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John B. Henderson Jr.

Field Notes, collecting
in Cuba.

As of almost every species other than the very few ones are inhibited by limit knobs, with which this region fails. Swarms. The Ampullaria apparently, occurs in limited numbers wherever there is fresh water but are abundant on the vegetation in the Cienega proper. They live concealed from light and are preyed upon by the water fowl according to the report of natives. Shells of Ampullaria are met almost anywhere traversed by brooks, - down on the shore of the bay.

Helicina — Sparingly on dead palm leaves near the salt water but dead spec. were taken a mile inland in cleared patches in woods.

Polygyra paludosa on wet ground along edge of Cienega.

Ancylus and Anniolids were taken on dead leaves + pieces of palms lying in Cienega.

A very few dead spec. of *Cep. multistriata* taken under stones in cleared spaces in woods. *C. cubensis* or an allied sp.

were found dead sparingly in some very open woods near edge of Cienega.

This country is peopled by a large population of the very small land snails. In places where the water is shallow and the shells are abundant - often deep pools of water with the surface covered with shells. The shells are small and very numerous on the surface. They are very numerous on the surface of the water. They are very numerous on the surface of the water. They are very numerous on the surface of the water.

Further exploration developed two operculat especially the large one about 1/2 mile from shore, under stones in the heavy forest. These were taken alive. The smaller operculat & an opisthospherum were taken alive near the shore under stones, slabs of weathered limestone & particularly in the ^{1000 ft. high} dirt under the stones.

The Urocoptis was taken dead (a very few live spec.) under stones & in the

debris & humus along side of paths in woods.

The Thysanoptera were taken same station as Crocoptis & generally ^{occur} wherever other ground snails are found.

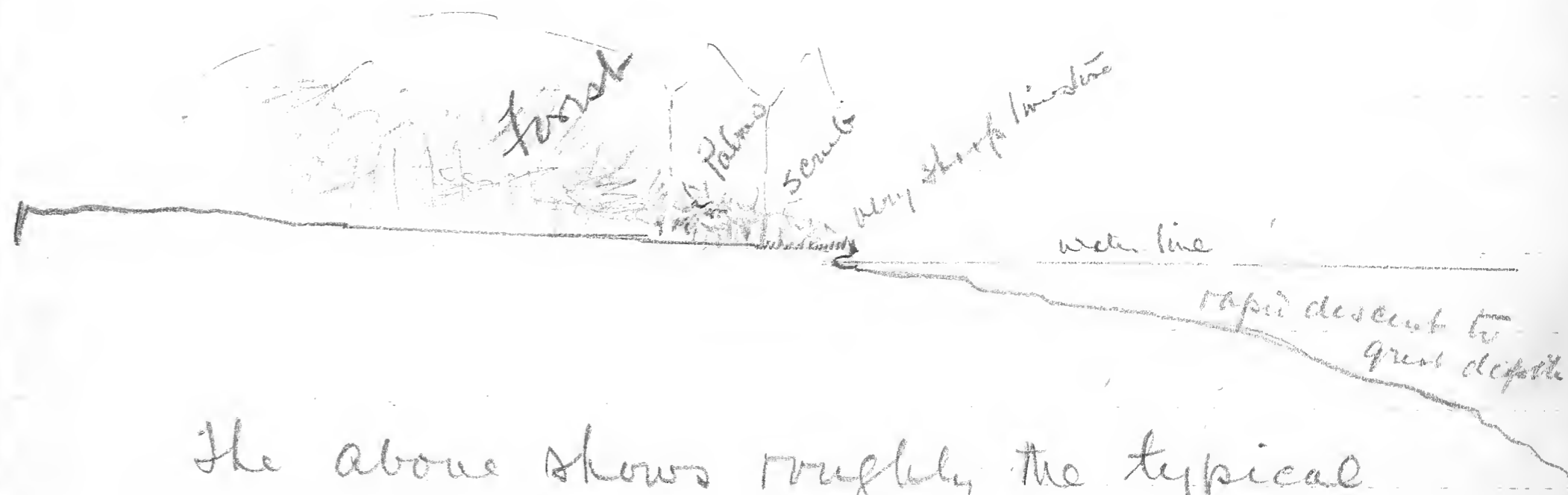
A few fragments of figs found near shore.

A more careful search among the palms (*Thyaca parviflora*) for *Epotis superstita* has netted us a very large series varying in size, height of spine, & color. They seem to occur in zones along the shore being far more abundant along 50 or 100 feet of shore line & then practically disappearing for $\frac{1}{4}$ mile or so although the growth of palms continues along apparently the same. The leaves most frequented are those longest dead & most folded. Occasionally spcs. were taken on tree trunks, under bark etc & evidences of them are found in the deep woods when there are no palms at all.

