

7-22-00

Melitaea sp. rare. & larvae singly around brush. Coenonympha 2 specimens only taken, back in cañon. Pamphila rare in barren spots in sand dunes creek bed etc. [1]

Big sulphur - rare, flying fast back of town. Colias common. Pieris common back of Ensenada. Eudamus rare. back of Ensenada always alighting back of Sycamore tree. Thanaos rather rare. Syneda 1 sp. seen & taken in creek bed. also notodontid on Sycamore. Sphinx July 8th on vessel 15 miles from Ensenada. #

Lepidoptera seen.

Pyrausta cardui & Carya fairly common. Agraulis sp. " " Papilio euglymedon? 1 seen back in cañon. P. Philenor fairly common. Megastoma 2 or 3 seen. nice & fresh.

Delphila lineata fairly common about sand dunes, several empty chrysalids of same found in sand dunes.

A sesiid emerged in cabin some time in July. I did not observe it & consequently it was spoilt. Only 1 good. but a taken, shells very numerous on Sycamores back of town in creek bed.

seen on summit of W. island of Lays rare.

2 noctuid pupae. (larva taken) on middle isle on E isle. 1 Meganotoma sp. seen on W isle. many empty noctuid pupae under stones on middle isle

Cerro. E. isle not seen (prob)

I. Fiveata. from June Charles pupa emerged Oct 20 - Oct 19 - 1. Along down crevices moth emerged 8' from 1800 ft. ft. lichen moth from Cowley Mt.

3

Lepidoptera of the Galapagos Ids.  
to be much collected  
Sphinxgital.

This large family is fairly well represented on the islands, nine species having been taken. Of these two are widespread (*D lineata*, & *P cingulata*), the latter probably the most common species on the Ids; the rest are CA? & SA? forms. They occur in the <sup>larval</sup> imaginal state only during the wet season. Jan-June, during which time their larvae are quite common. The winter imagines emerge in Dec or Jan. & again from Mar to June. Some pupae of the latter brood stay over winter. During the early part of the wet season the *Convolvulus* plants are devoured by *P cingulata* larvae of several colours. Likewise (yellow flowers, tree, & night-bloss) are the prey of *sphinxgital* caterpillars.

*Deilephila lineata* taken on Charles, Chatham, & Albemarle Ids (Tagu Cove) <sup>yellow</sup> a couple of imagines taken on Chs at flowers in the afternoon & several ♀ pupae. Larvae on an *Euphorbiaceae*. Fairly common. Specimens are sparser than in the U.S.

*Hyperis* <sup>sp.</sup> found on Indefatigable & Albemarle (*Dywanacoe* & *Villa* nil). On Indefatigable they inhabit the dreary damp green zone of 600 ft elev. flying during the evening & late afternoon with remarkable speed. & ~~stopping~~ pausing only now & then to plunge <sup>out of sight</sup> into a large cordulone flower & resuming their low fast flight making a

loud humming noise like a bumble bee.  
 It rains + drizzles a greater part of the  
 time up here but does not interfere  
 with their flight. Found in  
 not very common. At Iguana cove. it is  
 green + damp with sea level + their  
 food plant a rice. is common every  
 where. Here the male flies also during  
 the day + may sometimes be seen in  
 large spider webs. The larvae are  
~~found~~ ~~found~~ ~~found~~ the pupae  
 2 forms I found one under a lot  
 of soil. A little below Villamil  
 they are common along the shore + are  
 many quite a few were seen  
 flying over the dark sea beach + seen  
 like a couple of miles out at sea flying  
 just on the water. At Villamil caught  
 during the day even in the sunshine +  
 cotton blossoms + yellow flowers. Here  
 they did not appear so swift.

*Melipotis* A single specimen reared from  
 a green pale green big caterpillar feeding on  
 a scale taken at night. Chatter. This is  
 decidedly the most elegant sphinx of the  
 islands no other were taken

*P. Cingulata* The largest + prettiest here.  
 Not taken on all the is. but probably  
 occurs even on the low dry ones some could

Galapagos Islands. Sept. 23. 05. 5

Gardner Is. (near Hood)

Spent Sept 27. 05. on this Is. Here the vegetation is scrubby as on main island though not as thick. Ochner & King caught a big centipede under a stone. I collected mostly on NE + N slopes of I. Everything extremely dry. All coleoptera collected were taken under the larger stones. *Lagena* blk. was the commonest. Judging from the no. of beetle elytra (some bright green) it did not appear to be the right season for insect life. Grasshoppers very scarce about 5 seen & three caught. A few single micro-lepidoptera taken on a stone (S.W. end). Scorpions rather scarce spiders fairly common one sp. making a curious nest. having a ~~shallow~~ broad disk + conical base. At one end of disk a hole is made, allowing the exit of the small spiders. One nest to nest had a lot (2 doz or more) of pearl-white eggs in it. The nest is made of mud spun in with silk making it into a kind of more or less flexible parchment. The spider who makes these nests was not discovered it is probably in the collection however. Two specimens of *Xylocopa* (carpenter bees) taken at flowers & in fresh condition. Large *Thysanura* common under stones same sp as on Hood I. Diptera (several sp.) common. Beetles under stones *Lagena* blk beetle commonest. *Rhyacionia* in dead wood.

Hood I.

Dry island, low. Coleoptera scarce, many elytra of beetles found different from the beetles caught at this season. All taken under stones. Grasshoppers not common. usually on black lava ~~blat~~ flow. Brown katydid in dead wood. One cockroach seen a few crickets under stones.

hibernating. Spiders rather common under rocks, largest  
spiders found in dead wood. in a nest, probably, hibernating.  
or aestivating. Big centipedes found under dead cactus.  
but more commonly roaming around over the rocks, very strong  
& quite quick. In Beck found a big centipede in stomach of two other buzzards.  
Diptera common. mosquito larval observed in a lagoon.

NE pt near sea.

Thysanura. large sp. common.

Lepidoptera. three noctuids taken aboard ship. few more  
seen. empty mud spun noctuid cocoons seen under stones  
One good pupa under cactus bark others seen in dead  
branches. too late for lepidoptera

Lepidoptera.

Hood Id.

Sept 1905

Evidently not the season for lepidoptera. Three noctuids flew about at night. In rotten wood a little cocoon containing a light brown pupa was common but only one good pupa was found the others were hatched. The cocoon was made of chips & fibres of <sup>Hatched Oct 29-05.</sup> wood etc. Found also beneath slabs of large tree cactus. One or two micros seen, & a few *Gyena* seen but not taken, probably the same species as at the other Gal Id & at Encenada Cero etc.

Charles Id

Sept 1905

No (1) common esp at 1000± ft level among heliotropes etc. late for them. No (2) <sup>yellow</sup> rather common rarely alighting more common at higher alt. A ♀ was observed laying her eggs singly on the leaves of (honey <sup>on oak at Thomas road</sup> leaf lined bush) No (3) rather rare & also laying its eggs. rarely alighting No 4 a few specimens seen at low elevation hiding in lara flow & flying a distance when startled. A protohance pupa was found under stones most of them hatched. A *Eudamus* sp <sup>= No 7</sup> seen at 1200 ft level early for these I think. All specimens on blk beach road except ~~Eudamus~~ not plentiful at Post office lay. No. 5. not rare higher up, flying during day.

Chatham Id see opposite page

Rain (drizzle) every day. 1 protohance pupa found. No (1) *Gyena* common around shuttles, rather late for them. No (2) common esp at 1000 ft level on road No (7) common at 1000± ft level very swift. No (3) fulvous, rather rare. No ( ) *terias*? one specimen seen. No. 5. a few seen.

Barrington, Id.

03-

no 6 Two good pupae taken under lichens growing on trees.  
A few chrysalid Proctuid <sup>6 (pinkish)</sup> seen under stones.  
Hatched no 5. Very common in <sup>in</sup> cracks under lichens on trees. <sup>2 no 5 seen</sup> on wing.

Indefatigable. (Pato de la Aguada) Oct 05.

no. 1 seen in small numbers at low elev. no 2 One seen at beginning of green belt. A few of the Eudamus no 7 seen. Hatched pupae of no 6. Common everywhere under lichens. Proctuid taken on ship board.

S Albemarle.

no. 1. 2 & 3 observed.

Indefatigable. (Academy bay) Nov 03.

no. 1. common & fresh at higher alt. 600+ green zone. no 2 one or two seen. no 7 common at beginning of green zone. no 4 not well in season.

Fried sugaring but to no effect. A light brought a few small moths to my light. A small green sphinx larva fell into fruit can, probably from convolvulus plant overhead. Protophaca 5-maculata. fresh & common. easily caught on convolvulus. one seen in early morning. common in evening. A small, thick, <sup>very</sup> swift sphinx observed but it rarely fed on flowers. <sup>one</sup> was seen to plunge out of sight in a convolvulus blossom. seen by others also on lower level. not common. A few small pupa shells seen under stones at sea level. no 5. 1 spec seen at sea level. — S Seymour, Id.

Few noctuids taken at light also micros.

N Ind.

In side dry belt up to at least 1600 feet. at 800 ft. micros numerous taken at light.





(Gardner Id. (near Charles) Oct 3

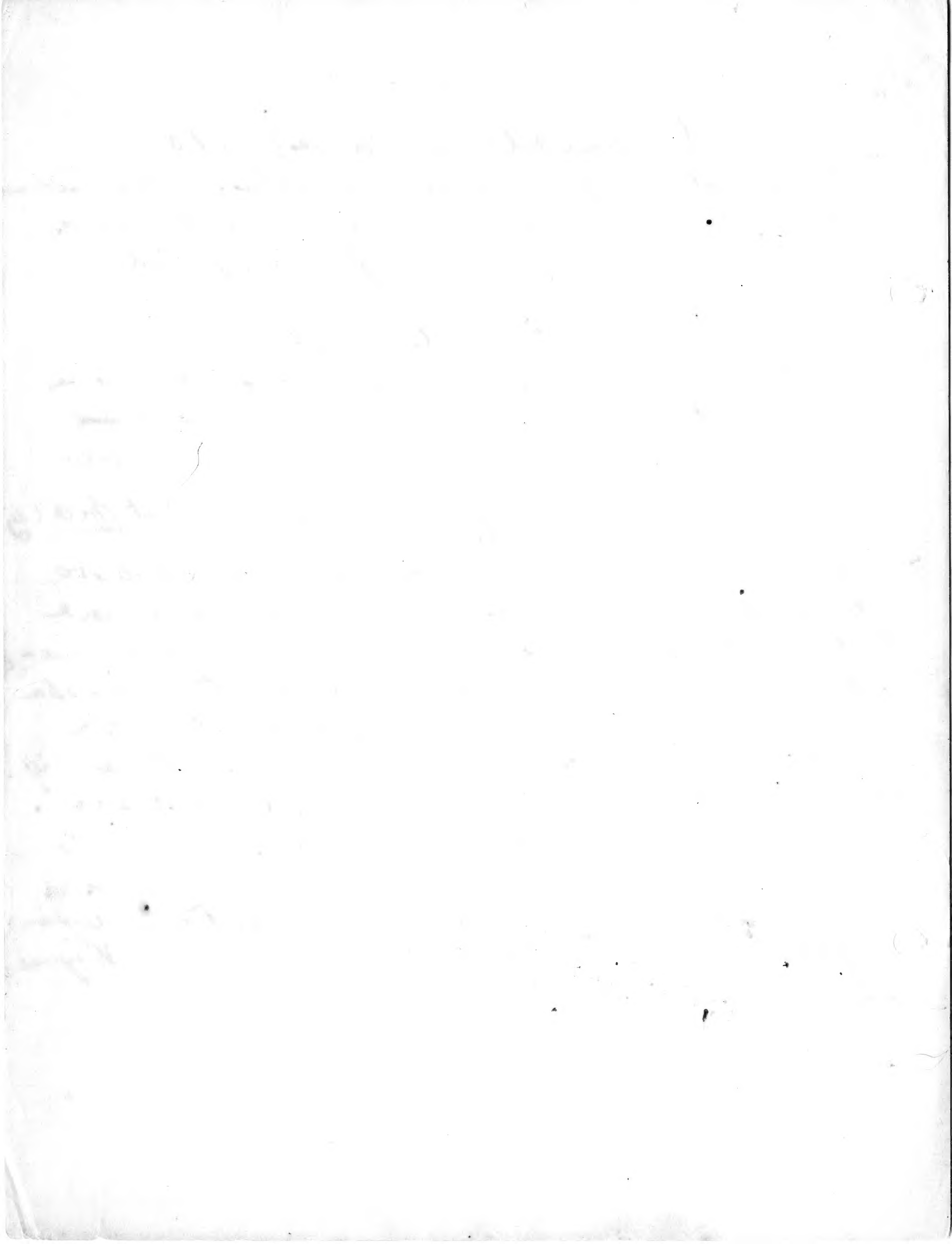
Two reddish centipedes under dead cactus. beetles under stones. Handsome grasshoppers seen in small numbers. Centipede found in stomach of. Mocking bird

Champton Id. Oct 3

Did not go ashore. Same sp of grasshopper as on Gardner Id. One dark centipede taken two small scorpions seen one spider taken Coleoptera under stones one sp.

