became the perfect insect. 21 Sept 1839. Several males and females came out about the same period

51 this female kept alive for several days when it deposited its eggs, and died. It has no power of leaving in-case F.S. No 97. Larva female found on a rose. Sydney 16 Sept 1839. Of a bright gay color on the shoulders(?) four hairy tufts and one on the tail between these, two fleshy red spikes. Antennae long and hairy ended by a black patch Insect hairy and with red feet Drawing of exact size and appearance F.S. No 98 Chrysalis of 97 short and dumpy. yellowish color tinged with brown and covered with short yellow hairs, black spot on each annulation turned to a chrysalis 18 Sept 39 F.S.

52 No. 99 Nest of the foregoing of a light brownish silky white thro' which the cocoon and yellow chrysalis could be seen 18 Sept 1839 F.S. No. 100 Female insect. Apterous. Of a curved thick -ish form. Covered with light brown hairs all over, tail sharp and pointed and moves continually. Six feet in the front. Antennae very small. Insect crawls very slowly. It changed from the Chrysalis 23 Sept 39 Drawing of exact size and appearance F.S.

53 No 101 Moth found at Newcastle 5 Oct 1839 Upper wings general color of a purply brown. a peacock eye on each wing (upper) and 2 small cobalt blue spots in under- wings pointed scallops all round picked with dark purple stripes. Purple stripes on each under wing and about the middle. General colour underneath dark brown, clouded and dirty looking. On the whole a handsome moth. Antennae long and thin. Drawing exact size and appearance. F.S.

54 No. 102. Moth caught in Sydney. 6 Octr. 1839. Upper view. Upper wings of a brown ground, much spotted with silver hairs- two silver patches on each wing, & tips banded with silver - under part of under wings, of a lightish purple ground, much darker towards the edges fringed at the edge with a yellow stripe- Antennae long & thin. Drawing of exact size & appearance. FS ----- No. 103. Under view of the above- similar to the

55 above but of a duller color. F.S. No. 104 Butterfly caught in Sydney 23 Sept 1839. Upper side of a brownish yellow, tips of under wing yellow with 2 black spots on each. Antennae black and white. Exact size and appearance M.S No. 105 Under view of above. Duller color, with a silver rim round under wing with four spots on each and with two semicircular stripes of brown. This Butterfly is peculiar in the shape of its under wings M.S.

56 No. 106. Moth caught in Sydney 14 Sept 1839. Upper part of upper wings orange with black bands transversely. Under wings light orange tipped with bistre. bistre fringe around the edges. body upper part black. lower orange. head orange. Drawing of exact size & appearance. M.S.(Day.) ----- No. 107. Same sitting, showing the eggs. Laid on the 14 Sept. and Larvae were born 16 Oct./39. M.S. ----- No. 108. Moth caught in Sydney 17 Sept. 1839. Yellow with brown bands running parallel to the edges. Head & Eyes large & fringed. Antennae cl(?)ed & hooked. Under view. Size & appearance. M.S. -----

57 No. 109. Upper view of No. 108 M.S. No. 110 Green Larva found in Sydney and drawn 27 Oct 1839. General color, bright green with yellowish bands and black spots between the annulations. Fed on the flower of the Thistle (Sow) and eat by day. Went under ground 28 Oct and the Chrysalis was painted on the 11 Nov. Drawing of exact size and general appearance M.S. No. 111 Chrysalis of the above. Shining brown. Drawing of exact size and appearance. M.S. No. 112 Moth of the above took wing 24 Nov 1839. Upper side of upper wing dull lamp black uniquely(?) marked with a deeper black with a very small white spot on each wing

58 Upper side of under wing, lightish Buff with a dark band - parallel to the edge. Under side of upper wings light dull black darker towards the edges. Under side of under wings - band of dull black of half the wing, the remainder towards the body whitish yellow with a brown spot in the center. Head, thorax & body dull black. Antennae and legs the same with the exception of hinder legs, which are spotted with white. Drawing of exact size & appearance. painted on the 27. Nov. - M.S. ----- No. 113. Larva of a brown pink, yellowish underneath. The brown spotted with white and the yellow with black.

59 fed on the Convolvulus. drawing of exact size & appearance. M.S. found in Sydney. 4 Nov./39. Made its nest under ground on the 5 Nov. ----- No. 114 Chrysalis of the above painted on the 25 Nov. took wing on the 27. M.S. ----- No. 115. Yellowish Brown Larva yellowish underneath. spotted above with white & below with black. Fed on the Convolvulus. found in Sydney 11 Nov. & painted same day. M.S. ----- No. 116. Chrysalis of the above. painted on the 25 Nov./39. took wing on the 30. ----- The 3 above Larvae Nos. 110. 113. 115. altho. differing completely in color & food all turned to the same Moth (No. 112) which see. -----

60 No. 117. Chrysalis of the Jessamine(?) Larva No. 28. 29. of a reddish brown color. The annulations decided - with black spots fringed with white. Antennae contained in a trunk(?) outside & recurved(?) underneath, & club shaped. drawing of exact size & appearance. The larvae No. 29. went underground 17 April, forming an egg shape hollow & having previously smeared itself with a glutinous substance. Chrysalis painted on the 20(?) Apr. AWS. ----- No. 118. Moth of the above, took wing on the 20 Oct. 1839 having laid in the Chrysalis state 6 months. Upper side of the wings white minutely speckled with black & clouded with light & dark brown. tips (?) with black spots. Head, body stays the same, with 2 distinct

61. white spots on the back. The general appearance of the moth is as if it had been powdered. Under wings darker than upper. Drawing of exact size and appearance Painted on the 21 Oct 1839 M.S. No. 119 Under view of the above of lightish brown dusted over with white, with darker brown stripes parallel to the edges. Body underneath white towards the sides dusted with brown. Altogether a very handsome moth. M.S. No. 120 Larva hatched from the egg 23 May 1839, during the course of its growth it changed its skin 3 or 4 times. General color dirty brown with black horizontal stripes and one on each side of a lighter

62 brown. Arrow shaped black marks along the back - relieved in the angle with white - the head a shining black. it was reared on the Lettuce. it lived under ground, coming up to feed. On the 6 July it remained under ground altogether painted on the 3 July 1839. of exact size & general appearance. A.W.S. ----- No. 121. Cocoon of the above. formed with earth agglutinated. 20 Septr. M.S. ----- No. 122. Chrysalis of the above of a light brown color. painted on the 25 Septr./39. exact size and appearance. M.S. ----- No. 123. Moth of the above took wing 28 Octr./39 - Upper side of upper wings of a shining black brown - a light band running parallel and at a little distance from the edges. Two

63 light spots in the middle of each wing - the larger ones Comma shaped - Upper side of under wings of a delicate creamy white darker towards the edges - fringed at the tips. Under side of wings bright light brown. This moth has a peculiar ruff over the head. Male & female the same except the underneath(?). painted (?) 28 Oct. of exact size & appearance. F.M.S. - ----- No. 124. Larva inhabiting the inside of the branches of the Banksia, having an

opening thro which it passes to feed, (?) chiefly in the night time - this opening is covered by a cobweb substance to which is attached thin(?) {blank space} - forming a bulky appearance on the outside - {written sideways along the right hand side of the page next to No. 124}
 Crypto.a Immaculata

64 general color of a creamy white with two black transverse stripes on each side and between each annulation. Head of a light shining brown. This Larva comes entirely out & crawls about the branches, but on the least alarm quickly re-enters its abode. The nippers are of considerable strength. Drawing is of exact size and appearance and represents the animal (?) is the (?). painted on the 19 Octr. 1839. Found at Newcastle. M.S. ----- No. 125. Represents the exterior covering of the abode of No. 124. F.M.S. ----- No. 126. Chrysalis of the above of a light shining brown. Wing cases large in proportion to the rest of the body - painted on the 23 Octr. 1839. F.M.S. -----