In places along the shore the *Crion*

were found in great abundance, clinging to stones, tree trunks, leaves, & on the ground.

A visit to the shore across the Bay directly opposite developed no land shells whatever. The character of the coast there is very different - from here being sandy, shallow. The swamp comes to the beach & vegetation is sparse & scrubby. Such a pest of mosquitoes any very thorough work was impossible.



The above shows roughly the typical elevation and types of tree growth at Rosario.

The wonderful clearness of the water is very striking - probably 60 feet bottom may be seen - corals, sea fans, Neptune cups & white sand -

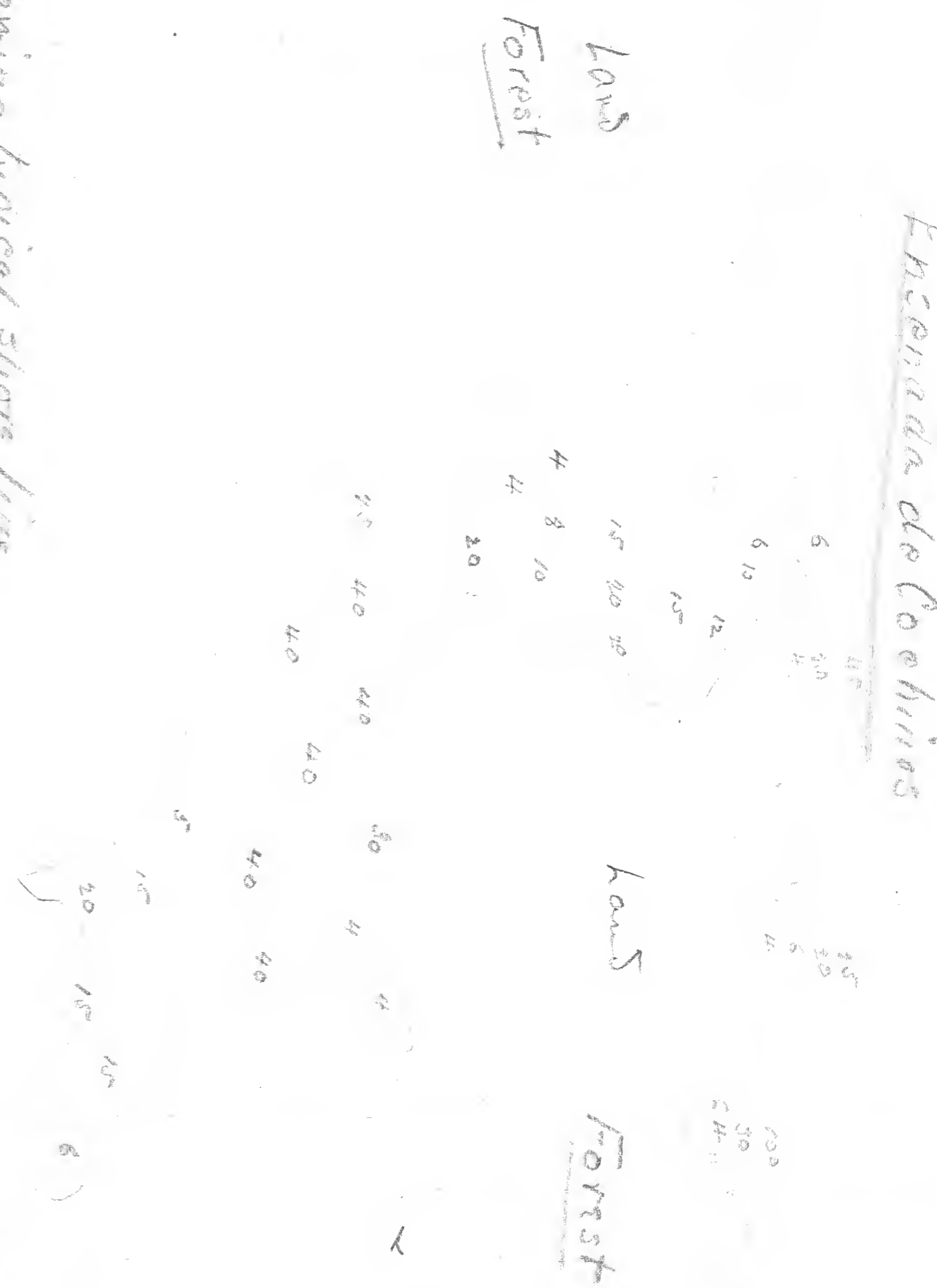
Above tide on the sharp rock occurs

Several marine mollusks, notably Verita peloronta + tessellata + versicolor Sitarina tessellata. Tectarius nodulosa (5) is abundant on tree trunks along with