Charles Id. (Postoffice bay) Oct. 03 Postoffice bay

Grasshoppers of bright <sup>Selys longicauda</sup> color common. found them up to 650 ft. = highest point we climbed. Smaller grasshoppers rare. Beetles rare; under stones where a number of larger carabid elytra were found. Physanura abundant. Xylocopa plentiful higher up on compound. At 600 ft. two sp of butterflies & a moth (noctuid?) were seen. Butterflies - big sulphur <sup>Colpina</sup> not rare. - fulvous butterfly 4 or 5 inches 2 seen. seen a Tabanid or two (1 or 2) seen on beach, flesh flies (green abdomen) both one, a few small mosquitos. young crickets under stones rather rare. Four dragon flies (1 or 2) captured <sup>near</sup> shore, not very many. Wingless cockroaches rather local. one winged specimen seen.



Chatham

~~Id. Neck Bay.~~

Oct. 1903

~~Charles? some better.~~

Cha. 1 Under stones low alt.

2 " " etc.

3 " " Spiders high alt on almost vertical webs | Bugs from Charles Lagon.

4 " "

5

6.



Ind.

E. M. J.

Indefatigable Isd. (Pato de la Aguada).

1. Big scarabid at green zone: <sup>W. O. O'Brien</sup> microscopic beetle on my person. Rhynchospora in a damp decaying root of (soft succulent & little green leaved bush common on shores brings in root (exposed).
- " 2 Common in lagoon, some in copula ♀♀ observed laying eggs when in copula & when single
- " 3 Centipede at 600 ft level & scorpions under objects in sand dunes & under lava. *Orthopoda. luteiventris?* in a dead limb of tree.
- " 4. Beetles aquatic under sunken stones in ditch very shallow. (cove) also there as well as larvae & millipede latter probably not aquatic. water half salty.
- " 5. Ants at 600 ft level. under stone. Pseudoscorpions in sand dunes. beetles under stones & weeds in sand dunes. Ant lion larva in sand pit.

South Albemarle.

Nov. 08

Water beetles in water holes up road, & did not go more than two & a half miles inland, & at a low elevation. Near the shore on the lagoon & about two miles up road the large shiny Grand tree with milky smearing juice was common. In the stumps of these were found larvae & a few mature Coleoptera under the bark. In ~~smaller~~ dead branches of some sp of tree near shore were found larvae & imago. & under bark small beetles. Smallest water beetle up in salt marsh  $\frac{1}{4}$  mile from shore. Schistocerca rather common on road side. Beetles fairly plentiful under stones. It appeared to be beginning of beetle season. Huntin saw some Agrionidae (odonata)

SA

# South Albemarle Id.

- " 1. Under bark of tree referred to opposite page. Only for them.
- " 2. *Scaphisoma* common under stones. <sup>with holes always under bark or</sup> in rotten wood.
- " 3. Not rare near ditches 2 miles up road.
- " 4. *Dytiscidae* in water holes in vegetable garden • 1/2 mile up road. Common. *Hydrophilidae* same locality rarer. *Stenonota* larvae in pool. 1/2 mile up road. Hillside road to Hacienda.
- " 5. *Hemiptera* in same locality. small beetles + larger brown beetle in brackish pool 1/2 mile from sea.
- " 5. Big beetle dead in pool. small beetle in nest lot. Larger ants common under bark of tree + in dead wood. smaller ants nest in ground
- " 6. *Formica* boring in wood + under bark of tree (described opposite) beetles found in same. not rare but too early for them
- 7. Common under stones + bark etc.

*Anopheles* larvae in pool.

Indefatigable Id. (Acad. Bay) Nov-05

Lower zone. dry few insects. *Schistocerca* extends into green zone. Big cerambycid<sup>(6)</sup> larva. common in green zone none in pupal stage. found in damp rotten logs. two larvae of no 8. 650 ft elev. under bark of rotten limb. in which no 6 was boring in heart of wood.

Academy Bay (Acad.) Nov-05

Few dry with cacti. & red soil between lava. *Schistocerca* common. beetles very rare, under stones. A few scorpions.

Fossil Bay? NNE Ind. Nov-05

S Seymour. (near Indefatigable)

Much like preceding place. low island. few beetles. most common under dead & dying cactus leaves on ground. also under stones. on SW Mt of island.

W Indefatigable. Nov-05.

Dry region may rise to ~~1000~~<sup>1600</sup> ft at least. hardly any Coleoptera under stones. a few small sh in twigs. & a cerambycid & an elater taken at light swift. *Schistocerca*. up to ~~100~~<sup>1000</sup> ft & probably more. an odonata. (libellulid) seen about the salt mangrove lagoon on coast. Tabanid very swift. common in lagoon & insects its pierces between turtle's plates & soft pts & sucks its blood. Also attacks human beings. A cricket common chirping in mangrove swamps during day but none could be taken.







Charles I.

- cls 1. Taken from bird eaten oranges, 1100 ft level. back of highest peak.
- " 2. Larger beetles common in spring <sup>near</sup> summit of wooded mt, central Charles Id, smaller beetles in water among leaves & under leaves. where water trickled over them on stones. none in H<sub>2</sub>O. Larger beetle very common, smaller also common.
- 3. Elater rather rare & very active. 1100 ft level. under stones. larger beetle also under stones 1100 or 1000 ft level rare & quite active.
- 4. In small pool on W end of lagoon, Cormorant bay. Took all I saw.
- 5. Ants found under stones 1100 ft level & to sea level ants fierce, colony not numerous, pseudoscorpion rare under stones 1100 ft level & lower. single beetle 600 ft level under stone wood. only one seen & taken.
- 6. Lagoon. Cormorant bay. beetle on my person. culicid in lagoon spider in web. dark hemipter on H<sub>2</sub>O. light hemipter in H<sub>2</sub>O
- 7. Lagoon. Cormorant bay.
- 8. " " " Rather common. in old logs. low elev.
- 9. " " " Under stones. high & low elev.
- Isoptera high & low elev. common & rotten logs. dermestid larvae under stale cow. crickets 1100 ft level not common.
- 10. Cairng. not rare high elev. dermestid on beach. larva 1100 ft level under stone. hemipter rare under stones 1000 ft level. Spider 700 ft level

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be clearly documented and verified. The second section details the various methods used to collect and analyze data, highlighting the need for consistency and precision. The final part of the report concludes with a summary of the findings and offers recommendations for future research and implementation.

18

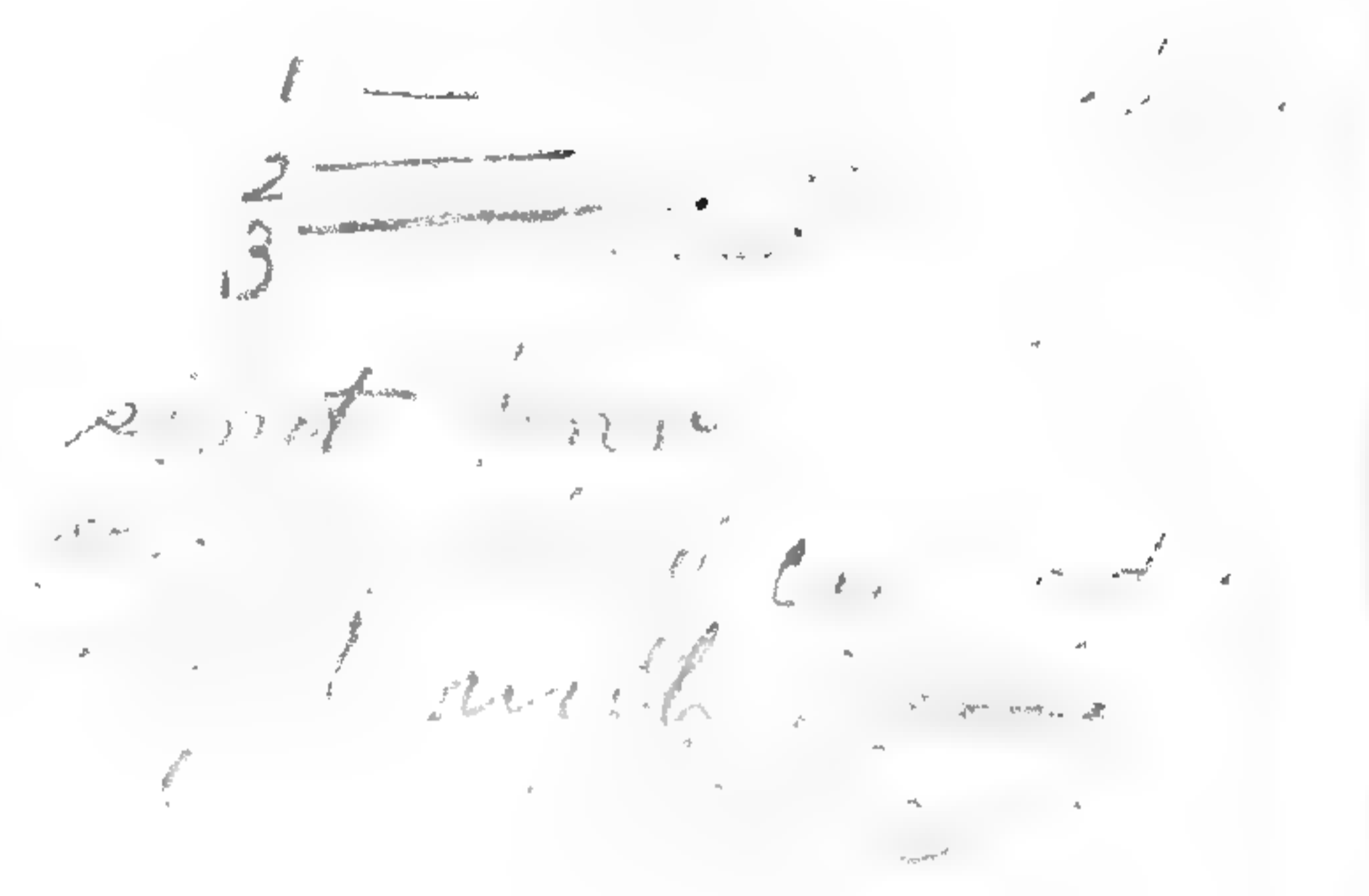
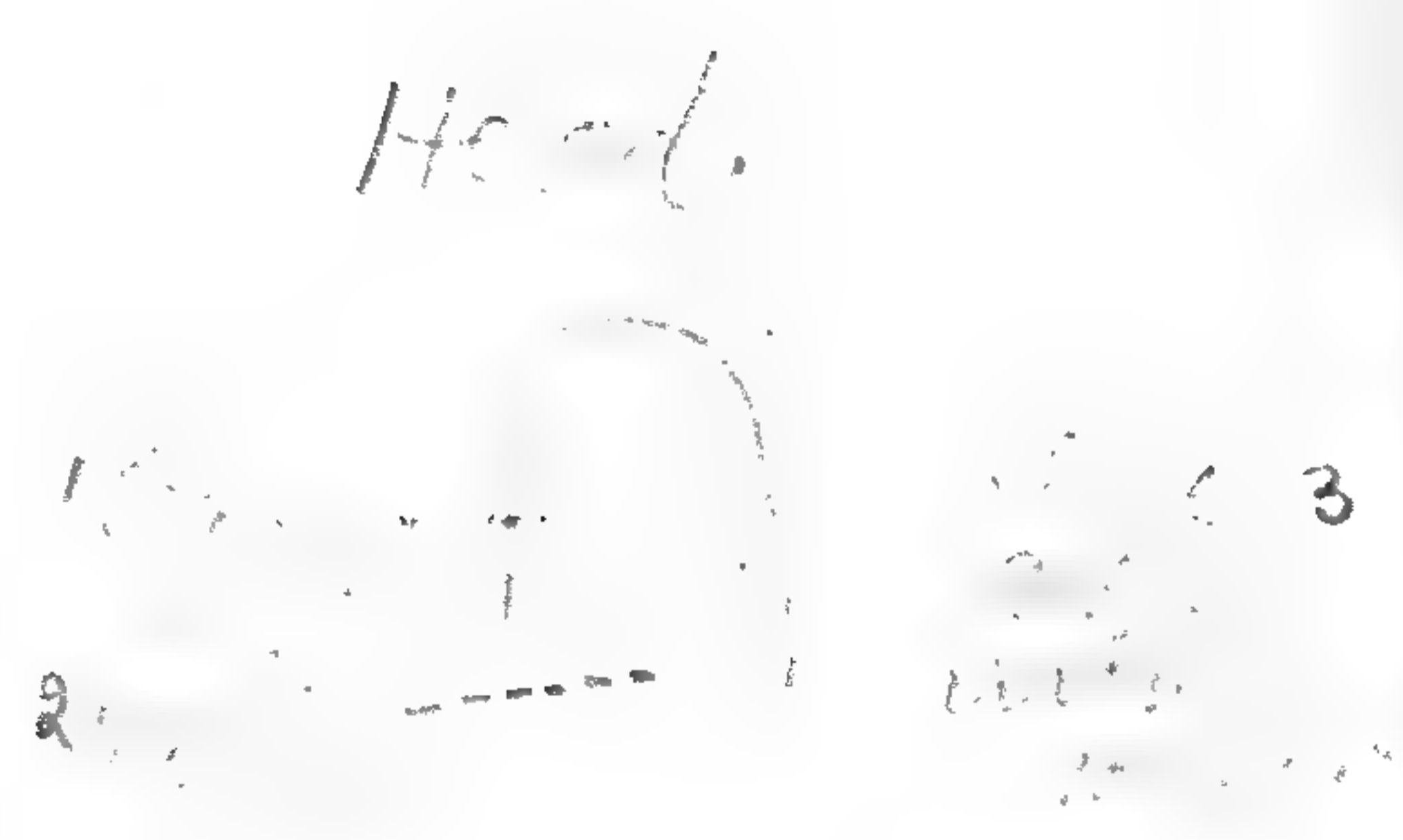
## Chattahoochee I.