65. No. 127. Moth of the above of a delicate silvery white above & below - upper wings edged with a slight stripe of yellow - Antennae yellowish. Painted on the 24 Octr. 1839. which day it took wing. F.M.S. ===== No. 128. Larva found on the _____, general color light brown - 3 white bands at each annulation and a row to each of spines, feathered. A white streak on each side above the legs - Drawing of exact size & general appearance. When about turning to the chrysalis it attached itself by the tail to a branch by a slight web, & twisted its head towards the tail underneath - painted 9 Novr 39. F.M.S. -----

66. No. 129. Chrysalis of the foregoing on the morning of the 10th Nov. 39 the Larva attached itself to the branch & in a few hours the chrysalis was complete. animal(?) color light brown, dotted with gold. Chrysalis naked & angular. painted on the 19 Nov. of exact size & appearance. F.M.S. ----- No. 130 Butterfly of the above (Papilio {blank space}) took wing on the 24 Novr. 1839. Upper wings Brown towards the tips, relieved by white spots toward the base, brown with deep yellow bands (transverse). Under wings, deep yellow toward the edges with a row in the middle of this yellow of black spots, blue centers. the yellow big (?) towards the body on the brown ground. lower wings scalloped. body covered with brown hairs. Drawing of exact

67 size & appearance. M.S. ----- No. 131. Under view of above. Much clouded by various colors. Very delicate & pretty. M.S. ===== No. 132. Larva of Papilis Itea found on the heath. of a dark brown color. banded on the annulations - & between each a row of green spikes, feathered, - neck longish & thin & head, hairy - Drawing of exact size & appearance - Drawn on the 17 Novr. 1839 - (for hab: v: 12(8)?) F.M.S. ----- No. 133. Chrysalis of the above. Very light brown - with gold spots similar to 129 but lighter in color. Larva became a chrysalis 17 Novr. Painted 19 Novr. 39. F.M.S. ===== Note: Chrysalis no. 133. Took wing on the 1 Decr./39. (see No. 88.) F.M.S. -----

68 No. 134. Larvae found on the Mimosa(?), Sydney General color, speckled brown black and striped longtitudinally. 4 or 5 red spots towards the tail, which is somewhat like a fish's - It lies quite flat on the lower part of the trunks of the trees during the day. Sluggish. & eats during the nights, when it becomes very lively & active with the motion very sensitive to the touch. Underneath is marked prettily with purple red spots - upper parts of legs lighter yellow. Painted on the 2nd Nov. 39 of exact size & general appearance. FWS.

_____ No. 135. Chrysalia of the above larvae

69 No 135. Chrysalis of No. 134. Larva made its nest of dried leaves of the Mimosa, joining them together by a slight web. Slightly in the form of a cocoon, on the 4 Nov 39. Chrysalis painted on the 14 Nov. General colour reddish brown. Drawing of exact size F.M.S. No. 136 Moth of the above Took wing 13 Dec 1839. General colour dark brown. One peacock's eye on the middle of each upper wing. A light blue scallop running parallel to the edges of upper and under wings and bright spots in the scallops of the edges of the wings fly by night. Under side of body light brown. A handsome moth. Drawing of exact size and general appearance. F.M.S.

70 No. 137-Sketch showing the very hairy legs and thighs of the foregoing, of a lightish ? colour, darker towards the ends. F.M.S. No. 138. Larva found on the cabbage, general colour bistre striated longitudinally, head reddish brown, numerous black spots between annulations. Lived under ground, drawing the cabbage there to eat during the day. This Larva had a very disagreeable odour, painted on the 4 Nov. 1839, exact size and general appearance. F.M.S. No. 139. Chrysalis of the above turned from the Larva on the 10 Nov 39. Forming a cell of agglutinated earth underground general color bright reddish

71 yellowish brown, painted on the 23 exact size F.M.S. ----- Moth took wing on the 1st Decr/39 and was exactly similar to No. 102. p. 54. which see -----
----- No. 140 Larva found on the grass. Sydney. painted on the 2 Nov 1839. General colour a light bluish black with a yellowish longitudinal stripe above the feet. a whitish line with black specks running longitudinally on the middle of each side, head reddish, spotted black. Larva smooth and plump. Annulations indistinct -fed on grass went under ground forming an extremely slight hollow- on the 5 Nov. Larva grew larger than the painting. M.S. -
----- No 141. Chrysalis of the above painted 16 Nov 39, of a reddish brown - exact size. M.S.

72 No. 142. Moth of the foregoing. Upper side of upper wing, lightish yellow, spotted black, body same - Under wings much lighter with a blackish band - Took wing on the 1st Dec /39. Drawing of exact size and appearance. M.S. No 143. Larva found in the pod of the Pea. General color brown, with a dark stripe along the back and one on each side nearer the feet. A yellowish band under this - painted on the 2nd Nov /39, exact size and appearance, went under ground 5 Nov forming its nest silimar to No. 140. M.S. No. 144. Chrysalis painted on the 16 Nov /39. Wing cases

73 lightish, yellowish red, body brown - Chrysalis remarkable for its size being considerably earlier than these of larvae of equal size. Drawing of exact size and appearance. (Several specimens). M.S. No. 145. Moth of the above took wing on the 8 Dec 39. Upper wings dark yellowish brown speckled brown. Under wings same but much lighter with a dark band (similar to No. 142) Drawing exact size and appearance. M.S. No. 146. Larva found on the grass, general color brown pink with a yellowish longitude stripe towards the lower part, very hairy all over, whitish hair tufts on each side from the middle of each annulation

74 painted on the 17th Sept'r. Made its nest on the 4 Octr/39. Drawing exact size. M.S. No. 147. Cocoon of the above - thick silky web - like felt - attached to the leaves or branches 4 Oct 1839. M.S. No. 148. Chrysalis of the above. General colour brown - tail part yellowish, thickly spotted with brown - with a reddish streak down the belly - Drawing exact size. Chrysalis very inanimate. Painted 8 Octr 1839. M.S. No. 149. Moth of the above took wing

28th Octr /39. General colour nankeen - with two largish elongated black marks in the middle of each of the upper wings - small black

75 dots running parallel to the edges but at some distance, antennae very feathery. Black marks likewise on the lower wings similar to the ones on the upper. Frequently these marks are divided forming two roundish spots on each wing. Under sides very similar but the spots rounder and sometimes with a white center. Drawing exact size and general appearance, painted 29 Oct 39. M.S. No. 150. Chrysalis of the male Larva of which No. 97 p. 51 is the female. Chrysalis very small in comparison with that of the female. General color brown with yellow wing cases, the whole fringed with yellow hairs. Drawing is of exact size, the larva was similar to the female but much smaller made its nest 17 Oct then and h?

76 showing the chrysalis thro' - "Chrysalis painted 23 Octr/39
F.M.S. ----- 151. Moth of the above. Male of no 100 (apterous) - general color of upper side of upper wings brown, banded transversely with darker & relieved with delicate white spots - Upper part of under wings, bright yellow with a broad black band running parallel with the edges & leaving a yellow fringe - legs feathery - Antennae brown and feathery, like a reversed cup - This moth is small but very showy - drawing of exact size and general appearance - took wing on the 29 Octr 1839 - F.M.S.