Crion. Tectarius muricatus also abundant same station as last but not so high on trees. Kretina pupa (very dark form) in patches on rocks. Fissurella barbadensis + several Acantha are fairly abundant about high tide mark also the large Chiton. A number of marine species - Columbellas, Cricidia, Comus etc are found sparingly in cavities of rock below high tide.

Dredging off this shore is rendered impossible by the corals. Many very desirable marine species are brought up in a more or less broken condition by hermit crabs. Showing their probable presence not far off if a dredge could only be used.

Tide pools further down the bay showed up in some quantity Sivona pica, Leucogona leucogona, Comus mus, Purpura patula, Kretina pupa large +

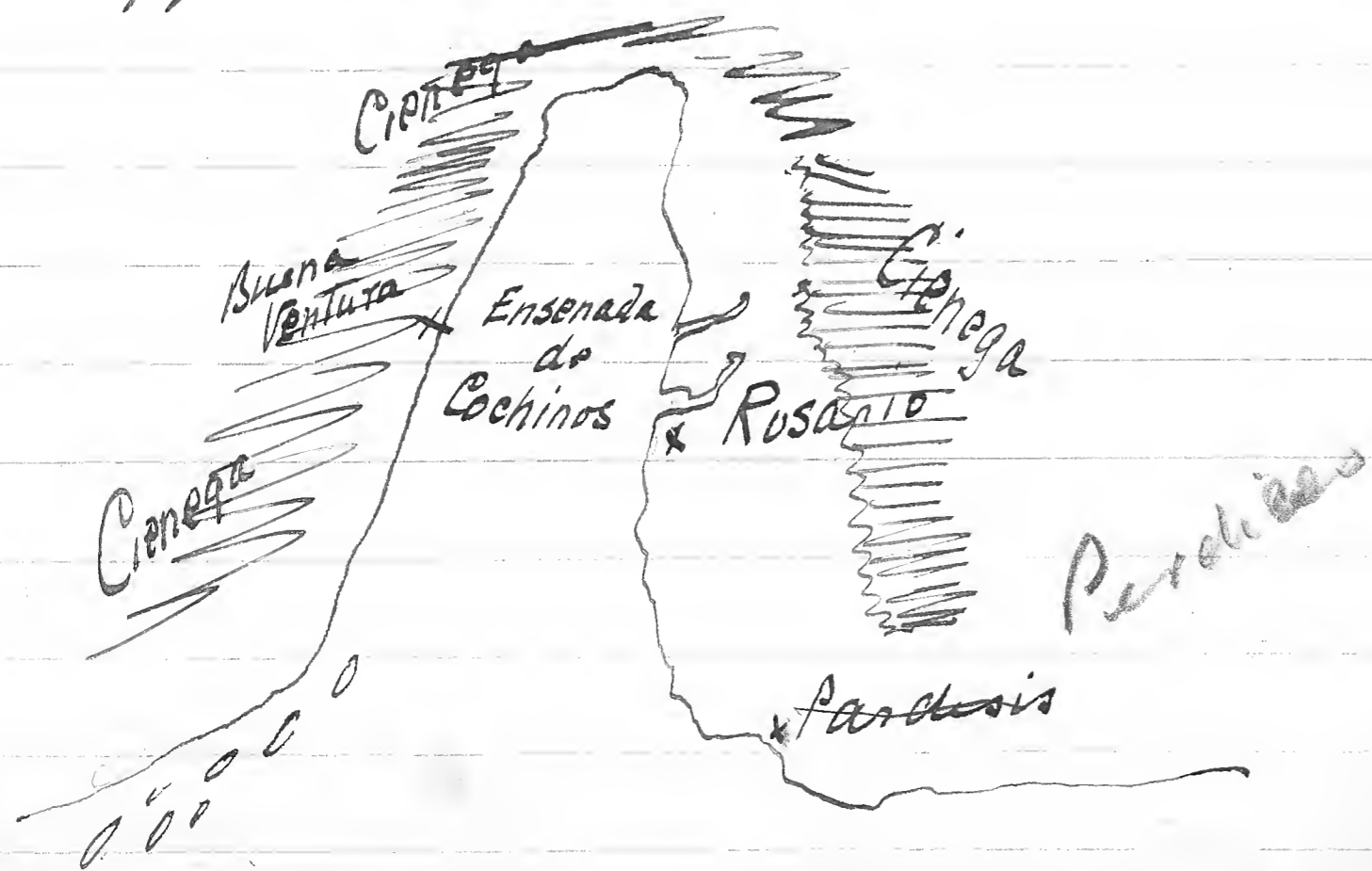
Showing typical shore line + a Caleta or River in Basara neighborhood. The first - not from actual example.