Colo

- 11 Quite common every where on isle not near most places, under stones.
- 12 Very common at 1100 ft level, many under a single stone, rare below 700± feet.
- 13 Under stones etc. not common Black Beach
- 14 Common in rotten logs, 600 ft above & below.
- 15 Common under stones.
- 16 Gray cockroaches, 200 ft level under leaves & logs in shade, others high & low altitudes.
- 17 Black Beach in branch of a tree 1000 elev.
- 18 About 700± feet up Black Beach Road, not common
- 19 Under stones 700 to 1100 ft elev.
- 20 Orthoptera in decayed wood, centipede (Chatham, Ga.)
- 21 Under stones high alt. 1000±
- 22 Dead under stones, smaller scarabid alive 800 ft elev. remains common under stones from 800± down.



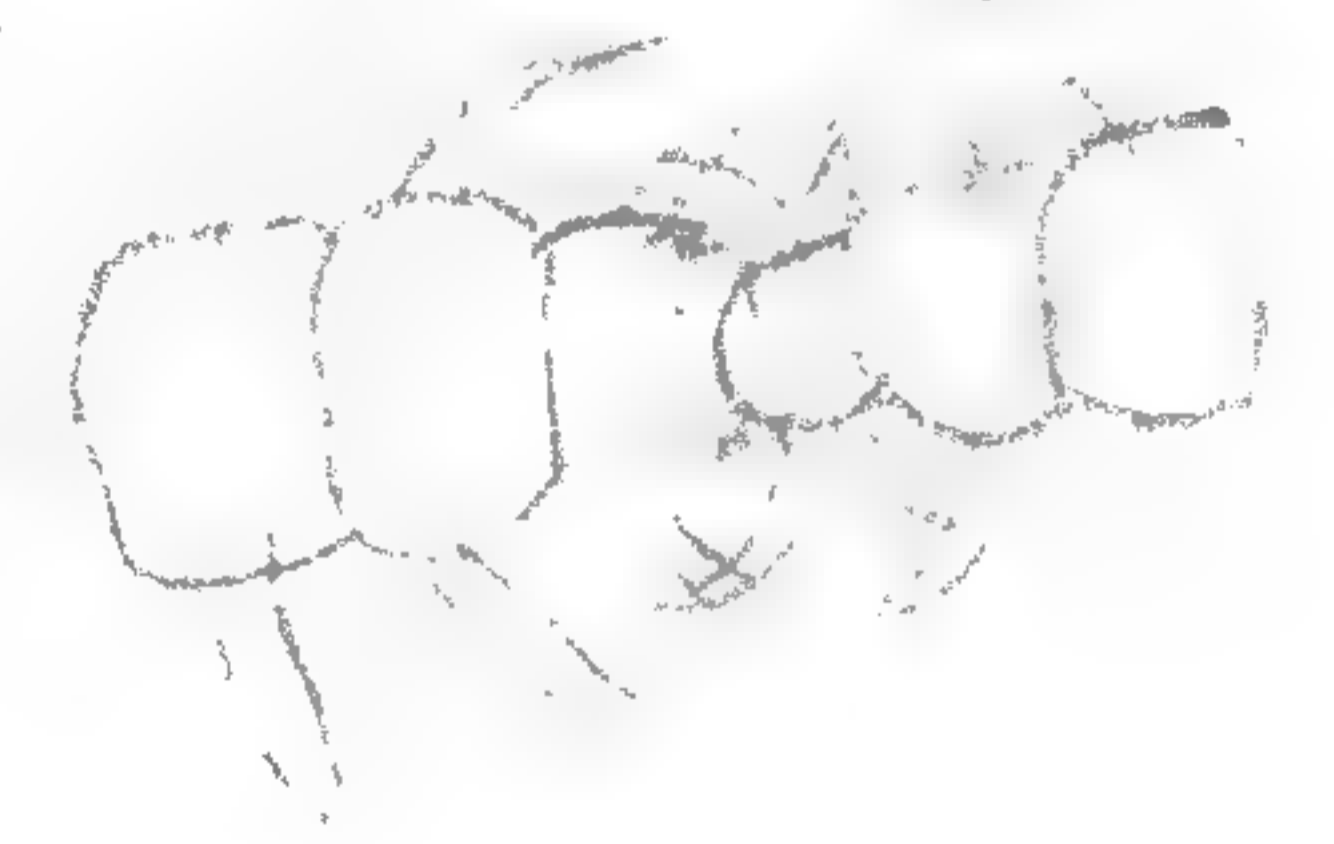
Point ... about 3 in  
much purple or lavender, stippled



Head 2d June July

A few obovate ...  
A few big centropodes seen ...  
leaving a clump ...  
from the ...  
they were ...  
one over the ...  
side & separated ...

No ...  
couple of ...



Biggest clumps all over  
Hrs 2d (Head)

31  
-5

# Chatham Id. July 20

a few more of the same  
 a few more of the same  
 a few more of the same  
 a few more of the same

Birmingham Id. July 20  
 Melipotis  
 sub...  
 in...

Eudaimis, common  
 as I went edge of grass  
 seen on...  
 by...

Eryg...  
 on plains near coast  
 on...

+ a good Eudaimis - all on shore -  
 feeding at... on sand...  
 inland - dry



Other water beetles under heavily submerged log Crater Lake. fairly plentiful.

" 23 Elatids 1800 ft. creeping about. Carabids up in grassy places under posts etc. Lichens & by crater lake on rocks near & heavily in H<sub>2</sub>O? common.

" 24 common in the crater lake.

beetles plugging

" 25 Two golden carabids. just above hacienda under large stone & a little ways in good soil sluggish & rare. remain seen. minute water beetles fairly plentiful in crater lake. by carabids rare. a couple crawling about & a few under stones 1700-1800 ft. Wheeler & Williams.

26 Small crickets common 1000-1800 ft under stones in cracks etc. also larvae. minute 300 ft on road. By timber in forest largely a why from mtch 1800 ft. by canyon fly nymphs 1000 ft. little spring lake Big spider common under stones & rocks common. A. T. Lake near it. which is near 1000 ft under stone.

27 Found by night. at edge of beach of the ponds. apparently fairly quite common

||

Joe Barington Id. Very dry & barren

Indefat Id. July 26 Acad. lay

A dragonfly seen (brown) on shore etc.

SW Indefat.

Ind 17

Beetles in shelf fungi which grew on tree <sup>950 ft.</sup> scabita - in green zone beginning at about 700 ft.

18

moth common about camp in swamp. 650 ft. almost green zone. beetle in old composted wood ~~at~~ 950 ft. also pupa little beetle = shelf sp. from 17 larvae in comp also. small beetle <sup>500+</sup> 700 ft. Bed.

19

Cricket 750 ft under stones common. katy did. 700-950 in old wood etc. big larvae plenty being in old compost in their zone. 2 smaller larvae just under bark in composted <sup>partly</sup> young of above. - notes. Dry season. Big Cerambycid mostly in mature larvae. pupae - 3 beetles dug out. feed about all <sup>together</sup> on Compost. Had wood tree 300 to us high as we went 1000 ft. perforated with beetle holes. - just Pyronus sp. but only larvae. A <sup>together</sup> wingless sp of grasshopper seen at 700 in exp.

Ind. July 24 -

Cerambycid-like beetle very active about mangroves bases. common. Cerambycid = sp of Syrph on at night in Nov. A few dead larvae remains seen at Ind.

But don't see only on Chatham. I sawed tree 2000 ft. = their larvae seen common in all parts of Ind. but larvae seen only on Chatham. They don't appear common in Chatham but larvae seen only on Indefat.

about 1000 ft

Hunter

S Seymour = Ind July 06.

A <sup>low</sup> dry & barren Id. A piece of wounded cactus which had become rotten & soggy (in part) & hollowed furnished refuge for several sp of beetles, probably to escape drought. Several kinds of scorpions under juniper cacti etc. Rhyssalus breed in cactus leaf branches. Don't dig long galleries but short & pubate only a little way in. A sticky excretion exudes from their holes. Common.

Ind.

20

Big lepidoptera larva - living in cactus (see note on left) 3 flattened scorpions local common in rotting cactus right in gooey stuff. 3 Rhyssalus + 1 immature Rhyssalus munched cactus common presence often detected by excretion Small leaf larva + cocoon - in old cactus. feeding in ill or rotting Big Tembroni 1 under goat head others under old cactus

21

4 Rhyssalus - in old cactus, others in damp soggy piece (see note above).

James D. Aug 5  
James B. Aug 5-9.  
James D. Aug 10.  
James B.

Put away 6 pieces of infested wood. 2 Erythra-  
num branches found below big tree these trees  
are especially chosen by xylocopa. for nests being  
soft. found a couple of coleoptera parasites in other  
logs & put these away on cream e. larva in quiescent  
state. A little way in composition velt. big pris.  
was larvae & minute Coleoptera: Scalitia. Two aca-  
cia branches infested with Cerambycids. many trees  
thus infested / Crickets — In dormant sea-  
son here. not much of anything around.

- from : Cerambycid larvae - <sup>by cells</sup> common in scalitia at green  
zone - also found in big brusha - lower down.  
+ light also. Scorpion common under stones etc  
low alt. Xylocopa larvae in Erythraenum 10 ft down
- " 24 : Two hemiptera cocoon larva inside partially by larva -  
thing referred to in notes. wire worms taken out of rotten  
bumpy brusha stump. 1200 ft alt.
- " 25 : Cricket 1200 ft in old wood. fairly plentiful & very  
active into. in deserted little galleries in acacia  
low alt.
- " 26 : All under loose bark of dead Erythraenum. bark  
dotted with little holes also soft wood underneath.  
was made by brown beetle in little. low alt - 1000 ft +

# September etc

1800 ft - A 300 ft ...

at ... (a ...)

at 2100 ft ...

at 2100 ft ...

May 15 ...

...

...

...

...

...





Albemarle Id.

Cowley Mt. Aug - 9 -

Exceedingly barren on lower levels, up to at least ~~500~~<sup>250</sup> ft. Lower ends pumice stone, sparse spum-tia & brush. At 250. a little more brush & dry tufts of grass. dry season. 1200 ft. got a good deal more grassy & a few vines etc. ~~Burphas~~ etc. Composite may down to stone. ~~Crucifera~~ <sup>Malvaceae</sup> <sup>flowers</sup> replaced above - 1200 ft. by scalitia. 2000 ft. green zone more vines brush etc. 1800 ft. lichens all over trees. Put away 2 pieces of Scalitia 1600-1800 ft. The first containing big ~~larva~~ <sup>larva</sup> land & the second hump backed beetle (mature & larva fresh). A dozen cactus boring larvae (Lepidoptera) in lot with cactus.

SA. 34.

2 Scarabids from Charles Id larvae 176 ft. hatched early in Aug. Cactus bore Cowley Mt. low alt. Natyids. hiding in + under lichens green zone to low levels where they conceal in cactus. (Spumtia) they mine their surroundings. secreted after meals to their vicinity. + pupas. 1500 ± ft. Spanglid? low alt James Id. James B.

" 35

Cowley Id. under stones etc. many dead ones. } R. Harris coll.

" 36

Cowley Mt. Spanglid? J 25 coll - 2100 ft ±  
Phymatophora fed on cactus. found low alt. many in edge of nest close on cactus. ant +, cells low alt roots to - Cowley

Cowley  
all covered  
a little a person  
green zone 2150 ft











Sept 7.06

long  
and  
from

from number

stay during season (annual: hatched - road hole traces)  
 put down to ground - put through 2 or 3 holes  
 up at ~~the~~ in left hand corner of the  
 Oct: 03. several *P. s. aggregata* taken  
 were taken (Charles Chittenden) which  
 hatched later)

SA

41.