77 No. 152 Larva found on the Marsh Mallow (native) 9 Nov. 1839 general color - cream - thickly dotted brown - Drawing of exact size but rather too dark - made its nest underground. (strongish agglutinated case + 12 Novr 39 - M.S. ----- No. 153. Chrysalis of the above - lightish brown - painted 25 Novr. 39 exact size -MS. ===== S No. 154. Moth of the above - took wing 19 Decr. 1839. General color bronze - much variegated, very pretty - exact size & general appearance drawn 22 Decr/39. M.S. ===== No. 155. Larva bred from the egg & fed on Lettuce - born 1st Octr/39 - general color light red, & black longitudinal stripes. Alternately whitish specks in the black - tufts of black hair all over - Antennae of number of black hair

78 a pretty larva - painted 8 novr 1839 - made its nest 1st Decr/39 (exactly 2 months old. a thin transparent web, showing the Chrysalis thro' - drawing exact age + general appearance. F.M.S. ----- 156. Chrysalis of the above, painted 16 Decr 1839. General color yellow with dark brown marks, drawing of exact size. M.S. ----- 157. Moth of the above. took wing 20 Decr 1839- general color, deep neutral tint - with a light straw color patch on each wing - Body, black with yellow bands, antennae very feathery - two flaps, one on each side of the shoulder which can be raised at pleasure. wings tinged with yellow.

79 drawing of exact age + appearance. painted on the 22 Decr 1839 F.M.S. -----
----- No. 158. Butterfly found in Sydney 28 Novr 1839 (common elsewhere, general color medium yellow, tipped with black, but more so on the upper wings - having yellow hatches in the black - a round black spots, center blue, in one of the yellow patches near the tip on upper wings - & a similar one on each lower wing - very handsome - drawing of exact size & general appearance. F.M.S. ----- No. 159. Under view of above - under side of upper wing similar to above - under side of under wings, of a delicate reticulated burnt umber, shaded + clouded - very pretty - Drawing of exact size

80 and general appearance. F.M.S. ----- No. 160. Moth found in Sydney 31 Oct 1839. Upper wings of a yellowish brown, much speckled in the centre of

each an irregular black circle. The tips yellow scalloped with black & then with white scallops. Lower wings black fringed with yellow & scalloped with black. Body black with yellow bands - tail with yellow hairs - shoulders with yellow hairs - Antennae very feathery - altogether showy and handsome. Drawing exact size and general appearance. F.M.S. -----
 ----- No. 161. Larva of Bombyx nasula? Lewin, found on the acacia 28 Dec 39 and painted same day. This Larva is very common.

81 and easily found on the shady side of the trunk of the tree. It has a flattish appearance and some -what resembles the bark, length 2 1/4 to 1/2 inch. Very sluggish during the day, but extremely active during the night, when it feeds on the leaves. General color pinkish brown delicately dotted all over with brown. An ear shaped appendage on each side of the head with a white spot on each. A fringe of hair all round the insect but none on the upper part of the body, the 2 hinderfeet shaped like the tail of a fish. Under part marked like No. 68. No. 134 - 67 and this larva are of similar general appearance and habits. Altho the moths produced are very different

82 with the exception of the back appearance of 134. M.S. The drawing exact size & appearance. ===== 162. Cocoon of 161, from the larva state 29 Dec 1839. Painted on the 4 Jan 1840. Cocoon of a thick whitish substance (like cloth) and placed amongst the smaller twigs and leaves. Many bundles of these may be seen on the trees (Acacia). The ? is very partial to these cocoons as a receptacle for their larvae. Drawing of exact size. 1 Inch in length and oval. M.S. ===== No. 163. Chrysalis of 161 painted on the 4 Janry./40, of a brown pink color (rich) rather thick for its length

83 and oval. Legs inactive in the cocoon. drawing of exact size. rather better than 3/4 Inc. length. MS. ----- No. 164. Moth of the foregoing. Light salmon color. upper wings more yellowish tinge. body fat & heavy in proportion to the wings. Upper wings 5 small spots near the extremities on each - and two transverse brown stripes, dividing each wing into 3 parts. Antennae small, fringed in the male - eyes purple. Nose long & projecting in proportion to other parts & which forms a distinguishing feature. When specimen becomes dry the appearance is much altered. painted on the 14 Jany. It took wing on the 10 Jany. 1860.

84 Drawing of exact size. 1 Incs. length (rather more) & expanse of wings 1 3/4. MS. -----
 -- No. 165. Another specimen at rest. MS. ----- No. 166. Larva found on the acacia 5 Decr. 1839. general color of a reddish brown. On the shoulders deep orange. A light blue stripe from the top of the posterior horn to the abdomen, between the hinders & middle legs. 2 oval blue spots, black centers, on each side, which opens and shuts. 5 yellow spots on each of the middle annulations. & one on the remainder on the annulation immediately before the 1st of the middle legs there are 3 or 4 larger cream

85 colored spots & one or two smaller ones interspersed. a dark wavy stripe runs longitudinally on the middle of each side, & gradually approaching each other towards the head. on each of the middle legs are 3 or 4 yellow spots & on the extremity of each a blue fringe like fingers. on the upper side of the longitudinal stripe & on each annulation are two leafy or feathery projections somewhat like the antennae of a butterfly, but of a blue metallic luster. club shaped at top & hollow. a similar one on each annuln. below the stripe & rising from the 5 yellow spots. & two at the tip of posterior horn. head covered similarly. A light stripe runs from the head to the

86 tail. Underneath much darker red & fleshy. This Insect is very showy, & when once seen cannot be mistaken, not only from its colors, but from its singular appearance when at rest, and when it feeds it frequently puts up the hinder part, similar to the attitude of the larvae of the sphinx (?) when at rest. Drawing of exact size & general appearance. 2 1/2 to 3 Incs. in length. & bulky. painted 5 Decr. Made its nest on the 6th Decr. 39 a whitish brown cocoon amongst the leaves. of a slight texture. F.M.S. ===== No. 167. Chrysalis of above _ of a oval shape, very shining & black all over. 1 3/8 Inc. length,

87 painted on the 20 Decr. 1839. of exact size - FMS. ===== No. 168. Moth of the foregoing took wing 11 Jany. 1840. Upper wings of a black brown, much relieved by whitish spots of brown pink & purple interspersed. in the center of each wing are 2 larger white spots - and an irregular transverse white streak towards & at a short distance from the tips. Under wings of a yellow straw color and slightly edged by brown - body darker yellow. Thorax & head colored like upper wings. Antennae long & thin. Front view of face has a singular appearance, a kind of feathery hood

88 surrounding it. Under view of upper wings, a pale brown, & of under wings, a paler yellow, with scarcely any markings. length of expanded wings 3 Incs. of body & head 1 3/8. Altogether rich & handsome. painted on the 12 Jan /40. of exact size & appearance. F.M.S. I believe a female. ----- No. 169. Larva (similar to 166) found on Acacia, 2 March 1840. general color on the sides, brown pink, orange patch on the shoulder, & from this to the tail a light blue. a bright blue stripe from the tip of the Horn to abdomen. 2 oval bright blue

89 spots with black centers between the hinder & middle legs. The horn of a reddish tinge, similar yellow & white spots on the annulations, & similar leafy projections over the body & head, as number 166 /which see/ legs & underneath, dark flecky black blue, & tips of legs fringed with purple. In habits and appearance this larva very similar to 166, only very much duller & less showy, & much thinner altho nearly of the length. Fed on the plant represented. painted on the 4 & soon after made its nest, exactly similar to No. 166. Drawing of exact size & appearance. MS. -----