The shore line bears for 10 to 20 feet is excessively sharp "honey-comb" limestone with no soil + beneath with frequent pot holes + under ground rivers. Base of this is a fringe of ^{generally} stools + palms more or less dense + ^{young} thick with thorny shrubs. This is probably 100 feet wide + merges into the forest.

typical in color, Litorina mespilum, (in great quantities) Mytilus dominicensis, Columbella mercatoria, - Litorina tessellata.

At Paradise 7 miles S. from Rosario no land shells were found alive except Cerion iostoma. The very few dead shells taken were of the same species as found here. Beginning at about Paradise, the shore is more bold, the elevation of 10 to 15 feet, found here only a distance back then comes to the shore, forming a cliff theoretically, but in effect so much eaten into by the sea it presents much the same appearance as here.



List of Rosario species: -

- Chou. dentatum,
- " caudeanum (so called) = caranense P. + H.
- " wilsoni (large sp.)
- Ct. decagatum, clathratum Jtd. (see some notes)
- Thysan. boottiana (or vortesi) Thysan debilis Myn.
- Cepolis cubensis v. pinnicillata
- " supertexta
- " multistriata
- Pleuro. auricomma
- Poly. paludosa
- Helicina adspersa
- " rugosa
- " globulosa
- Alcedia minima
- Diastina albaea, straminea
- Urosopsis pauciana
- Sphaerium cubensis
- Anasus
- Ampullaria conica,
- Cerion iostomum

- Vinales - Uro. Vinalensis
- Paso Real - " nubila
- S. de Guama - " caeruleans
- Portales - " discors
- Teneria - " incerta (possibly discors - paradoxa)
- Guama - Entro. subunguiculata
- " " remota
- " " jugulata
- Paso Real - chrysochasma
- Vinales - Entro. regina
- " Hel. Sagraiana
- Sierra de Guama - Chou. Shuttleworthi
- " Sagobieni
- ct. bilabiatum
- Cepolis parallela (Typical)
- Helicina jugulata
- " elongata
- " remota
- " Sagraiana
- Uro. Caeruleans
- Megal. mani

Notes from Pilobry's Cuban shells.

Alcadia nitida, Pfr. - Yumuri Valley.

" rotundata - La Salud, S. of Havana.

2. (Similar to last but more rotund, last whorl being large & globose)

Alcadia hispida - (Typ. from Trinidad & Ainfiogos)

A. hispida var. quadrata Pfr. - Havana & Matanzas.

3. (Quite similar to nitida but a bit smaller and hispid)

See Bull. Geol. Soc. America - VI, 103.

VII, 67 (1896)

The Havana form of nitida has been called glabra

Soledad Plantation 20 miles S.E. of Cienfuegos.

First Visit - Simpson, Wilcox + J. B. H.

Helix auferi (so called)

Pseudobalaea perversa.

Cten. immersum (new) *Lorrelia (Lorrelia) simpsoni* H. H.

Thysan. boothiana.

Oleacina orysacea

Thysan. saxicola (or boothiana)

Uro. variegata

Cten. torquata

"Thysan" debilis Pfr.

Locality - Small home on side of track from river landing to Central and about 3/4 mile from Central.

Soledad Plantation 2nd Visit - Feby 1915.

Simpson, Wilcox + J. B. H.

Locality 1st Same as last visit

2nd Two hills E. of Central about 2 + 2 1/2 miles. (beyond botanical experimental station.)

Cepolis "auferi"

" poeyi

" bouplandi

Pl. trinitaria

Thysan. suavis

" boothiana

" selenina

Uro. n. sp. (near livida Torre)

Uro. cienfuegosensis Pils

~~Pseudobalaea perversa~~

Opisthos. torquata Gut.

" simpsoni Torre

"

Oleacina orysacea

" o. straminea Desh

"

Emoda

Lucidella rugosa Pfr.

Alcaldia

Helicina

Pichardiella m. cienfuegosensis Pils

Obeliscus homologus Sk P. + var.

Chondropoma violaceum Pfr. var. atkinsi Hen.