Canalid larvae...  
 2 leg margin...  
 little cylindrical red...  
 under damp log. 1200 ft.

" 42

Canalid...  
 2 leg margin...  
 under damp log. 1200 ft.

" 43.

A few...  
 under damp log. 1200 ft.

" 44

Canalid larvae...  
 2...  
 under damp log. 1200 ft.

" 45

Water beetle...  
 under damp log. 1200 ft.

SA

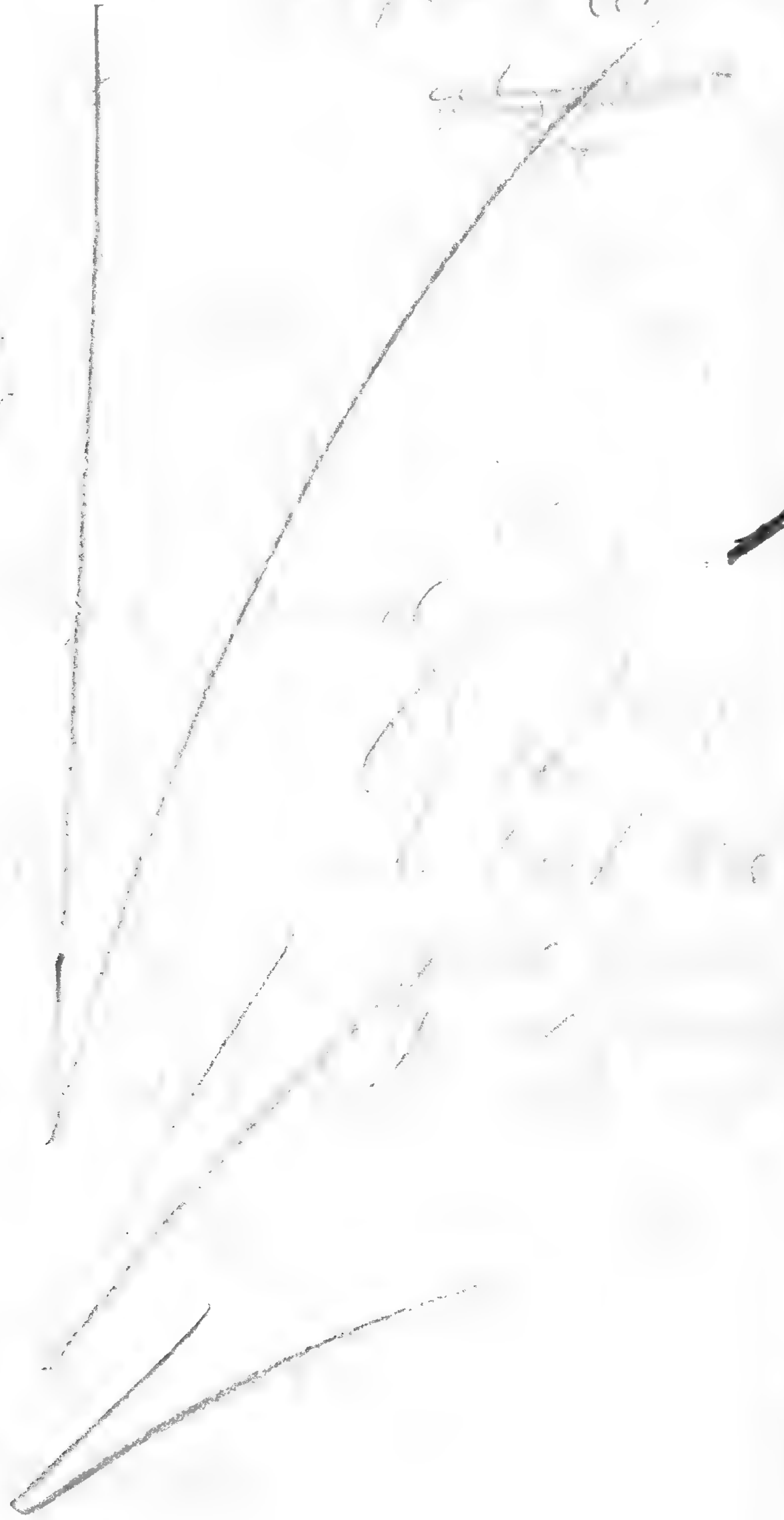
St. Lawrence

39



11/10

St. Lawrence



Tow

4



Hood Id. (May June - 06.

Dry but fair collecting

Hood 7

Parasitic on *Promedea varrata* (allatona)

" 8.

2 large scorpions under stretched seal skin a little ways in sand. skin a few days old. larvae in vicinity of skin beetles common a few inches under coral sand. several revealed at a beach wash.

" 9.

Gardner Id in Hood spiders fairly plentiful under stones, some mud egg sack ~~etc~~ beetles fairly common under stones near shore. rather scaly. E side a few green *Calosoma*. *Elytra* seen

" 10.

near allatona rookery. largest lapa - in crevice or thorny leynum. larva #11. ~~found~~ ground beetles under sticks etc ~~and~~ and leach rhynophora plentiful some under sticks or others with the larvae in bottles. (long straight and doubtful) common in various succulent shrub common on shore.

" 11

Found occasionally in <sup>Gardner</sup> thorny leynum. <sup>ingod</sup> taken from one being always open when wharsted with adults ~~etc~~ presence betrayed by dust under dead limb limb usually about 1/2" thick. + hole usually <sup>with</sup> 1/4" or h. for one when

" 12.

Larva - same as 11. short small beetles common in bunches. 200 ft. long under bank ground beetles + weevil rather common. under stones 200 ft. cricket saw plant. <sup>in</sup> pupa worm? in some <sup>entirely</sup>.

Chatham Id. July 06.

Quite dry. hills brown most ponds dried up.  
1500± ft a fine perpetual crater lake 1/2 mile across  
& very deep. Some aegonid larvae taken & several  
brown red libellulids seen. Water beetles common  
Big brown Clasper. apparently common in season  
come out of round holes. *C. picta*. many dead ones  
seen. & in burnt districts dead ones seen. common on rolling  
grassy places high alt. rare below. hacienda 900± ft.  
a couple of *Chrysomelids* larvae taken early at about 500 ft.  
Lower levels. collecting greatly inferior to early collecting  
many trees leafless. *Anthrenus* common crossing road.  
500± ft. *Selistraca* rather rare. small grass hoppers then  
at light on beach. *Mattogona* (hard to see) telegraph  
poles infested by *Cremydia* 2 or 3 brown (see note)  
only two living ones seen a few larvae & many borings  
often blocked by dead body of *Cremydia* full off dead  
bark. biggest *Cremydia* 2 in line several dead under same  
bark also larvae bore around. here in poison tree  
common by roadside. poison tree *Heppomane*.

Cha 20  
" 21:

Pretty common under stones low alt.  
*Ornithoglossum* low alt on road. *Thaumatococcus* thick  
very right. know sugar milk thick most  
continuous like cicada *antenna*.

" 22

Larvae & pupae. *Ornithoglossum* moss to stone surrounded  
2 2 in holes + 20 pupae in *Ornithoglossum* to all. common.  
*Ornithoglossum* 1000± ft. 2 *Ornithoglossum* larvae 1000± ft  
in *Ornithoglossum* - *Ornithoglossum*. *Ornithoglossum* in a lot of  
small *Ornithoglossum* 1000± ft. common.



schist

W

1

yle (seen)

Birds

2 scorpions

attera

others

217





Albion Sept 06.

~~Sept 06~~ A rather open country with  
cacti & a good green zone on higher  
regions. Scorpions & scorpions seen (small chrysalis &  
larva) & on shrubs on road. *Populigida* & *Phalangium* &  
legs etc also have been seen. <sup>2 little black spots on</sup> ~~small~~ <sup>not under bark</sup> ~~in rotten wood.~~

- 1. 14 empty green zone. little *Acadela*? just  
below fern *Halticoptera* & under some old bark of  
a tree another *Acadela* just, 1750 ft. very dark  
& green zone. Larva 1750 ft. in rotten *Acadela* bark.
- 2. Spiders 1700 ft. *Phalangium* rather rare. hiding under  
stones on cacti. ~~all other~~ *Acadela* & larvae  
infesting rotten cacti. not so common as on trees  
& staph, some as last *Phalangium*, low dry zone  
1000 ft.
- 3. Common *Phalangium*, under stones around roots  
of cacti etc. *Phalangium* well into green zone  
a few of *Phalangium* larvae seen on leaves.  
Common *Phalangium* at about 1000 ft.  
below green zone.
- 4. ~~Soft~~ *Phalangium* - see note, common -  
*Phalangium* on under bark. *Phalangium*? not unusual  
at light on leaf surface & cacti leaves.  
midges at light. *Phalangium* common & *Phalangium* ~~Phalangium~~  
*Phalangium* - *Phalangium* things, lots of saw  
dust at *Phalangium* *Phalangium* *Phalangium* *Phalangium*  
low alt.

Barrington Id.

Oct. 05.

Bar

- " 1
- " 2
- " 3
- " 4
- " 5
- " 6
- " 7
- " 8

Dark ones rare, under stones  
 Light-colored ants rather common in dead wood. <sup>branches</sup>  
 Ticks on land iguanas. small beetle on my hand wing covers under logs.  
 Four light beetles found dead in seal skull. <sup>other beetles all under one stone.</sup>  
 Not common, under stones.  
 Under stones, not common.  
 Scorpions, common under stones, centipedes rather rare

Barrington Id

Much like Hood Id in respect. Large  
 grasshoppers not common, found on lava streams  
 destitute of vegetation. Small grasshoppers rare.  
 Ant lions in larval stage seen.

W

Br.

- 1
- 1

Brattle Id. (near Alameda) Oct 25  
 Under stones.  
 Under stones

M

Brattle a small barren crescent shaped  
 id. Big grasshoppers present here. Did not  
 go ashore.

Indefatigable id.

Coleoptera rather rare. Lagoon. furnished two sp found in the half fresh water. They were found in water 1 inch deep. & they were under stones well imbedded in the mud.

Big Brown scarabid found by A. Chouin. at green belt where centipedes were common. Scorpions & pseudoscorpions in sand dunes in front of lagoon, under objects. plants etc. & also in sand. Ant lion pits plentiful. In lagoon. donata common. also. Hemiptera (Corex) plentiful in the S. Mosquitoes in lagoon. 1 sp One talamid seen near small ditch in lagoon area.

Charles S. D.

May 15-06 -

Good time for Coleoptera. green calosoma gone - <sup>seen Palmer & King</sup> dead  
specimens seen; no brown scarabids only old remains &  
a couple of their larvae taken a little ways underground  
under stones near summit. Plenty of beetles under stones  
etc. a minute convex blk beetle taken from rotting  
bean pod on tree near spring. No Hydrphilidae seen  
as 1st time. Cockroaches exceedingly common on summit  
under manure (old) etc. & at other levels.

Clas 23. Under stones etc. common on summit under  
manure also at pass under stones etc.

" 24 Coleoptera lina. 2. large ones. summit under manure  
Eurygaster very common at pass & summit under stones  
two  $\frac{90}{4}$  with broods (larvae) young in little few  
in brood.  $\pm$  had under about under in little depres-  
sion; large beetles rather rare. under stones moss &  
leaves at spring on trees ~~etc~~ - a few. Water  
beetles common at spring under wet moss leaves  
etc. little brown beetle - scaphis + 1 tiny ant beetle  
in old pecked bean pods at spring larvae? of little  
convex beetle in bean pod too.

" 25 Remains of chaper common at  $\pm$  to summit under  
stones etc. Bug not very common at pass under stones  
elaters active & common esp at summit under & under  
manure ( + rather common. but some winged at pass  
& summit common under natural fern in clay.

clo 26

26.

Large beetle under stone leaves etc. 1000+ ft. escimellid on lea side of summit which was bald, except for two sp of Helictes + another used or so. escimellid on Helictes leaves also one under stone (1100 ft x moderate). Chrysomelids in fair no on small Helictes of a few on layer.

Visited place again ~~at~~ May 23-06 getting dryer all the time. Around old camp at beach landing where there are remnants of old hides + bones. Dermestid eaten around stones etc. Under these stones were the large blk beetle some newly hatched (brown) + smaller beetles. no live dermestids but one found. + blk saw was making nels under stones, seem to feed much on beetles. many wing covers of large rough timber bug under stones + spittlebugs' nels under stones. Wood borers dead + no bees in thorny trees no adults alive seen. fine stream on of aldy crayfish found dead in thorny bush. also James Ad nearby ad (brown) dead at foot of the well punctured beech trees at spring trees infested probably with this crayfish. a few larvae (see nearby ad) were seen + many old holes (brown). little flea-beetles <sup>seen</sup> on summit also on Helictes at shore. after visit at St. Thomas SP at 1300 ft

clo 27.