90 --- 170. Chrysalis of above, elongated oval, of a very shiny black color - 1 1/8 Inch length, painted on the 10 March 1840 of exact size - "MS. ===== No. 171. Moth of the foregoing - upper wings similar to 168 only with less distinct markings & more delicate throughout. Under wings yellow straw color but the edging much broader & deeper than 168 - body yellow. Thorax & head, similar to upper wings, with a tuft of black hair over the body from the thorax - Antennae light brown & feathery - legs, front of face & underneath hairy & dark speckled -

91 This moth very similar in appearance to 168 with the exception of feathery antennae, & being very much smaller. The larva were obtained at different times & different places, so that I cannot say with accuracy whether this is the male of 168, altho I decidedly think so. drawing of exact size - 2 1/4 Incs. expanse of wings - Moth took wing on the 4 Apr 1840 MS. ===== No. 172. Larva Saturnia found on the Gum tree, near Sydney, 12 Decr 1839 general color light shining green with 6 red colored spikes, blue tops with yellow star-shaped fringes on each annulation. These are paler & yellower towards the head. Posterior horn yellow, blue

92 tip & yellow fringe - a red oblong spot between the two lower spikes on each annulation immediately above a pale colored longitudinal stripe. The middle legs green, tipped by brown, over which is a white delicate fringe - The last annulation a tail, brown distinctly spotted with white - Head shining brownish green, with red nippers - Along the back is a light blue stripe, on each side of which the lighter blue gradually verges into the green . painted on the 12 Decr. Larva very large the length being at least 5 Incs & fat.

93 When at rest it assumes the appearance of a sphinx - eat the green leaf & active during day & night - Previous to turning to the chrysalis state it suspended itself by the front feet & hung in that way during the whole day, the 13th & emits a considerable quantity of thick white watery fluid - & during the night it made its nest sticking with branches a strong brown curvaceous cocoon of a roundish oval shape . The larva painted is a female - drawing of exact size. The male larvae much smaller scarcely 1/2 size.

94 but similar in this respect. A row of shiny white hairs round the body, in the center of each annulation. F.M.S. heard a great number, being common. 173. Cocoon of the above showing, the size, position on the branches & color - length 1 3/4 Inc: breath 1 1/16 - Painted on 23 Jan'y 1840 - F.M.S. 174 Chrysalis of above. length 1 3/8, breadth 6/8 - Head and wing case shining black - Head and eyes a dirty yellowish white - remainder of Chrysalis red brown Chrysalis of a short thick form and a few days previous to moth taking wing, it becomes soft

so that it is with difficulty taken up without injury. In every instance while this Chrysalis was taken out of the cocoon and put in bran, the moth was born deformed. Painted on the 23 Jan'y. This is a female chrysalis, the male being smaller. Drawing of exact size. F.M.S. 175 and 176. Saturnia. Two females showing variety of color. Took wing on the 4th Feby, and later, about an hour before being born, the insect makes a gnawing noise like a rat and equally loud. The feet are armed with small claws and the mouth made purposely for gnawing. The

96 Insect with the wings folded up in a small comma? Kept turning in the cocoon, gnawing with its mouth and scratching with its feet. Gradually forming at one end a hole sufficiently large for it to egress. This part of the case becoming thinner and thinner, until the insect bursts thro at once. When this is effected the insect pushes half of its body thro, as if surveying, and the front legs hanging loosely. It then returns to the case where it remains quiet for a moment or two, and then

97 finally emerges, running very quickly up any stem or branch and then suspends itself by the front legs. The wings much crumpled and hanging loosely down together. The 4 large circular spots are at first very small but as the wings expand and become more perfect these spots visibly increase greatly, each with a center speck as if a pin had been struck thro. The whole forming a very interesting sight - particularly the handsome and delicate color of the living insect and which it loses in a few hours after death.
The Eggs

98 are of a light drab color, oval, large and in great numbers and very hard. Color of 175, a rich bistre pink. a large circular spot on each wing, like the eye on the peacock's tail the tips of upper wings ?? delicate pink around which and nearer the body. The wings have a crumpled & worn appearance which appears unnatural but that every specimen had it.

Altogether a vary large & handsome insect No. 176 is similar but of a lighter and yellower tinge, scarcely any were alike but differing in coloring. The two 175. 176

99 are fair specimens, & drawn of exact size, length of expanded wing 6 1/4 inch, body 1 5/8. Preserved specimen become much shrivilled and decolored. Antennae thin and feathery (slightly) F.M.S. 177-178. Saturnia. Males. Much smaller than the females. Antennae very feathery. General color of a lighter & brighter tinge than the female - upper wings much more pointed. Markings similar to the female. The moth flies more swiftly and is more active in every respect. The legs in both are very

100 fluffy - the eyes of this insect are much depressed & cannot be seen unless you look right in front. length of expanded wing 5 1/4. body 1 1/4. These moths are very showy & beautiful - drawings of exact sizes - MS. No 179. Larva found on the (supposed) Gum. General color coarsely spotted Brown, of different shades, with occasionally light yellow patches - The spots forming irregular longitudinal lines - a fringe of hair all round the body, tail & head - none on the sides or back - underneath a pale fleshy color & appearance

101 Hinder feet formed like the tail of a fish. Two peculiar fleshy spikes, one on each shoulder. Middle legs, large and strong and the movements of the insect sluggish, a very handsome Larva. Female. length 4 5/8 inches. Two black oval shaped spots one on each side of the spikes and edged with yellow - closes & opens painted 9 Nov and makes its nest same day. F.M.S. No. 180. Cocoon of the above of a slight pinkish tinge, very shiny and curvaceous. Inside beautifully white, attached to the twigs and leaves, drawing of exact size and painted 6 Dec 39. length 2 1/4 by 1 1/8. F.M.S.

102 No. 181. Chrysalis of the foregoing shiny black of an oval form. Nose of a dirty white. Eyes very large and distinct. Antennae going round like a hood, a handsome chrysalis, drawing exact size and appearance, painted 6 Dec 1839. length 2 inch x 3/4. F.M.S. No. 182. Moth of the above, took wing on the 25 Feb 1840 the insect having gnawed a round hole thro the cocoon, expanded wings 4 1/2 inches, body 2 inches without snout. Upper wings yellowish ochre with purplish hairs, giving the whole a rough coarse appearance, parallel to

the outer edge and at a little distance are 5 or 6 spots, ending in a irregular line, about the middle of each wing is a brownish transverse line and in the middle of the space between this and the shoulders a black spot on each wing. Under wings, light orange coarse hair. Body very thick and heavy and hairy. Antennae fusiform and lower part cobalt blue tipped with orange, snout very projecting and cobalt blue, edged with brown. Eyes brown, very lively at night time, feet armed with claws. In the ? at night time made a noise like rat gnawing

104 the Antennae at night time very beautiful. Antenne fringed from the tip to the middle. Drawing exact size and appearance. Painted on the 26th. A female. Eggs, white and oval. F.M.S. Dr Nicholson. No. 183 Larva found on the Lupin? Sydney ?? 3 Jan 1840, general color, light green spotted with black. A few long black hairs over the body, a bright white longitud.l stripe just above the legs, head black, legs very long and thin and dark colored. Inactive during day and living in clusters, very lively at night time. Drawing of exact size 1 1/4 long. M.S.