Liquus fasc. (dead)

Eutrech. petrosa Pfr.

Megalomas.

Guppya quadtachia

Macrocerin.

Thysan. n. sp. (suavis group)

Cryptalasmus canteroiana (C.) Pfr.

Guppya (n. sp. 2)

Soledad Plantation (E. of Cienfuegos) Sta Clara
Fence on N. side of Caretera just
before reaching Cumanayagua

Feb 1915 - Simpson, Wilcox, J. B. H.

Chondropoma delatreanum (G.) Pfr.

The smoother var. - small - less convex whorls

Eutrochatella petrosa Pfr.

Cryptasmus canteroiana (G.) Pfr.

Oleacina o. straminea Desh.

Uro. cienfuegosensis Pils

The following are the species we collected at
Cuba Mocha, El Palenque & El Pan de Matanzas
as determined by Torre. Mocha is 10 miles
W. of Matanzas & the Palenque & Pan are 6 miles
N. of Mocha.

Megalomastoma apertum Poey. Mocha, Palen.

Chou. pictum " "

" " v. *major* " "

" *dentatum* Say " "

" *iradians* Shuttl. " "

Ct. rugulosum Pfr. " "

" " v. *nodulatum* Poey " "

Helicina submarginata Gray " "

" *adspersa* Pfr. " "

" *nitida* Pfr. " "

" *conica* Pfr. " "

Alcadia hispida Pfr. " "

" *minima* Orb. " "

Eutrochatella sloanei Shuttl " "

" *rupestris* El Pan

Helix auricoma Fer " "

" *bourlandi* Lam " "

" *cubensis* Pfr. " "

	<u>Mocha</u>	<u>Palenque</u>
<i>Albizia stigmatica</i> Pfr.		
" <i>debilis</i> Pfr.	"	"
" <i>multistriata</i> Desh.	"	"
" <i>verticillata</i> Pfr.	"	"
<i>Ligustrum fasciculatum</i> Mill.	"	"
<i>Macroceramus palenquensis</i> , Gaud.		"
<i>Uroecopis searva</i> Gaud.	"	
" <i>fortis</i> "	"	
" <i>modesta</i> Poej.		"
" <i>gracillima</i> Poej.	"	
" <i>fumosa</i>	<u>El Pau</u>	"
" <i>rugeli</i> Shuttle (?)	"	"
<i>Glandina oleacea</i> Fer.	<u>Mocha</u>	"
" <i>solidula</i> Pfr.	"	"
" <i>subulata</i> Pfr.	"	"

we failed to get on the Palenque Chou. presaziana, which much resembles Ch. irradians except in sculpture, but this sp. only occurs on the north side of the mountain, which Torre & I failed to reach after a long & very tiresome ride horseback.

The Pau & Palenque are two mountains of about 1000 feet of much weathered coral limestone & densely grown over in jungle.

The fine Uroecop. gracillima occurs on an old stone fence near the station of Mocha (W. 1/8 mile & N. side of track)

Reported from Guajaiton + Azuarc (Cross L.)

<u>Guajaiton</u>		<u>Azuarc</u>
	<i>Q. oleacea</i>	✓
	" <i>ottonis</i>	✓
✓	" <i>sicilis</i>	
	" <i>incisa</i>	✓
	<i>Strep. urbana</i>	✓
	<i>H. sublusculenta</i>	✓
	" <i>parviana</i>	✓
	" <i>granensis</i>	✓
✓	" <i>naugabiana</i>	
✓	" <i>sagraiana</i>	
✓	" <i>nuripila</i> (Thyren)	
✓	<i>Macroc. latus</i>	
✓	" <i>maculatus</i>	
✓	" <i>elegans</i>	✓
✓	" <i>paucis</i>	
✓	<i>Mocop. torquata</i>	
	" <i>innoxia</i>	✓
✓	" <i>eremulata</i>	
✓	" <i>vineta</i>	
	" <i>arustriata</i>	✓
✓	" <i>soluta</i>	
✓	" <i>presasiana</i>	

Guajabon

Azucar

- ✓ *Mocops. volubilis*
- ✓ " *brunnescens*
- ✓ " *blainiana*
- ✓ *Stenos. gundlachi* ✓
- ✓ *Megalomas. procer*
- " *mani* ✓
- ✓ *Choan. majusculum*
- ✓ " *pretrei*
- " *blaini* ✓
- ✓ *Chondro. latilobus*
- " *efregium* ✓
- ✓ " *curvuliculata*
- ✓ " *assimile*
- " *shuttleworthi* ✓
- ✓ " *sericatum*
- ✓ " *exicium*
- ✓ *Euloo. regina*
- " *subunguiculata* ✓
- ✓ *Helicina sagaxiana* ✓
- ✓ " *juvenda*
- ✓ " *elongata*
- " *rotunda* ✓
- " *remota* ✓
- " *wrighti* ✓

Guajabon

- ✓ *Helicina nodae* ✓
- ✓ " *juvenda* ✓
- ✓ " *subunguiculata*
- Aleadia minima* ✓

The above 50 sp. are specimens reported from these two localities by Cusse.