May - 23-29

little beetle - elytra + black shot larva - in thorny tree. Scarabids at shore - part season under stones: many elytra. larvae some locally. also elaters + other beetles larvae on Helictes at shore. Charhad dead under beech tree. dorylud-like. leaves in tree cutches under leaves etc on at trunk

28 high low also larvae at beach from beetles - fresh newly hatched ones found just under soil, sometimes.

clo 29 - pupa of E. adna - at spring - Chrysomelids. see notes above cricket larvae common beetle at shore. floating water of beetle in thorny tree.



Charles Dd.

May 30 - 24<sup>th</sup> - <sup>June</sup> Brown scarabids larva full grown & half grown 1 pupa found. & several fresh beetles under stones & a few inches under soil among roots etc. On weather rim of broken crater 165 ft S.W. side On summit under old manure little slaters common also *Stenobothrus* *Arad* & on sides of crater. *Castella* bushes have beads of lichens on their trunks limbs etc in this is found the large grey *Staphylinid* with short wings & also *Hemiptera*.

Obs.

29 | Esp hidden in lichen growing on *Castella* - high alt. also in wood. common.

30. | *Centipedes* 600 ft. *Stenobothrus*. Spider like insect (3) under stones & digging holes (oblique on trail & elsewhere. dug me out. holes several inches long & deep. much soil at entrance to burrow & often blocked by it. insect nocturnal *Hemiptera* common on weather side of big mt crater. in *Castella* lichens. pupa & larvae of brown scarabid on weather side of crater under stones at roots etc. & in ground a ways good soil there -

31 | All on summit of big mt. slaters common under old manure. also larvae & under stones green beetle. 900 ft on at jaw-bow. *Staphylinid* like beetle under stone high alt *Stenobothrus* & myself. *Staphylinid* -

32. | Big ants common under stones on summit & weather side of crater also under manure - some of same. colonies rather small, many galleries under stones no dry grass seen 2 *Ichneumon* flies apparently living with them live together in little groups among them. pupae of ants

Clas could

32

3 curved beetle larvae under stones & in soil 1800 ft. cactus.  
long larvae under stones etc. Small ants. queen soldier  
& workers on big colony under rock & in gallery. pupae of  
same ants strong & little description. soldier observed  
carrying pupae to safety. top of big nest 1760 ft.

cl. 33

Summit of nest 1760 under main (old) stone etc  
very common.

00000

South Albemarle Mar-06.  
Villa Vul etc.

SA

" 8

2 Larvae + pupa (Coleoptera) common in poisonous Tomato tree. under bark of rotten stumps on roadside & in twig of same. I found larvae on road. Small coleoptera larvae. under rotten turtle shell. up on sandy beach. Minute copper brown beetle under rotten tortoise little copper blk beetle 1st. on person. 2 other larger beetle under turtle. Largest to sp. of weevils under a dry rotten log. near beach in company with small elongate weevils. gregarious middle eyed sh - 3rd sh. in excellent beach scrub. (not oak like) in old limbs also a few of largest weevils.

" 9

Pale cream colored like beetles under logs. near beach on sand. beetles very active & fly a little way when disturbed. Often conceal themselves in rot under logs & in chenunkis Elatants under stones etc. Water beetle in small spring 1/2 miles up trail

" 10

Quite common 2 miles up road under dead leaves etc & in shade of poisonous trees found under a shady grove of such. (blue powdered)

" 11

Under stones log leaves etc.

" 12

Plyridae under logs etc. by long sand beach. also crawled on one. when resting near shore under trees. coleoptera pupa a few inches in the sand under a log. Scavenger beetles common under dead turtles & actives.

" 13.

Big larva + next size - (1) in poisonous tree twig Plyridae & green small beetle see above. (12). Small beetles

S.A.

- larvae & pupae infesting mangrove roots. pods & some-  
times young tendrils. A great proportion of pods infested  
but some grow nevertheless. Often pod falls on  
shore & at high tide beetles etc are killed.
- " 14 *Leimniscids* same as above. pale beetles also under turtles  
& burrowing when uncovered by scurroids also in same  
locality & usually in depression or slightly buried
- " 15 *Staphylinidae* on board. pale beetles in same locality as  
above. little beetles & hard cerambycids on Poison tomato  
tree, cerambycids lie closely appressed to twig & cling tena-  
ciously when touched found in a small grove - 200 yds from  
shore & mimic bark fairly well
- 16 10 ± miles below Ulla Mil water beetles rather  
scarce in mangrove etc swamp at high tide level.  
behind a bank of sand & stone. *Hemiptera* common  
in a sh of sol naual. *Pylocha* in *Haliscus* (dead) other  
beetles under stone etc. Mangrove. see - 13 -

### Iguana Cove.

Beetles rather rare, too luxuriant veg. handsome - crotchi  
cerambycid in shrub. *Scutiger* copulating. fairly common  
also fair sized young. *Hemiptera*, mantis found.

Allenau Id.

Iguana Cove - Mar - 06.

SA

17. Centipede ♀ found under rock, damp soil under poison tree. Eggs scattered under her on earth

" 18. Katydid in dense foliage of castilla. near cove. they apparently live here & eat the leaves. Bug found sucking juices of granular sphinx larva on Galea pt. Green legs do likewise to smaller sphinx larva - bold. larva - on leaf. Granular larva. commonly infested on (Galea)

" 19. Spider found all over island on vertical web. elated dead. Spongy under a small fern. Scarabid in fertile soil under stone at cove other beetles under stones & loose earth lower to near cove - all below 100 ft. elev.

Jaguas cove. Mar Apr.

Not 4000 ft high not very good for Coleoptera. A rather green zone at top & a few hundred feet below. gave some flower beetles, Coccinellid etc.

" SA20

Buprestids in small cañon at head of cove. They frequent slender leafed croton & rest on the trunks of them. They are active about & observed. They turn round trunk & run up a way when you approach just as an attached (spider) When you go too near they drop to ground or fly away. Taken on a hot morning. Fungus beetles. Fungus on tree limb - rare

SA

21

Rhyssalus often in copulation. common on shrubs. High & low alt. Larva under stone. Cecanellid on summit on a leaf only one observed. Clatendy under leaves etc mould 1500 ft. on ground. other little beetles under loose leaves etc. Flower beetles. 3500 4000 feet mostly on flowers. of compositae having yellow disk & white ray flowers. Staphyridae 1500 feet under leaves etc.

SA 22.

Carrabids under leaves etc. common. Tenebrionids also at lower levels under stones etc. Grey powdered little line. Mounds 1000 ft.

" 23.

Calosomas rather plentiful. sea level & 1500 feet at least. Big luna. 1500 feet in compositae eggs ~~under~~ 1500 ft. Mounds low & high.

Bank's Bay. Apr 10-16-06.

A rough pebbly beach & sandy (coarse) a couple of miles (dry zone) to base of mt. Went up to 2300 ft - up mt = half way. saw but little in this green zone. commencing at 700 ± feet in scaletia. (smaller compositae remains of longian burrows)

There are also big leafed trees like ~~aspen~~ with yellow flowers in ~~the~~ ~~area~~ a few ~~times~~

Bank's Bay. contd. Apr-10-17<sup>th</sup>

A little cowpea scarabid: 20(1) common running about the coarse rough sand above the high water line. Found in the evening. They run a ways & then stop for a moment & then resume their perambulations. Fast cerambycid(?) found also running & flying about sand beach very common. Attracted by our big camp fire Apr 12<sup>th</sup>. On the evening I walked about small coarse sand beach interrupted at the water's edge & elsewhere by pebbles. It grew dark & I carried <sup>the</sup> scarabids of Apr 10<sup>th</sup> were taken & (it was low tide) about the low water mark where the sand was damp I ran across a tiger beetle (Cicindela) very swift which I caught. A little farther along I put down my light & about a dozen more were attracted by its light, nor would they leave it until all were taken with some difficulty. Several were seen in copulation. They would fly from a foot or two to the light & climb up the wires etc. In two of three other places I ran across smaller groups of tiger beetles. I got about 25 altogether. They appear here to go about in small knots & are nocturnal. 3 miles inland green calosoma family plentiful & (Cicindela?) taken about my blankets in early morn. tiny blk cowpea beetle on person at sunset. Went up mt. up to 2300 ft. where it is green like on James. Green calosoma (1) seen at 2000 ft.

Little chrysomelids. common on croton feeding at blossoms. some seen in espula. Near shore little grey flea beetle like *Taygetus* etc. & d. 3000 ft alt seen in croton.

SA

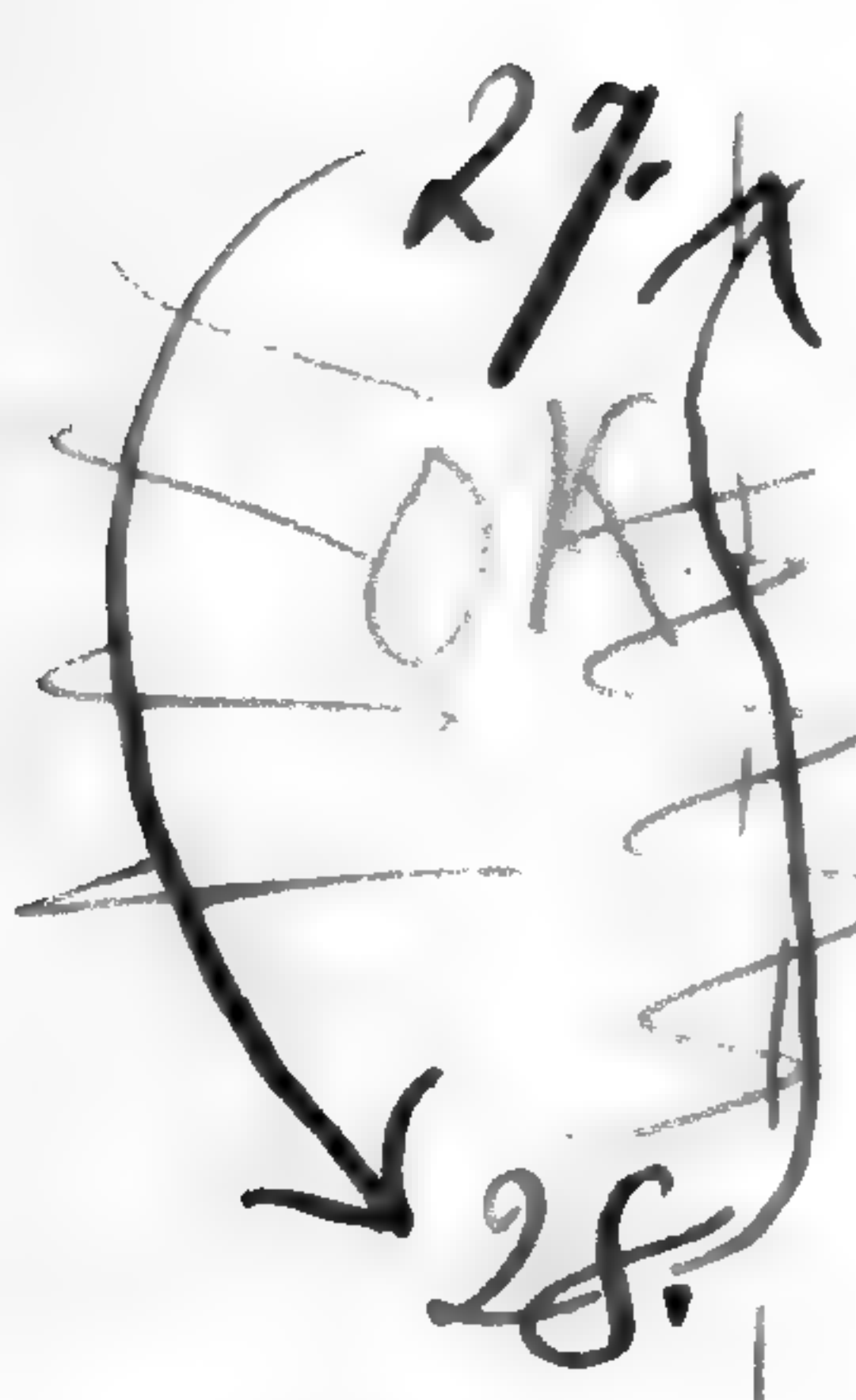
Bank's Bay.

only place seen

24. Larva in loose soil  $\frac{1}{2}$  mile inland, chrysomelids on croton (see notes). Emergent at cactus flowers (see notes). minute blk beetles on person. see notes

25. *Eudamus pupa* on ground. 3 miles in cocoon on a branch - 3 miles in others on beach etc (see notes)

26. *Rhynchospha.* new shore on croton. fairly common Emergent at beach. Cleitae 3 miles in (see notes). ground beetles 3 miles in. Emergent larva on a legume. *Eudamus* 3 miles in -



27. *N. shad.* *N. shad.* only live or seen under some dead flowers on a little soil a barren place remains of biggest Cerambycid. ph. seen in composite (small blk). green calosoma fly lid seen.