105 No. 184. I believe this to be the same but in a younger state the difference in color arising from the change of skin, these larva spin a web and hang occasionally by it. F.M.S. No. 185. Chrysalis of 183, general color reddish yellow of a flat ? form, body and wing case occupying nearly the whole length. Drawn 10 Jan 1840, exact size 5/8 length. M.S. No. 186. Moth of the above took wing 22 Jan 1840. Larva having made its nest on the 4th spinning a delicate white cocoon and many of them together. Upper wings about one half

106 from the body, dark reddish brown - the remainder much lighter - & tipped with dark under wings bright yellow edged with the dark red brown, & delicately fringed - body light yellow. Thorax dark brown - antennae long & thin snout long & pointed - This moth altho small is showy - expanded wings 1 1/2 Inc - Tones are darker colored than others - drawing of exact size & appearance. MS. Painted 22 Jany. =====

107 No. 187. Male oiketicus painted on the 22d. Decr 1839 - fed on grass, but like this tribe would eat many things - case covered with dried grass - Male like the female only smaller, which see - "Length of case 1 7/8 In - Drawing exact size - M.S. ===== No. 188. Chrysalis of the above (Male) of a light reddish color - the wing case much darker - a kind of nose sticking out - very lively in the case. painted on the 27. Decr. having turned between the 22 & 27. length 7/8 Inc M.S. ===== No. 189. Moth of the above took wing on the 19 Jany 1840 General color dirty brown - all over, except the lower

108 part of the body, slightly yellow. Antennae very feathery. Insect very lively and flew violently about, soon destroying its plumage. It had the power of elongating to a considerable extent its body similar to No. 92. Drawing exact size and appearance length 5/8 body, expanded wings 1 1/8. M.S. No. 190. View of the head of above, a brown band over the eyes and the nose projecting giving the insect a peculiar look. M.S.

109 No 191. Female of the foregoing drawn out of the case. The upper annulations on which are the feet of a very light yellow brown with distinct black marks, head same color, spotted with black, the remainder which is usually in the case is of a light bistre, but much darker than the upper part. A broad band of lighter color, being as it were a map of folds & dotted with red, runs longitudinal from the feet to the tail. Drawing of exact size & appearance - length 1 3/8 these larvae bite very hard. Painted on 21 Dec 1839 MS

110 No 192. Chrysalis (female) of 191 - of rich golden brown - & of a slight texture. No appearance of antennae, or wings - of a round & plump form. 4 dark spots on each annuln "drawing of exact size. (1 Inc) became a chrysalis between the 21 & 27 Decr 1839. MS ===== No 193. Perfect insect - perfectly apterous - & otherwise incapable of leaving the case. length when stretched 1 Inc. Of a delicate cream color all over, & very soft - latter head part, golden brown very shiny. Arming of golden brown hair round the last annuln. This insect for several days merely thrust its head out of

111 the Chrysalis case, which is downy within & pulled it in & out at pleasure - prior to leaving it finally. Became a perfect insect on the 29 Decr. on which day it was painted. drawing exact size & appearance. MS. ----- No. 194. Larva found on the a creeper from Norfolk Island 14 Jany. 1840 & painted same day. General color reddish brown. A reddish longitudinal streak along each side near the back - (Geometer) - length 1 Inch. drawing exact size. F.M.S. -----

112 195. Chrysalis of the foregoing. Yellow & brown. Larva made a very slight cocoon nest under the leaves - brownish color. Chrysalis length nearly 1/2 Inch, thin & slight - /became a chrysalis on the 14 Jany. 1840. Drawing exact size. F.M.S. ----- No. 196. Moth of the foregoing - took wing on the 28 Jany. /40. General color. light bistre the upper wings spotted brown with 3 or 4 transverse & distinct brown stripes, dividing the wing into equal proportions. lower wings finely striated trans=versely between the larger & more distinct brown stripes

113. edge of wings fringed & lower ones slightly scalloped. Antennae largish & fringed. The whole very pretty altho not showy. length of expanded wings 1 1/8. Drawing exact size & appearance. F.M.S. ----- No. 197 & 198. Larvae found on the {blank space}, Sydney, 29 Decr. 1839. No. 197 is the last change of the Insect, altho it grew much larger than represented. No. 198. is the same in a younger state. General color deep velvety black, with 8 bright yellow & red spots on each side from the front feet to the posterior horn.

114 from the head to the spots. Several small bright yellow lengthened spots, continuing & connecting the larger ones - the whole length from the head to the tail - and again from spot to spot across the back, forming square like velvet patches. Fringed by bright yellows. At every motion of the larva the posterior horn moved violently up & down - touching the back & nearly describing a semi-circle. The younger is similar to the above, but of a duller

115 color, & without any other smaller yellow marks which connect the large bright spots - The larva under=went 3 changes, becoming brighter at each, & when full grown was exceedingly beautiful & showy - It eat the leaves & flowers of the _____ - Full length was nearly 4 Inch - painted 29 Decr but drawing too small, as the insect grew afterwards - Made its nest the 5 Jany. 1840 - The larva nearly invariably eat its own cast off skin - The nest was simply leaves strongly wove together, but

116 coarsely. F.M.S. ===== No. 199. Chrysalis of the above of a light yellowish brown dotted with black. A large black spot on each annulation on each side -" length 2 Inchs, 1/2 Inch broad -" painted on the 20 Jany 1840 - F.M.S. ===== No. 200. Sphinx moth of the foregoing - Upper wings general color vandyke brown - with a broad longitudinal stripe of ?? in the middle of each wing, ending at the tips - a dark brown one immediately above & attached - a ? tinge towards the shoulders. Underwings, brown with a

117 stripe of dull vermilion - & edged by a thin stripe of silver -round the thorax a bright & broad fringe of silver & close to this but higher a stripe of gold. the whole on a ground(?) of brown pink - Along the body a chain of silver - And on each side a longitudinal stripe of brightlyyellowbrown General color of the body brown pink -Antennae straight, silvery & recurved at the tips - Eye large & prominent, & plum coloured - expanded wings 3 1/2 Incs - body 2 Incs - Drawing of exact size & appearnc, took

118 wing on the 4 February 1860. this sphinx is similar in appearance to no 2/ sphinx celerio . F. M.S. No 201 of 202. Larva female found on the tea tree - 18 ?March 1840. No 201 is full grown & general color blackish but so covered with large tufts of white hair that it gives it a light appearance. Along the back numerous upright leafy projections- spotted on the shoulders with red. No. 202 is a younger larva of the same. but darker in appearance & ? having

119 2 red spots on each annulation & 2 white stripes along the back, from which ? the leafy projections -length full grown 2 1/4 Inc. made its nest on the 20 Jany. underneath the leaves - of an oval shape whitish color & thinnish - No. 201. MS. 202 FMS. ===== No. 203. Chrysalis of the above general color reddish brown of a plump oval shape - & the whole chrysalis except the wing case covered with stout yellowish hairs - making it thus peculiar - painted on the 29 Jany 1840. F.M.S. length - 1 Inc x 2 1/2 / 8. -

120 No. 204 - moth of the foregoing took wing on the 9 Febry/40. Upper wings, beautifully variegated under wings blackish body blackish & hairy. Thorax blackish with a triangular patch of white on each side - head white - antennae black slightly feathery. This moth is exceedingly pretty,length of wings 2 incs body 1 inch & stout. This moth is a female and laid eggs of a dirty white brown - painted on the 10 Febr. of exact size & appearance. F.M.S.

121 No. 205. Female Larva found near Sydney on the gum. Along the back a regular variegated figure of bright red yellow, black & brown, like mosaic work. Head red and long thin brown hairs from the sides - altogether a very handsome larva. It rested during the day, with its head down & numbers together in thick clusters - towards evening they went to feed in regular rows, commencing with the youngest leaves. 3 changes and each time were brilliant if disturbed during the change which lasts 3 days, the larva frequently dies - they feed on other plants, tea tree ?