Soma de Tapaste -

U. planospira or (S) araugiana (S)
 listula juncos
 Chen. pictum

San Jose de las Lajas

U. humboldiana or ovelliana -
 (= Van perofficus Pils)

At Coca near Guines -

U. humboldiana - Strangulata
 " planospira
 " gracillima
 Eubrotella rupestris + Swainson
 Chen. pfefferianum.
 Helix cubensis paucicellata

Canoa - on water. U. philippiana, U. aculeata

Ganga -

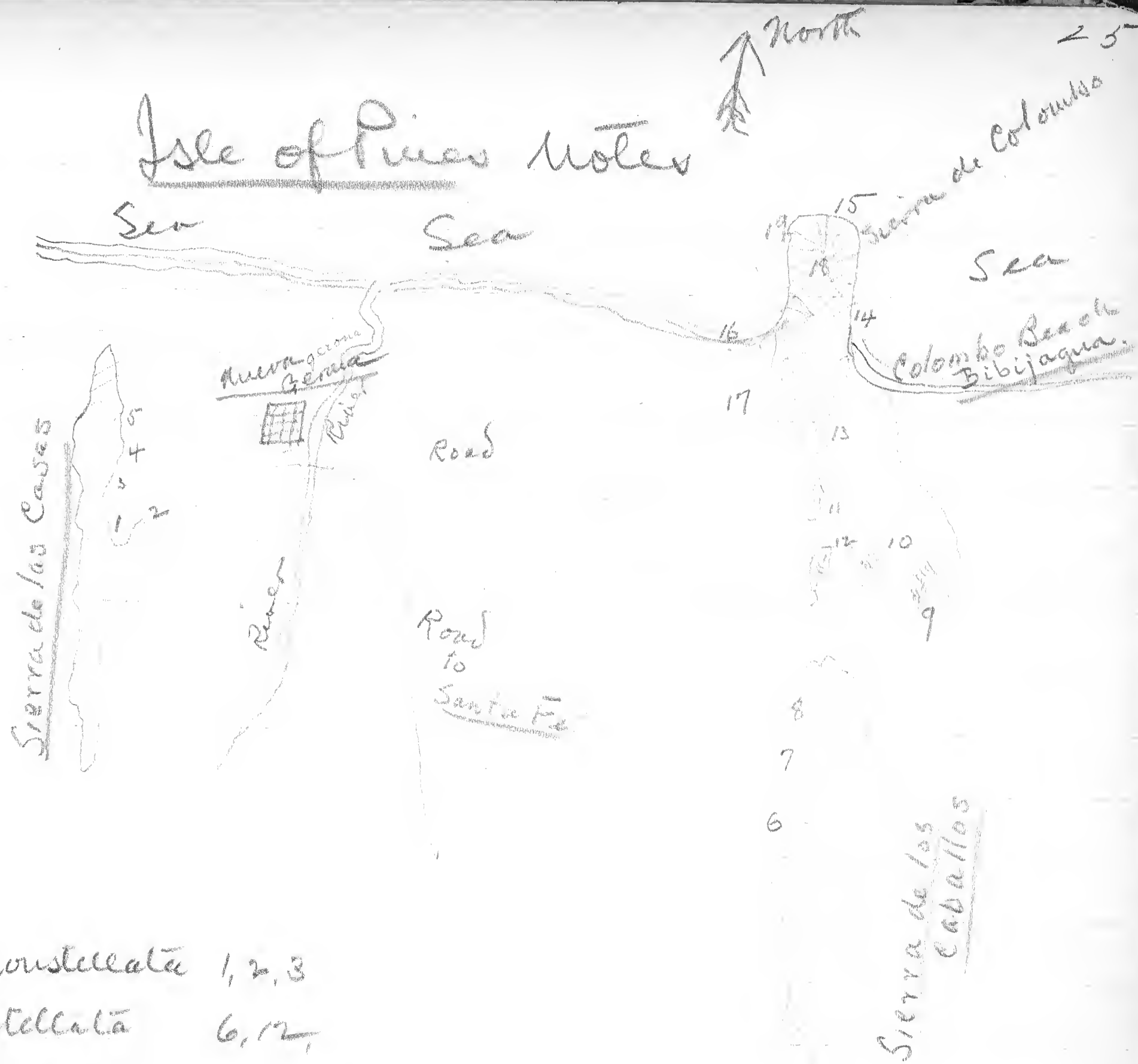
Chen. pfefferiana (Small Var)