28. Larvae - 2 forms. mature almost all under. few  $\frac{1}{2}$  grown on *Asclepias*. Bank's Bay. calosomas pretty plentiful in greener spots. ~~27~~ *N. shad.*

Old Gh Pitt.

SA

Old boring of biggest (aberrant) Cerambycid found on an *Azadirachta* tree which grow plentifully on shore line about here.

28. *Ciceroches* very abundant esp under old mounds under in soil. pieces of fungi infested by beetles saw only 2 specimens this fungi growing on a hard root of poison tree in shade a few hundred ft from beach



Apr. 24-26-

SA

cont

Old Colo Settlement 9 m W of Villa Rica

see no 29 for notes.

29

curved larva <sup>long</sup> in skin halisus, few seen. long white larva under old manure thick on with strong thoracic legs under bark of poison tree. *Strophylax* on shrub, slates under stone single brown beetle under bark of old *Alginia* tree on beach & mud colony of ants. at & about same length possibly disturbed from place isolated from ants. *Staphylectes* under old manure (or ex) under shade of poison tree, not common. little slender more or less blackish beetle on fungi (no 28). tiny curved pale brown beetle under bark of *Alginia* tree in middle of large colony extending several feet round trunk <sup>under bark</sup> in old manure, etc? holes. 1 little ant in beetle, with small *elateroid* beetles common in old manure & circled by ant nests. beetles a few together & single. not disturbed by ants.

30

Key olive shot *elytra* with beetle under rather old manure & in it in a few cases. biggest *scutellid* under manure & in grass in meadow + under manure. larva of same still lower down. several found & adults under red entrails of bull killed 1 1/2 weeks. larva with many about mature. entrails correspond to. manure heap as they were full of grass etc. Multitude of *Scutellid* very common under rather old manure & in a few cases in recent manure. also in manure newly in fresh. a little very is cast in manure.

30 SA cont'd Tenebrionids under stones & old manure - a couple of the large  
Alk also, in crevices of old upright branch of brown tree  
in debris

31. Spiders fairly common. various obs. Tenebrionids under  
stones leaves etc old manure etc. Dermestes larvae about  
lodge & holes of 1/2 inch but very few imago remains  
(I still had seen. Blue beetles very active but not  
fly much common about holes under lodge etc.) aforesaid  
arrived.

32. Chironomid on shrubs. flea beetles (modellids) found  
on succulent shore shrub. wie like & rather flat like  
ring Tenebrionids under old manure. two dasytylids?  
one antennae one, between a fungus. other on croton leaf.

Villa Mil Apr. May. etc.

Getting late for Coleoptera. plenty of mature  
schistocerca & the little lot of grasshoppers;  
evidence of <sup>early</sup> late swarm for beetles. seen from  
no of dead & hum. under bark in holes of an  
old cut-off & limbed porous trees.

33. Katydid Chalcid in wood high alt. big humus  
on bush. high alt. Cerambycids some dead, under  
bark of porous tree & some at base of them  
trees dead & well bored. two hump backed beetles  
in thorny shrub ~~oooooooooooo~~ exit to  
holes green shrub well perforated. ground beetles  
all about seen. ~~hole~~ "cobroach" Cls id

(2)

11

Bookish (Mellor's) March

March 1900

10

1000  
1000

1000

1000  
ack

1000

1000

Diagrams

with the  
Lenses

- dark red



11150



11150



also had a lot of  
Lenses. In fact, I had a very  
large number of them.

They were all  
of the same  
type, and I had  
a lot of them.  
I had a lot of  
them, and I had  
a lot of them.



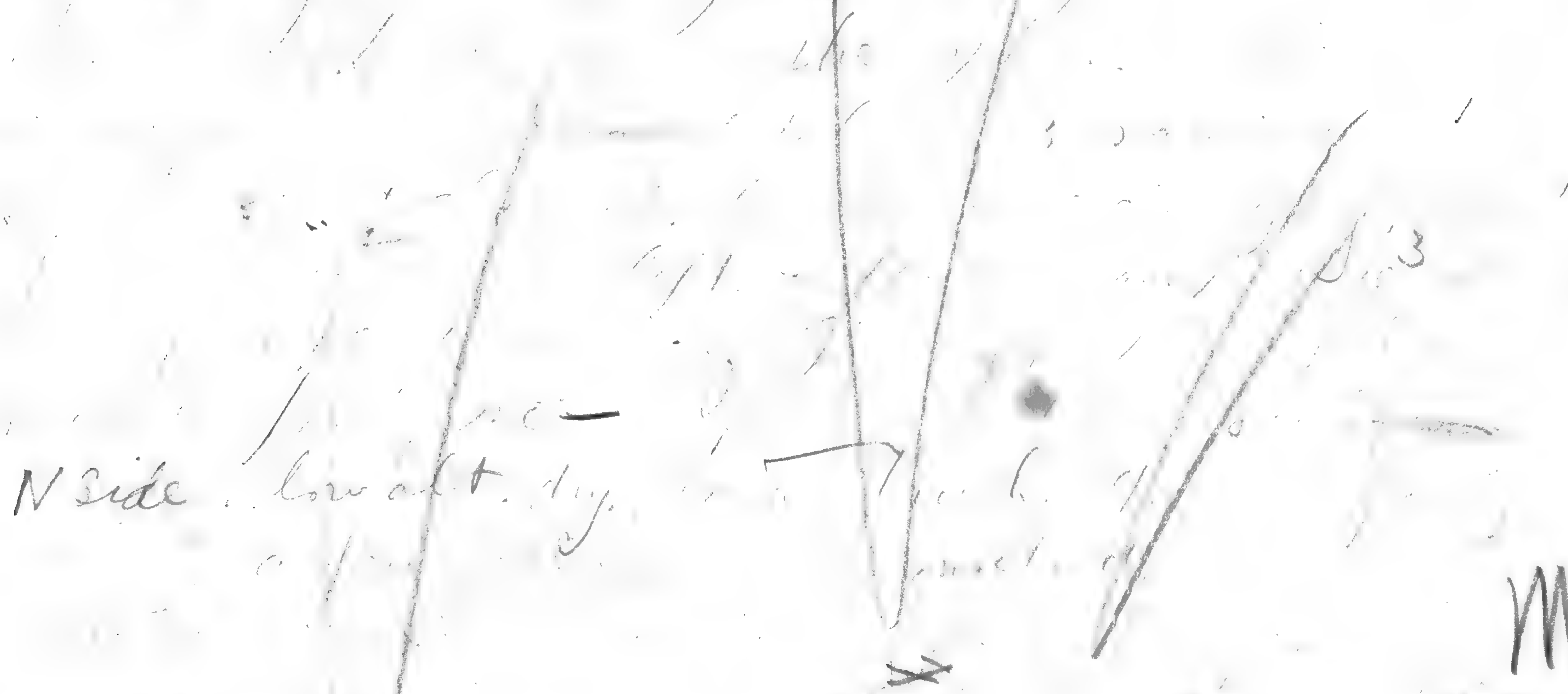
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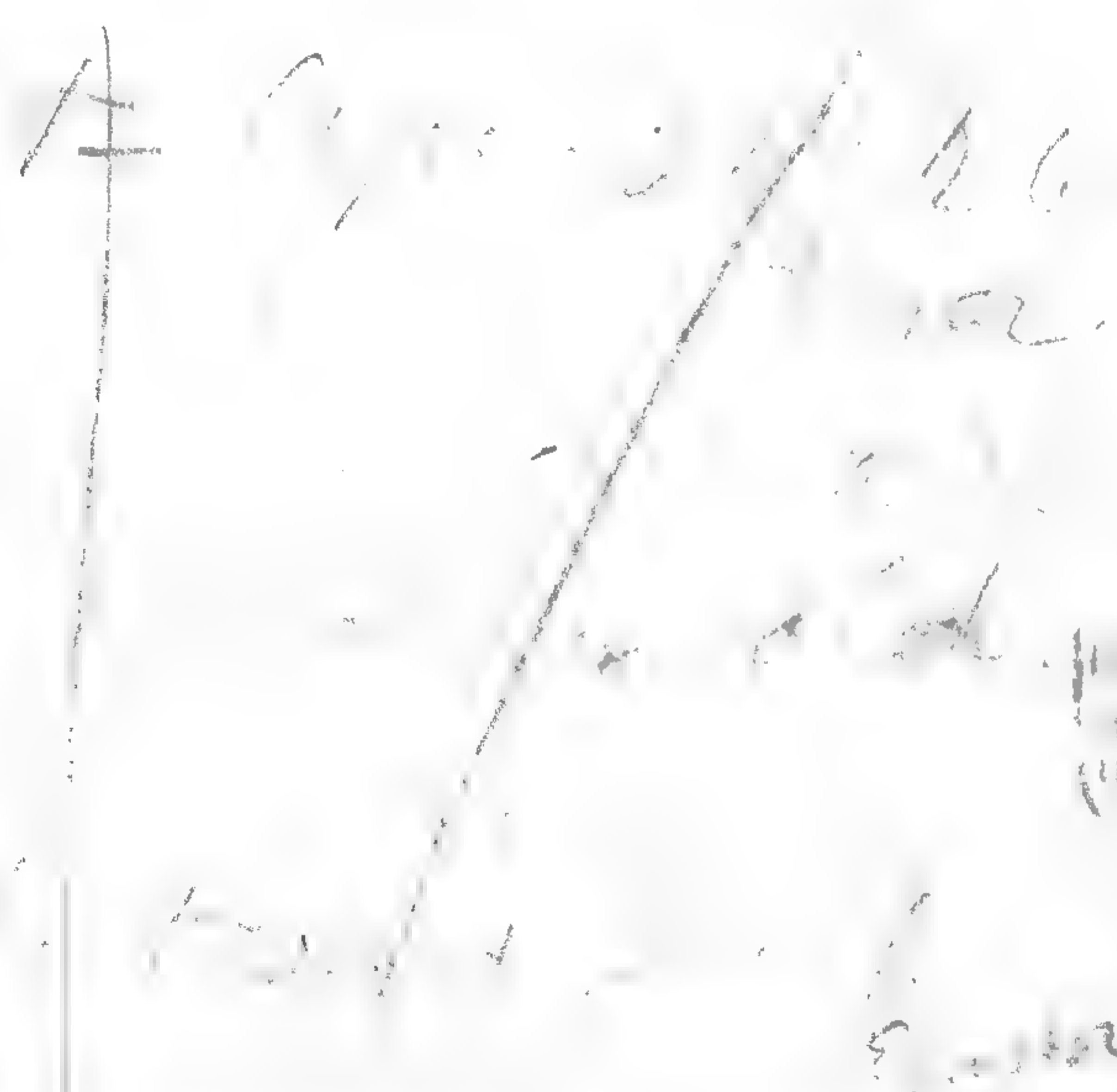
Bank's Bay

... 2300 ft. ...



N side low alt. day

M



... ref. map ...









= Sappho Col. Feb. 06. <sup>in tree leaves & seed & walnut leaves.</sup>

Silva grey metallic spotted (cerisey cidal (also on wood ferns etc.)  
commonly feeding on cotton ~~will~~ found also living in ~~Burschna~~  
of spring sea shore shrub & cotton gave evidence of a loose pupa-  
lly the same. Crawly ad = Jan 21 larvae found  
in Burschna. Cha 17. = little larva just meloid  
I kept them (2) several days in loose sand dust & fed them  
xycos. larva which they ate readily. They remain in  
a curved position & created them in a cell (each)  
of xycos within which was a larva. Feb. 19-06.

Wreck Bay Feb. 06.

Big green caralid everywhere at lower altitudes  
feeding on live larvae (spring & insects) which  
they ripped up climbed heels & skulls in search  
of larvae. Seen during day esp late afternoon by roadside  
Several may be seen eating 1 larva. Bug also sucks  
larvae.

Chatham del. (Wreck Bay - Feb. 06.

Cha 19.

Jyrimids beyond hacienda in little pond, scarce  
Rhyngostoma abundant all over. piece of beetle  
under stone 110 ft. 2 large worms at light  
on beach also 2 light colored sea leeches?

Charles Ed. Tlb. of Comant lay.  
Evidence of cranulid. *Agonum* they brood.  
Comant h: 1-

White grub + pupae in *Xylocopa* nest. no dead branches  
trunk beetles under stones just fresh. *Rhyncha*  
on floor.

### Blk Beach.

Green canids coming out. up to about 400ft fairly common  
Big brown scarabids seen dead. plentifully, none alive.  
Up at spring. *Hydrophilidae* not in evidence though other had  
few. Much evidence of beetles in their leaves but mostly old.  
*Schistocera* common at river by h. up; in copulation.

### Albemale del.

Mar 06

### Nella Mill

*Schistocera* + other sps common, former in copulation. I did  
not go any elevation + not more than 2 miles in.  
*Xylocopa* sp. hatching out of cells. Many pupae but few  
larvae. *Adonata* + (*Agrius* seen) common. Meloidae in  
*Xylocopa* in pseudo pupa. + a few in small larval stage pupae.  
pupa in a branch cell of them ———— ———— ————  
few miles below Nella ———— ———— ————  
one, taken a  
mile in Habicus.