122 The male larva simi-lar but smaller. Got on the 1st Janry 1840 & painted on the 19 Janry. it made its nest on the same day, these larva go for that purpose, under the dead leaves & branches, and make their whitish oval cocoon, close to each other in numbers. Drawing an exact size & appearance. length 2 Incs. F.M.S. ----- No. 206. Chrysalis (Female) of the above, of a plump oval form & of a bright yellow all over. towards the tail a black spot. length 3/4 X 3/8. Drawn 30 Janry 1840. of exact

123 size. The morning before the moth bursts thro its case, the chrysalis was beautifully transparent, showing the colors of the moth distinctly. F.M.S. ----- 207. Female Moth of the above - took wing 15 Feby 1840. Upper wing all silvery white with the exception of a round black spot on each, and round the edges yellow black spotted. Under wings yellowish black with a fringe of yellow & a patch of the same on the upper part of each - body large & plump. black with a semi circular yellow fleck on each annulation. tail yellow & fluffy. Thorax very hairy, with a bald patch on

124 the top of a fleshy red. Antennae long & slightly feathered. The underneath colors of blackish yellow & fringed with light yellow. Expanded wings 1 7/8 In, body 3/4. drawing exact size. F.M.S. ----- 208. Male Moth of the above - of a slighter form throughout but particularly in the body, which is thin. Coloring thro-out similar, with the exception of a bright black transverse band on the upper wings near the spots - which are smaller & duller than in the female. Antennae very large & feathery the thorax entirely covered

125. with hair - and a tuft of long brownish hairs on the tail. The Male is very vigorous and active during the night & the long hair on the head by the antennae sticks up giving it a fierce look. When at rest the wings hang down like the roof of a house. The female is much more heavy & slow in the flight. These moths are exceedingly showy & brilliant & they soon by their restlessness destroy their plumage. length of expanded wing 1 3/4. Male chrysalis like the female, but thinner & smaller. F.M.S. -----

126 Nr. 209 Larva found near Sydney in middle of a branch of the Banksia Decr. 8. 1839. The annulations light Frenish(?) grey with black stripes - between each a reddish band having the appearance of grey & red alternately - Neck & shoulders reddish - head black spotted with white - & hairy - 4 soft bristles on each annulation - length 1 3/4 In. full growth - It fed on the leaves of the banksia both day & night - coming out of its habitation in the wood for that purpose dragging it under or close to the debris, placed in abundance

127. over the entrance (see No 125). Its motions were quick & active and if disturbed it would run to its hole directly - it fastened up its entrance on the 2nd Jany for the chrysalis change and then enclosed itself in a slight skinny matter - painted on the 1st Jany/40 Drawing of exact size & appearance. F.M.S. ===== No 210 Chrysalis of the above of a reddish brown & of an elongated form - on the head numerous black spines. The entrance having been opened the chrysalis used

128 to work itself up, & show its head, & on any alarm would immediately and quickly descend - & this was done repeatedly - showing that it possessed locomotive power. In this state it never eat - On the head were two bright black spots, like eyes, & by this it seemed to distinguish objects - painted on the 28 Jany 1840. Exact size - 7/8 Inc. F.M.S. ===== No. 211. Moth of the foregoing took wing on the 1 Feby. 1840 Upper wings dirty white, slightly clouded - a black semi circular

129 mark in center of each wing and edged by yellow & fringed. Under wings a whitish black much darker than the upper & fringed by light black - body & thorax same, & hairy. Antennae very long & slightly fringed - Eyes black - expanded wings 1 1/2 Inch body 3/4 - painted on the 2d Feby 1840. F.M.S. ===== No. 212. Chrysalis of the Male oiketicus No. 43. turned to the Chrysalis state 31 Decr 1939 - of a reddish brown & of an elongated form gradually decreasing from the head to the tail & terminating in a point - wing case

130 very small in comparison with the rest of the Chrysalis - Chrysalis restless & active continually turning round. length 1 1/16 Inc - Drawing of exact size - The larva no. 43 is drawn rather too small, as it increased by age - it fed with Green leaf in addition to that represented. F MS ===== No. 213. Moth of the foregoing of a darkish black brown & dull in color " " Head & Antennae like the others - it could elongate its body to a considerable extent - Drawing of exact size &

131 appearance - length of wings 1 7/8 Inc { habits as usual } F.M.S. ===== No. 214. Female Oiketicus of the above. Painted on the 20th Decr. 1839. - Fed on the Gum, leaves of which were attached to the case - for description see No. 215. Drawing exact size & appearance M.S. ===== No 215. The above out of its case. Upper annulations, (the part out of the case when eating or moving)- of a yellowish cream color, with decided black markings - head the same - The remainder is of a dark plum color, lighter

132 towards the upper part - the back & half of the sides is hardened like the shell of a chrysalis; the under part very soft, & in folds which contract & open at pleasure. on this a bright red spot on each annuln. This larva can bite severely. Drawing of exact size & appearance. Length 2 2/8 Inc. The chrysalis fastened to ?. 20 Jany. M.S. ----- No. 216 Chrysalis of the foregoing painted 30 Jany 1840 a bright black plum color. No appearance of wings or antennae, of a plump form - & restless

133 in the case - a row of black spots on each side. Drawing of exact size. length 1 1/4 Ins. M.S. ----- No. 217. Perfect insect (Female) of the above (?) taken 20 Feby 1840 of a light straw color, very transparent, so that the inside could be seen - head pointed, with very small feet & antennae, scarcely perceptible - on the face a projection like a nose, with two small black eyes - one on each side - a slight downy golden brown hair on lower annulation. It put its head out of the chrysalis case, similar to No. 193. (which see).

134 It lays a great number of eggs, light straw color, amazing a quantity of down. The case of the larva of this Oiketicus, was lined with a beautiful soft white down - like cotton, and unlike the listing of No. 43 - & 93. Painted of exact size & appearance on 20 Feby 1840 length 1 1/4 breadth 1/2 Ins. M.S. ===== No. 218. Larva found on the Grass, Sydney 3d. Jany 1840. General color light green, lighter towards the back - a pink stripe, on the middle of each side commencing from the middle feet, and

135 terminating at the root of the posterior horn - in this are 2 circular white spots, edged with dark green one just before the other just behind the middle legs. 2 other similar spots nearer the head, but not connected by the pink line Posterior horn of a light brown - tipped by black. Drawing of exact size & appearance. Length 4 1/4 Ins. Made its nest on the 18 Jany by joining together by a strong thread dead leaves, very coarsely - and turned to the chrysalis - F.M.S. ===== No 219. Chrysalis of the above, reddish yellow ochre much spotted with black

136 On each annulation a round black mark like an O much larger towards the head, wing case, with dotted parallel longitudinal lines, on the eye a distinct black mark like the young moth. Chrysalis lively length 2 3/4 inch X 5/8. Drawing of exact size, painted moth 29 Jan 1840. F.M.S. 220. Sphinx of the above upper wings of a rich vandyke brown with the small black spot on each wing. Under wings bright yellow edged with brown. Head, body thorax vandyke

137 brown, round the shoulders a band of light buff silky hairs, beginning from the Antennae. Antennae straight and strong, ? at the tips. Eyes purple large and prominent, a black dot on the shoulders a small streak of red between the annulations on the sides and underneath but none on the back. When flying makes a humming noise. This Sphinx is a male, length of expanded wings 4 inches, body 2 1/4 Drawing of exact size and appearance

138 Took wing on the 16 Feby & painted on the 17 - F.M.S. ===== 221 - Under view of the above showing the insect at rest and the manner of hanging by the 2 front feet - Under part of wings of a lightish yellowish red - delicately marked with slight short transverse lines of brown. Abdomen with red stripes between the annulations & between each of these a white spot with black center - Legs 4 hinder ones a dirty white and fluffy. Front ones brown. Drawing exact size & appearance painted 18 Feby 1840. F.M.S. =====