Isla of Pines Species

- Megal. procer + Vars ✓
- Chon. dissolutum (like pictum) ✓
- " senicarium (S. part of Isl.) ✓
- Ct. denegatum ✓
- " rugulosum } prob. idem. ✓
- Tudora pupoides (Casas) ✓
- " moaletiana (Casas) ✓
- Eutrocha. Constellata (Casas) ✓
- " stellata (Caballo) ✓
- " callosa (both mts) ✓
- " lutescapicata (both mts) ✓
- Helicina scopulorum (like sloani) ✓
- " elongata ✓
- " adspersa (both mts.) ✓
- Uro. pruinosa (both mts) ✓
- Pieneria teretra ✓
- " beathiana ✓
- Oleacina follicularis ✓
- " oleacea straminea ✓
- " solidula ✓
- " subulata ✓
- Sten. stricta ✓
- Glandinella pomiana ✓
- Lerion pineria Dale ✓
- Proserpina globulosa ✓

- Cepolis pityoussica ✓
- Thaiphia boathiana ✓
- Cepolis cones. ✓
- Pleuro. auricoma. ✓
- Siguus fasciatus ✓
- Ancytus radiatulus ✓
- Planorbis lucidus ✓
- Simnea cubensis ✓
- Hydrobia ✓
- Polygona paludosa ✓
- Ampullaria ✓

Isla of Pines Notes



- Eu. Constellata 1, 2, 3
- " stellata 6, 12,
- Pieneria beathiana 14, 15
- " teretra 15 (only)
- Chon. dissolutum - 19 -
- Tudora pupoides 6, 7, 8, 9, 10, 12
- Megal. procer 11 + 18 are especially good
- Fresh water things + Polygona in old corduroy road, 17
- Ampullaria teres - 16 - just back of beach

(over)

Cerion pinceria probably on S. coast + at Cabo Francisco in West. also Chon. semicanum.

Up river from Nevoa Cerona about 5 miles are said to be rapids, stones, falls etc. probably good for f.w.

Eu. constellata in dry weather live in deep crevices of rock + not easily seen - live in colonies - Best loc. is No. 1 on map.

Eu. stellata same but less abundant - on Cubana + Ital system only - not on Casas.

In Cayman on Colombo Mt. Eu. constellata was observed!

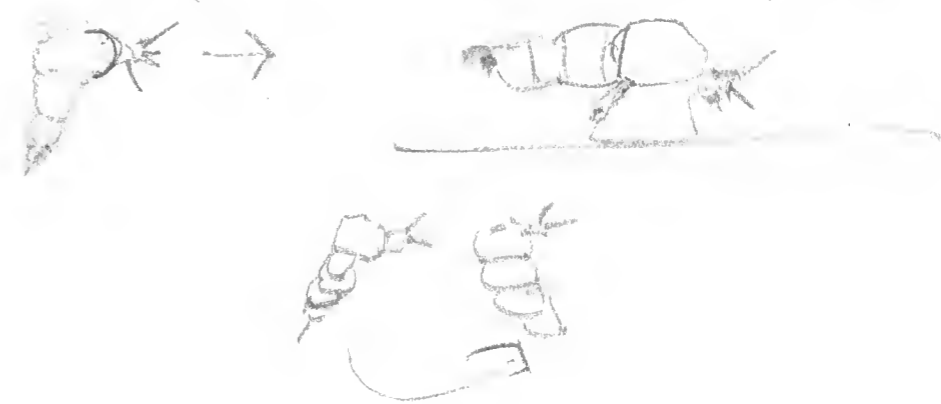
To be visited from Sos Indios the Cañada Mts + San Jose. also Western Cape (Frances) for Cerion + Morslet's Chon. semicanum (probably) Daguilla Mt. near Santa Fe is ancient rock + presumably poor collecting. None of these locs. have been explored.

Tome visited Cañada Mts in 1913 + reports nothing there. Morslet's Ch. semicanum is a spurious species

Moles on live animals. l. of P.