No ciston seen at Nella Mill but the large handsome  
silvery cranulid feeding on ciston taken on a margin.  
Trunks killed by natives along long sandy beach infer-  
red by *dermestes* + other *canalid*

March 1st / 1866

March 1st. Went to the plantation to see the nest. It was full of eggs. I found a piece of cotton with a nest of them in it. They had ~~made~~ cleared out old cells & made some new ones - 12 cells in all, & a few more & a nest of old partitions removed.

Pylochesa flew about & examined nests etc to make nest. The James os. they were looking for suitable nesting places & two pairs of them were found in a piece of wood. BB flying & posing around blossom fly with a high buzz. Jan 06. Academy Bay. also nesting looking for nesting places. The Hood - Feb 06. found a piece of cotton with a nest of them in it. She had ~~made~~ cleared out old cells & made some new ones - 12 cells in all, & a few more & a nest of old partitions removed.

Basco Pt. Bathylic rader...

Calceolaria... a ~~single~~ plant seen. Old...

Onices abundant. Several kinds of... seen flying about ship & shore. but dont feed cant call them. Plain... insects took out, found me on tree trunk minutely look

March 1st Feb 06.

...skippers rather old yellow butterflies... common

Up near plantation gate. caught some... feeding on... flowers. Prothace & moths rather old & commonest... in shady place, yellow... <sup>2</sup> <sup>found</sup>



Chatham Is. Jan - 06

Cha. 5:

Quite common <sup>Wreck bay</sup> under stones by wayside near beach. found on different days under same stones, a pair in copula. two taken running up road. 500 ft alt. all these  $\frac{1}{4}$  mile from beach.

6. Crangid. 350 alt. under bank of pier. centipeds under stones, common

7. Odonata about 1000 ft elev in pool. by road much aquatic plants etc. Hemiptera on summit common. spiders & crickets under stones.

8. Beetles common in rain & more small holes from shore to summit. summit holes more durable. aquatic plants etc.

9. A couple of water beetles in copulation beetles under stones some ~~large~~ large rhynchospora. on croton etc in copulation. go up to summit. beetles low alt. Spiders on rocks. 1000 alt near H<sub>2</sub>O.

10. Big Scarabids a couple in copulation. 10 ft alt or so under stone & old rotten gummy sack some elytra under dung. Some under gummy sack. dug out from ground 1 or two inches.

11. Fly common. in every puddle.

12. Larva. brownish under stone low alt 2 blk. on side 250 ft alt up road. common in

13. Biggest beetle dead in telegraph pole of *Lepidoptera* plant. *Gyrinidae* 2000  $\pm$  feet in pools, not in big numbers. *Dytiscidae*. common in pools. high & low. *Odonata* 1000 ft. date. ~~crickets~~ under stones. <sup>crickets common on summit</sup>

Cha. 14 Under stones low alt. spider in shallow water 100ft  
donalor beach 100ft above.

Bassa pt. Feb. 06.

The large green calosoma was observed by Gifford  
to climb stems of shrubs. a couple of feet or so.  
seen diving day running about lava. probably looking  
for caterpillars which were numerous on shrubs.

" 15. Calosoma running about ground. lava fairly common on craton  
tiny beetle on beach in some drying sea weed. Puprestid  
in Gifford's hat. at least others under stones & loads.  
Flying ants at night on shrubs

Sappho care. Feb. 06.

Strophurus very common.

" 16. Elaterids under a leaf of craton. resting. Chrysomelids. sometimes  
feeding on craton flowers. (in bloom) but more often  
congregated on food plant. a trifoliate legume. creeping or  
ascending, with a yellow flower. beetle active leaping off  
plant & flying (sea level. or about 20 feet. up)

" 17. Small beetle on my person. 50± feet. pupa of Lepidoptera in  
green spiny bush of marsh. in burrow of the old sandstone  
burrow of beetle. Spiders numerous on nets. geometrid larvae  
common on cotton, noctuid on craton. Dytiscid larvae from  
nest in old. Burchra. larva white parasite in nest  
other parasites seen devouring larva.

" 18. Horse fly a pest when in tailing. beetles readily attracted  
by light. taken mostly at night. during day under plants  
very active <sup>in</sup> fly often when disturbed. habitat sandy places  
near beach.

" 19. Weevils exceedingly common. usually on craton & copulating. drop off  
leaf when approached others under plants near shore

Hood Id. Jan Feb. 06.

- Hood 1 On the very summit of rock, under stones. Larger beetle under stones, usually play *proserum*. But run agilely if disturbed as do smaller ones. Smaller ones lead <sup>powdered</sup> ~~powdered~~. Slightly ~~greener~~ <sup>greenish</sup> at summit. *Rhynophora* in stems of green succulent bush growing also on shores where beetle is found also. *Pop* beetles, a couple in <sup>computation</sup> ~~computation~~.
- " 2. SE Mt Id. (allations place) under flat stones near shore. beetle <sup>of the kind</sup> always more plentiful as there are better accommodations for them i.e. flat rocks & soil.
- " 3. *Elatea* caught as it lit. 75 ± ft alt. Crawling with larvae in <sup>soil</sup> ~~stone~~ near shore. It was taken from twigs from *Bromelia* which had fallen on ground. Found <sup>at a few larvae</sup> ~~at a few larvae~~ but no pupae. Wood dust beneath infested twigs. Several beetles in same twig & flew together. Beetles probably ~~found~~ <sup>found</sup> here in day. emergence of pupae? as galleries had openings. Found also on branches of the thorny legume with the yellowish <sup>red</sup> ~~red~~ flower. <sup>abundantly common</sup> ~~abundantly common~~.

Gardner Id. Jan Feb. 06. = Hood.

- Hood 4. Beetles & larvae in thorny legume. *Rhynophora* in old deserted gallery.
- " 5. All under stones. E side mostly & near shore.
6. Thorny legume. 70 ± ft elev.

Indefat. Acad bay. Jan. 06.

Ind 17. Dug out of fallen tree composite. at beginning of heavy green zone. 450 ± feet. Beetles beginning to emerge, many pupae larvae. heard little fly during night, lower down

18 Perished. Larva or <sup>one</sup> pupa sailing from Indefat other beetle taken by King as it flew on him who was under Grosbeak tree with tomato-like fruit & glossy green leaves. right near shore

Ind 19. Dug out of ~~Kala~~ *Pyrus* vital. 350 alt. little cow + beetle 1 sp. + rabbit like sh (2) - also other small spurs. flying in morning low close to ground 250 alt.

Chatham Id. Jan. 06.

Net season, beetles numerous rain water pools full of water beetles.



James DeConto

Jan.

17. A few very minute beetles in piece of wood. (tree compartment) on summit. 2750ft. Lateid larva under old bark in damp rotten wood & under bed of few roots. from 2150 to summit. Lepidoptera larva. some found by Schoner. under bed of few roots. on compartment summit. Beetle larvae & pupae in dead wood. all in compartment (tree)

Jan 18. > No 1 & 2. up to summit. crickets plentiful under stones mostly immature. Chirp at night. rather weakly but like the caly one.   
 Carabid under roots of tree, summit

Jan 19. Cerambyx. on summit in tree compartment twig (rotten) two elongated larva under stones. ~~at~~ 2150ft. Plynosphaera larvae & pupae in damp rotten wood & in old borings in same. 2150ft. Blaphyridae from 2000ft. to summit. tree hopper near summit (Hunting coll) small cover beetles under bark also brown one. other two small but longer ones, on my person. 2250ft.

" 20 Hemiptera. 2150 to summit under fern roots on compartment. where beetles were found one elater found in rotten wood. Plynosphaera = 19.

Jan 21. Dug out of dead & fallen tree compartment. mostly in larval stage. (Jan. 2, 06) but some in pupal & some beetles. Pupal in chambers. Larvae make more or less horizontal galleries 1000 - 1500ft. ♂ from Dn defat. Jan. 06.

James Isd. contd.

Jan.

22. Larger beetles in green zone. small ones 1200 ft ± in wood.  
(compositae).

Note on Jan. 21 - From box on Jan. 21 18 pupae 10 ±  
dug out 5 pupae 3 eggs + 2 ♂♂ included in cells. mostly empty,  
rounding out larval passage, + few disrupted larva. One larva turned to  
pupa. Some time Jan 6-06 - a ♀ pupa emerged some days. Fully  
emerged beetle. when wing is quite soft. with long protruding  
body. light yellowish. dark on back + feet. over all. Anger over emergence  
white head + abdomen. legs dark brown. when left to on edge of  
head also near occiput. wings extended beyond wing covers. Beetle lays  
just a quick - on ground. some liquid. Jan - 10 small  
emerged. somewhat around noon.

Hood Isd. Jan Feb 06.  
+ Gardner.

Beetles slightly more common. perhaps. but island quite dry +  
apparently too early for Coleoptera. Grasshoppers. 2 sp. larger sh  
common up to summit. smaller ones rarer, all over.

More Coleoptera on Gardner than on Hood Isd. taken from the  
E + S sides esp. Two Cerambycids? One albatross place + E Hood  
near sand shore under timber, very small + fly easily +  
do so when disturbed. Pinned up.



James Id<sup>Cont'd</sup>

Jan 7

Boring in the trunk of Erythrina (dead) a pair of pupa found. frogs break rotten wood & get at grub. 500 ft ~~near~~ Schistocera near coast.

Jan 8.  
" 9.

Under stones, (common) 500± elev.  
Ants. common under stones. 2000± elev. Taken from two nests. white grub. larva of ichneumon. (ungless in bottle (like web pointed abdomen feeding on larva. pupa of no 1 & 2. Diaplyndra? under bark of tree component. 2000 elev. ± little round beetles. In tree component under bark: in wood. also single brown one. melleids not rare on erigeron? 2000ft. also single little round beetle (brownish with spots).

" 10

pupae of no 1. piece of shelf fungus on tree, 2000ft elev with beetles. only one infested one seen. Several taken next time Jan-06.

" 11

Crescent shaped larva out of Xylocopa nest in wood, coleoptera larva & pupae of no 3 in tree component, eating under bark. also wire worms (2) bk beetles under stones. 2000ft ± elev ichneumon in boring of no 1 or 2. Geoponobota larva (3) seen under bark of erythrina.

" 12

taken from (erigeron?) low alt. old branches

" 13

Termite & curculionid on board. ~~plate~~ bipunctid? larva in erigeron smallest beetles. active under bark of erythrina 500 ft ± erigeron brown ones in borings of same. stone 300 ft alt. 3d in stage with protruding wings under

" 14

Very common in erigeron. making much sand dust. larva & pupae also in erigeron.

" 15

Shelf fungus. (7) several infested ones seen. growing on prostrate tree component high alt. 2000±

" 16

Lower stem. under fern roots on tree trunks. 2150 ft. lower. in holes in rotten wood 1200± elev.

Duncan Id.

- Jun-1 At camp (800±) fed. later at fireside, *Plyrochroa*
- " under bark of dead croton: bush
- " 2 Dark ant. (4 casts) common under stones, branches etc.
- " 3 light form. small colony. in dead branches on trees. Beetles under stones
- 3. Beetles very common on summit (1270) under moss fern roots etc. Hemiptera rather rare leaf stems common. scorpions fairly common
- 4. Pupae at base of <sup>(stem)</sup> croton bush, to a bush lower in croton. Cecanlycid & *Leptostid* (dead) in croton. other beetle on my person.

Jervis Id.

- Jan. 1. Apparently a little early for this species, a few larvae a pupa or two & the imago found in the dead branches of croton - they are not found at base of bush as in following
- Jan. 2. Taken by splitting up croton stems. where fine sawdust showed on the ground directly beneath. showed evidence of coleoptera rather early for these alod. larvae & pupae more plentiful than adult. & almost always found at base of main stem & even at beginning of roots. Holes showed where the imago had emerged. Usually only one grown larva to a bush. Fairly common

James. Id.

201 ~~June~~

Rather early for spores. Sciticea rare, up to summit  
& into farther. Fine beetle collecting, especially in  
old wood. Sciticea more common on new lava fields on  
S side. Xylasa seen to summit. In Hunter found <sup>two</sup> sp  
of orthoptera Katydid sp & beetle no 1, one each in  
stomach of a lamb owl.

Indefatigable Id. (Academy bay). Nov-05.