139. No. 222. Larva found on the grass, near Sydney on the 17 Sept. 1839. Fed on grass. This insect has every appearance of an oiketicus - Inhabits a case encrusted with sand & earth & the inside of which is beautifully lined with a silken buff colored coating. The case is of a flattened lozenge shape - The animal draws this after her in exactly a similar manner to the oiketicus - The insected represented is a female the male being similar but smaller - Its motions are active & restless, & when placed in the hand would bite severely. for a further description see No. 223 - Drawing represents

140 the insect with its case - & is of exact size - length of case 1 1/8 In. Painted 28 Decr 1839. F.M.S. ===== No. 223. Same insect out of the case - head & upper part, which is usually seen out of the case, of a beautiful bronzy gold - the remainder of a dull white with faint black short lines - little feet, their make & numbers & in every other respect like the Oikelicus - length of insect nearly 7/8 In. Drawing of exact size represents the female - fastend up its entrance F.M.S. for the change 16 Decr 1839 exactly similar to the Oikelicus

141 No. 224. Chrysalis of the above (female) - of a dull brown, annulations distinct - the case containing Antennae, wings, head, eyes, & legs distinctly marked - very unlike the Chrysalis of the female oiketicus. Drawing of exact size & appearance length 4 1/2 / 8 In - painted 3 Jan/40 M.S ===== No. 225. & 226. The perfect female insect of the above giving different views - took wing on 14th. March 1840. General color of a deep shining blue with a metallic lustre, which pervaded the whole Insect with the exception of bright yellow at the tips of the wings, & in some with ? two yellow spots higher up.

142 Antennae fusiform and white at the tip - The front legs are very long - so is likewise the ovipositor, which the insect continually thrusts out; the wings frequently droop, & the body bends up the ovipositor recurving down. This insect altho' possessing tolerable sized wings is nevertheless totally unable to fly. Running specimens were not only reared but collected outdoors and every one agreed in this particular. Its motions were very quick with a kind of running jerk & occasionally a hop - It need scarcely be added that the whole appearance of this little

143 insect is brilliant and elegant. length of expanded wings 3/8 Inc body rather more than 1/2 Inc ovipositor 1/4 Inc. length of front legs 1/2 Inc - painted on the 16 March 1840. exact size & appearance - two different specimens - M.S. ===== No. 227. Chrysalis of the Male of the above - of a light brown, smaller & thinner than the female. Painted on the 3 Mar 1840. The Male perfect Insect will be described hereafter. F. M.S. =====

144 No 228. Larva found in the center of the root of the Acacia at Newcastle - 18 Decr 1839 - It fed entirely on the wood continually increasing the length & size of its habitation & lining it with a kind of soft matter - the debris was thrown out of the original entrance - & by means of which the Insect is discovered. Length of this specimen was 3 1/4 Ins & throughout of a pinkish salmon color - the annulations very distinct & projecting - the head & shoulder has a kind of hard ? matter over them, of a light brown color much spotted with black in the hinder part - by the head

145 there are even markings of dark brown - equally alternating with the light brown - The nippers are very strong & powerful so that if a thin piece of wood were introduced between it would be severed instantaneously. There are 7 red spots on each side, & on each annulatn. towards the tail. When placed on the table, its powers of locomotion are very imperfect, but in the wood, it could move with agility. The larva represented is a female, but grew larger. The young are of a brighter color than when full grown. The natives are very fond of the tube and eat them as they draw then from the

146 wood - painted on the 27 Decr 1839 - Drawing of exact appearance, but small - M.S ===== No 229. Chrysalis of the above Feby. 25. 1840 - of a beautiful bright reddish brown - wing case short; a black streak halfway round between the annulations - This chrysalis is of

a peculiar form - easily distinguishing the lupus from the other Lepidoptera. Chrysalis very large in comparison with the Larva. 2 1/2 Ins x 5/8 - Drawing of exact size - F.M.S. ===== previous to turning to the Chrysalis, the larva shut the entrance by means of a wet & glutinous matter making the place compact -----

147 No. 230. Moth (Female ?) of the above, took wing 1 March 1840. Upper wings of a mottled black, brown and white, very rich like the plumage of the Fern Owl - A white spot on center of each wing Under wings light brown, marbled with black, partially - Body large and heavy and hairy, of a light color with wings of darker brown. Thorax light hairy grey with a bright blue edging on the top forming a half square. Antennae thick and thin. Altogether a very handsome Moth, length of expanded wings 5 3/4 inches body 2 1/2 This moth is exceedingly

148 large, when compared with its Chrysalis & larva. When first born, the wings are much crumpled & very diminutive. In a short time the expand & it was be sacd? visibly. Painted 3 March 1840 of exact size and appearance. F.M.S. No. 231. Larva found on the plant (v: No. 197) 3 Dec 1839 of a yellowish green & red head. It doubled the leaf in two, joining the edges neatly together, which edges were downwards, in this it lived and eat the inside of the leaf - if disturbed it would move? out and suspend itself by a thread.

149 it turned to the Chrysalis by forming a cocoon of a silken and slight texture, still inside of the doubled leaf, which is an admirable protection against the weather, length 1/2 inc. Drawing exact size. M.S. No. 232. Chrysalis of the above of a light red, very small and delicate, length 3/8 inc. Drawing exact size. 5 Jan 1840 M.S. No. 233. Moth of the above took wing 20 Jan 1840 of a plum color spotted with white, a white band ? transversely, body slightly yellow. Antennae long and thin. When at rest the wings

150 Drawing of exact size & appearance MS. ===== 234. Chrysalis of Sphinx triangularis (Don n) - brought from Tempe Cooks River - painted 29 Jan 1840 - of a shining black. Length 3 Incs - breadth 7/8 - drawing exact size & appearnc. MS. ===== 235. Sphinx triangularis - from the above, took wing 16 Feby 1840. Upper wings delicately & richly spotted with different shades of brown, pink, & green - a rich clouded appearance. Two yellow spots of hair, close to the thorax, one on each wing - Lower wings a bright yellow edged by brown-red - body minutely speckled all over by reddish brown spots dots, & the division of the segments

151 by yellowish ones - from the head to the tail, a streak along the back of red, brown. Thorax covered by minute dots of a greenish tinge. Antennae long & thin. Eyes round & prominent & of a reddish color. Underneath of a lightish yellowish brown, except near thorax of upper wings of a bright yellow - a female - Length of body 3 Incs. breadth 3/4. Length of expanded wings 6 1/2 Incs. Drawing of exact size & general appearance. painted on the 17 Feby. MS. -----

152 No. 236. Chrysalis of Papilio Negrina (No. 50) Length 1 Inc. of yellow yellow with strongish shining black spines - found in Domain on a gum leaf Loranthus, on which the Larva feeds. 15 March 1840. Had a larva but lost it - this Chrysalis turned to the Papi. Negrina. F.M.S. ----- No. 237 Chrysalis found in the branch of the Banksia at Newcastle 19 Oct 1839. length 1 Inc. - of a yellowish color, wing cases reddish brown. Head covered

with black spines. This chrysalis had the power of locomotion in the hollow of the wood.
Drawing exact size & appearance. Habits

153. of the larva same as No. 209. F.M.S. ----- No. 238. Moth of the above, took wing 24 Nov. 1839 - length of expanded wings 1 3/4 ins. Body 1 Inc:- general color of a silvery white - upper wings minutely dotted with black. body silvery white - at division of segments yellowish - a yellowish streak running parallel & close to the Edges of lower wings. Antennae long & thin. Head & Eyes small. Drawing exact size & appearance. 25 Nov. /39 F.M.S. -----
-- No. 239. Papilio Aganippe (Donn.) from Ash Island Hunter River. Larva found on the Caper. exactly similar to the larva

154 of Papilio Clytie. was found at the same time, & turned to a similar chrysalis. These larvae & chrysalis turned about equally to the Aganippe & Clytie - but no observations were taken whether they are Male & female. Or of different species. Length of expanded wings 3 7/8 Incs. On the upper side, wings are white with transverse black patches borders black with white oval spots. Those on the posterior wing tinged with red - posterior wings scalloped. Underneath of the upper wings similar to the upper part, but the 3 first spots yellow on each. Posterior wings beneath

155 of a general black color, relieved by broadish genre? circular patches of white & yellow about the middle - bright red spot on each side near the thorax. A band of red oblong spots, on the white border spots, leaving white lunules. Altogether very showy - This specimen much larger than that figured in Donovan, whose drawing in some respects is not correct - Mms? Lucas is more like but from a bad specimen - This Butterfly is very common Drawing exact size and appearance 30 May. F.M.S.

156 240. Chrysalis of Papilio Clytia. Larva found on the Caper and exactly similar to the foregoing - where there were hundreds. M.S. 241. Papilio Clytia (Donovan) Upper surface white slightly bluish with a deep black marginal border, making nearly equal parts of each - 3 oblong white spots on each upper wing - & one on each lower - in this border. Underneath upper pair yellow bordered deeply with black in which are yellow spots, posterior pair, 3 oblong longitudinal, long oval spots of whitish yellow on each. The remainder black with 2 rows

157. of yellow spots parallel to edges. I have before observed that the larva of this Butterfly was found on the same leaf, of the same tree, and at the same time, & of the same appearance, as that of Aganippe. Length of expanded wings 3 incs. Drawing exact size and appearance showing upper & lower surfaces. Donovan inaccurate. M.S. No 242

158 243. Chrysalis of the above, brown pink with a row of dots on each side, segments distinct, length 3/4 inches of an elegant form, painted 5 Jan 1840. exact size and appearance. M.S. No. 244. Moth of the above length 1 3/4 inches of wings, body 3/4, wings of a light brown black with one white spot in the middle of each upper wing, body thick and heavy, one of the lower segments white with yellow hairs. Thorax naked, a yellowish white mark down the body, head yellow. Antennae long and thin but slightly feathered

159 This is a female - the eggs were round, white spotted black. Drawing of exact size & appearance - took wing 19 Feby 1840 - M.S. ===== No. 245. Larva found in the Domain 7 Decr 1839. Very hairy all over with plum colored dots & white spots from which the hairs

grow - 3 bright vermilion spots on each side just above the front legs. Head brown - a very pretty larva. Fed on the Casuarina. Length 1 3/4 In. This was very difficult to rear - being very delicate & tender - Spun on the 12 Decr a complete cocoon of a brown color. Drawing of exact size - full size - F.M.S. =====

160 No. 246. Chrysalis of the foregoing painted on the 20 Dec of a lightish red color, length rather more than 3/4 inches. Drawing of exact size. F.M.S. No. 247. Moth of the above, took wing 12 Feb 1840. length 2 inches of wings, general color straw, two white spots on each upper wing a brown slight line running all round parallel to the margin and between a row of dots, a blotch of blood red on the lower margin of posterior wings, the wings of a peculiar shape. Antennae feathery. Drawing exact size and appearance. F.M.S.

161 No. 248. Larva found on the south Head road - fed on the Blue Gum leaf & on the 17 Decr. 1839 - length from 5 to 6 Incs breadth 3/4 Incs - general color of a rich satiny brown, made up by small strong hairs laying quite smooth & shiny & when touched causes extreme pain & itching - on each segment are 8 yellow spots much raised & from which proceed bunches of strong & long bristles - the ones nearest the legs, quite white like hog's bristles - Head & shoulders thickly covered by thin bristles - the tail yellow, & likewise covered

162 between the legs, two rough yellow bands, the whole length of the Insect - It undergoes 3 or 4 changes - When young it is of light red color with greyish patches all over - not of that rich dark color which it afterwards attains - Made its nest 22 Decr, adhering a strong Cocoon to the branch of the tree - covered all over with the hair of the larva, so that the least touch on handling produces considerable pain - The female is much larger than the male, & the Cocoon of the former

163 much more covered with the hair, & giving it a browner appearance - indeed the cocoon of the male is of a white satiny color - Drawing of exact size of the male - F.M.S. ===== 249. Cocoons of the male & female of the above F.M.S. ===== 250 - Chrysalis of the female of the above - length 3 1/2 Incs of a rich reddish brown - Drawing of exact size & appearance painted 6 Jan'y 1840. F.M.S. =====

164 (see No. 46) 251. Moth, male, of the foregoing, took wing 5 May - length of expanded wings 6 1/4 Inc: - of Body - 2 1/2 - general color is of a dark rich shawl pattern - particularly the upper wings - colors being strongly marked - red, brown, black, & grey - under wings much more dark, with a transverse band of pinkish white about the middle of the wings & parallel to the border - between this & the margin a scalloped band of dull yellow - Antennae darker & feathery - Legs strong & dark, underneath

165 front ones, yellow - Near the tip of each upper wing are two oval spots, slightly yellow, & transparent. Underneath view much duller & lighter inclining to grey - A remarkably handsome moth - Drawing of exact size & appearance originally painted 18 Apr 1839 (See No 46) from a preserved specimen - but entirely retouched 5 May 1840 - from the live insect - M.S. & F.M.S ===== No. 252. Female of the above - took wing 30 Apr./40

166 length of expanded wings 7 1/2 Incs - of body 2 7/8.Incs. similar in appearance to the male but much lighter in color - The two yellowish transparent spots near the tips of each wing - the underwings, more scolloped than in the male - Antennae thin & slightly feathered -

The whole insect much larger than the male. & very handsome - An orange spot on each hervyne between the whitish & yellow bands painted on the 30 Apr.

167 of exact size & appearance - F.M.S. =====

[172]? Butterfly Moth. Wings superior and under inferior. Thorax abdomen antennae annulations .Bands encapsulates ? ? . Caterpillar chrysalis posterior ? hook ? Pupa Larva Hyaline Fenbr ? caudate ?

Miria - Butterfly &[and] Moth Wings - Superior &[and] under inferior Thorax. Abdomen Antennae Annulations - Bands singular dimidiate Caterpillar, Chrysalis Posterior horn [?] Pupa Larva Hyaline Fimbrication subulate caudate denticulate

[170] Note - See drawing Nos. 13.14.15. Phalaenoides Glycinae. The chrysalis was placed near a fire - & evidently forced. Larva state 75 days as the period before change into Butterfly. Plate 1 of Lewin - ----- Plate 5 of Lewin. Bombyx Nasuta - I think the drawing No. 67, is the same insect. ----- No. 66 Curculio spectabilis - see Donovan. ----- No. 35. Buprestis imperialis see Donovan ----- No. 23. Buprestis - ? Donovan ----- No. 24. Buprestis - do ----- No. 42. Papilio Erechtheus Donovan -----

169] Nos.[numbers] 36. 37 Papilio Harpalyce Donovan Nos.[numbers] 50.51
Papilio Nigrina Donovan No.[number] 52. Papilio Abcona. Don[ova]n
No.[number] 53. Papilio Acantha No.[number] Papilio Itea. Don[ova]n No.[number] 25.
Sphinx Australasiae? Don[ova]n No.[number] 54. Sphinx Triangularis?
Don[ova]n