- Ind. 6 Common in rotten logs. green zone. none in pupal stage
- " 7 katydid. in rotten wood. carpenter bee. pupae in log.
- " 8 on beach.
- " 8 Curculionid. under dead tortoise 300ft. two larvae. in rotten wood.
- " 9 green zone. 700ft. broken beetle in dying limb.
- " 9 Largest beetle in bottle found in orchid. 300ft. 2nd stage.
- " 10 (blk) common on coral. under stones. small beetle. 500ft alt. some flying some in a lemon. used by me
- " 10 Academy bay. Nov-05. 50ft + alt. under stones.
- " 11 Under cacti. stones etc S W Seymour Id
- " 11 " " " " " " " " " " " "
- " 12 N Indef. mantis 500ft elev. elata at light. 800ft. small
- " 1 elata like beetle & tiny brown beetle on my person 300ft. two others in dead twigs = oval beetle & little blk beetle.
- " 13 " " Ants under & in log. small elata in twig. other beetle in red ant nest. red ants in bottle, all on sandy shore. red ants have uncovered pupae.
- " 14 Scorpions at light near beach, pale brown two spotted sp. on sandy beach running rapidly & burrowing in sand when disturbed = S Seymour
- " 15 S Seymour under stones cacti. diptera pupae in rotten cactus.
- " 16: Daphnia Id. Scorpions plentiful under stones etc. in crater. also larger beetle. smaller beetle in large numbers under stones on sides. (S side island) of island also under cacti. & apparently always near cacti.

20  
Iapline Id.

Coleoptera 2 sp. very abundant. *Schistocerca* fairly common on sides

Duncan Id. Dec-05.

Too early for most things. No 3. (beetles) hiding in bunches or one or two. under fern roots & soil on rocky summit. rather swift. No 4. pupae. rather common only in dead croton. produces slate colored cyanid. with golden spots. Found the remains of a small metallic tubercle in croton bush near shore. *Schistocerca* common especially higher up in valley & on summit, copulating & flying singly against wind.

Jervis Id. Dec-05.

I lost my bottle of beetles onboard, small ground blk beetle under stones. Larger one found on all islands, here also. *Schistocerca* rare & hard to capture.



Daphne Id.

A cocoon resembling that of *M. Lupini* of US (cal) fairly common on trees bearing lichens but pupa hatched no 6. cocoons common but old. ~~Wentus~~

Juncan Id.

Dec-05

Spms taken at night a sphinx seen + two empty *Justohare* pupa also numerous pupa of noctuids (empty.) No 6 - here + there during day. a few dead + two live pupa of same. *Lupini* like cocoon (empty) common + excrement of larva on lichen which are very abundant. *Lycena* rare = no (1) remains of no 3. seen on summit. A few micros. too early for *Lepidoptera*.

Jervis Id.

Hatched no 6. pupas common; one noctuid seen which could not be caught. different from any others seen.

James Id.

At high alt. a few skippers seen. yellow butterfly extends from shore to nearly top, brown butterfly also. *Lycena* a few higher up. <sup>2712</sup> *Uelone* found a pupa under fern roots + one under stone (1000). No. 4. catocalop. not rare hiding in clumps of fresh lichen on S side. Observed jun. 3 as we were coming down lichen fields.



Ab. 6. *[Faint handwritten notes]*

Ab 5. Mostly at light on sand. beach very common  
A mass escaped out of sand

Oct 3-5-16  
material under seen

McInnes is a white-headed like  
a new pale brown mottled nestling.  
I think it is a *McInnes* bird, very  
small.

A tachnid? flew aboard  
today Oct 13. 06.

= Lat  $15^{\circ} 36' N$ .

Long  $110^{\circ} 12' W$

McInnes.

McInnes - *McInnes*

Winnemucca Id. ?

✓ N.H.V. ? plateau of Id. 2000 ft. of mica & tin  
seen. Halwens, taken under stones, some in copula  
in a limited space.

(reddish) *Culex* ... *big centipeds*  
dermal plates / larval cells  
seen

Hydrometridae - seen when  
beached. S of Canon scattered about. Oct  
10, 9, 8, 7, 6, 5 etc. *Xylocopa* seen ♀ 1 sp. flew  
out of hole Oct 9th from wood from Chatham  
Big *Uranys* emerged about 7th Oct. from  
Chatham wood



Oct 06. *Quercus*

Micros from pods of *Trossaria* emerged Oct. 8-9 etc  
a little earlier. Stage dark sh. from pods & always  
& some smaller ones in stage lot of therefore may  
have come from earlier leaf. First ones emerged  
soft signs. Mordellid Oct. also early but  
about played out now Oct 11 - some of small-  
ler species in copula. Take readily to flight.

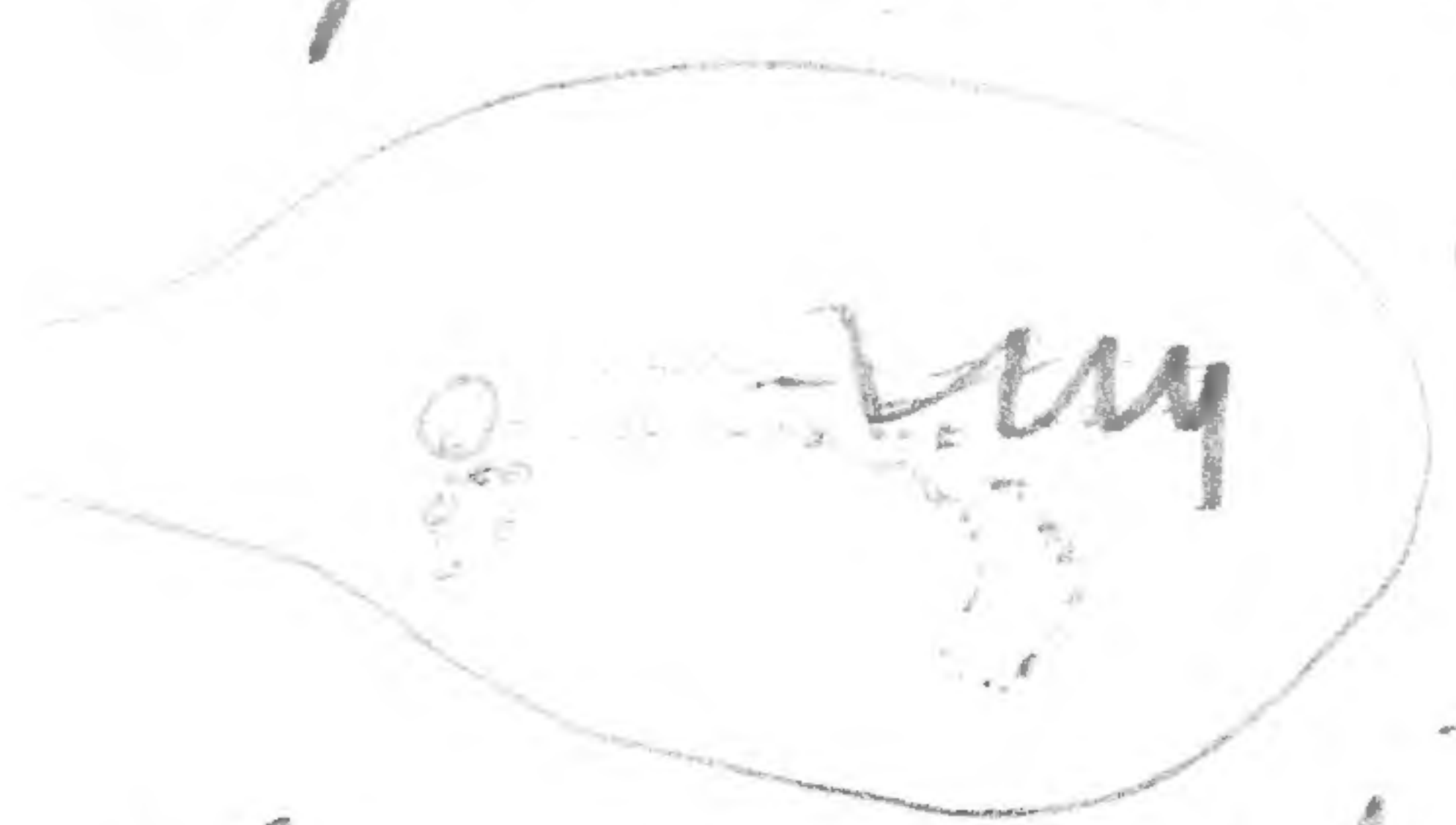
Hydrophilid as observed during calms  
Oct. 11-12 - Small low T as never seen to catch  
them & know them (not altogether sure of this.)

*Quercus*

Lepidoptera etc contd

S. S. Seymour, July 6

Schistocerca mature & quite common esp on big lava piles. Sphingonotus fairly common saddy spots etc. (Catocala <sup>ditocata</sup> common sp) seen here & there, also a few micra, one larva feeding on rotting cacti. On E side of Id' exposed to strong SE. trades, two sepiaria <sup>peasum</sup> larvae were taken from antepenultimate branches & also lower <sup>leaf</sup> of Opuntia.



Much searching only revealed two found by seeing the excrement at head of these pe burrows. round smaller opening than inside gallery, gallery in middle of leaf, lined neatly with fine silk, a few inches long. larvae at bottom. put one in alcohol & the larger one in a branch of cactus -

NE James. July, Aug 6th

Cactin <sup>larva</sup> like larval family plentiful in Opuntia near shore. full grown also 1/3 grown several old cocoons & cocoons with long inside tubes. branches & on back to like conchoidal flap pin & protective. Fry, in productive on this side. a few larvae, yellow, reds, blues seen light at a noctuid a two, nothing at light near shore. Schistocerca up 700 ft. & rather sparse Halmatus <sup>Sphingonotus</sup> rare & near shore Am rearing cactus larvae above in cactus. cocoon taken above. cut open & pupa put in alcohol. Cactus leaves & branches in big lot.

of Sullivan's Bay.

1 Lina cactos bore - Spin cocoon Aug 7<sup>th</sup> in box let leaf + wood.

James Bay. Aug 6.

Lycenadid common, rather old - flying about their food plant - a vine (growing esp on lower level). hatched eggs a. leaves. common. Red butterflies fairly plentiful food plant common, yellows a few new, old seen also Eudamias, Asclepiadae (gray splint food plant) very common, Xylocopidae - ~~to~~ plentiful about seaward high up also in lichen branches - found together. (a couple of grown larvae) (1 pupa, 1 nest of larvae) (+ 1 maggot, 1 nest of eggs). In old rotten Erythraea a ~~part~~ hymenoptera in larval state. In brown cocoon, remains of flies hatched flies same in sack - together in many places -

Cowley Mt.

Yellows rather sparse, old green zone to 400 ft so. a few seen fluttering about legume fruit plant. Eudamias 2000 ft, sparse of fair count. have a habit of alighting ~~in shade~~ of under a or side of lichen etc. Lycena green zone a mid to 400 ft. Peds appear to be ~~large~~ looking and to about 2000 - 1800 ft. a little lower. S. cincta common plentiful in grassy district 1800 - less abundant lower. 1400 ft. green zone not thick in and districts low down to sea common in places esp. flying seen on brush to escape strong breeze. Spilgnathus common 1100 ft a pair to ~~see~~ a little by bay very common for there is where the mounds common in green zone 2100 ft. 1800 ft a few later 2000 ft a couple taken but none below 1800 ft.



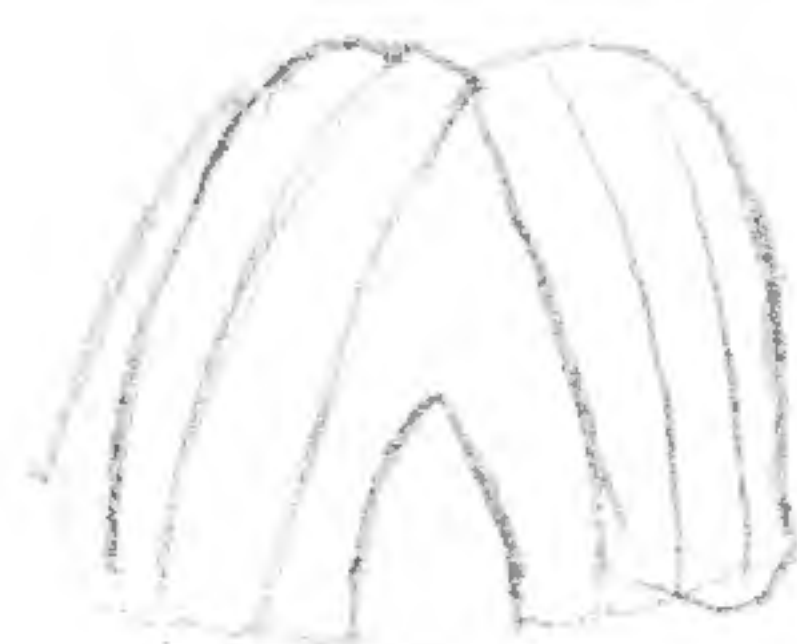
Colours not particularly fit

Poison tree sphinx larva. colours (taken from memory). somewhat emerald green. purple spot/light

Small grey sphinx. dark Paris green.

Thyrens = pale Paris green.

Paris gr  
 apple gr  
 olive gr with brown



Length (at rest)  $2\frac{3}{8}$  in

Restra 3.

stout curved horn.  
 Much purple on larva. oblique stripes