Tudora pupoides

Foot very short - Tentacles all white
Animal crawls sideways as to longitude of shell + progresses by lifting shell over every foot length of progress



Chon. dissolution - white tentacles, foot short. drag shell just in opposite way from last

Aut. scopulorum has the long vibrating tentacles like Eu. constellata.

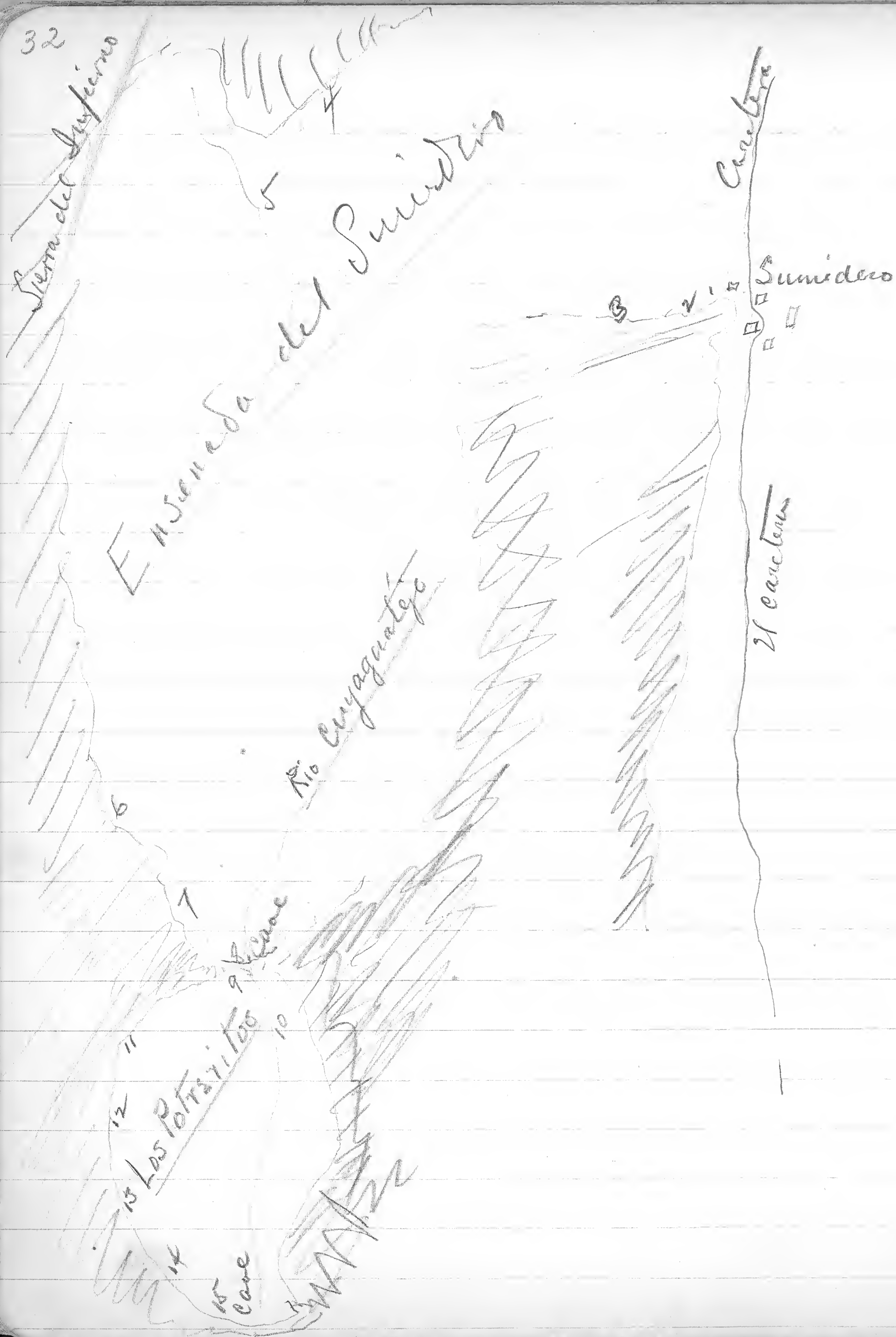
See paper in Congress of Phila.
He gives in Phila.

Em. luteo apicaria + Callispa not in
Emethonidae.

Heliccia mestrei, An. from Mogote del
Cerro de Cabras has long, quickly moving
 tentacles the eye being at outer base -
 The mouth is protracted and slit longitudinally
 along thus giving two lips, a right &
 left - when feeding these lips open &
 close in a very peculiar motion - while
 crawling the black slender tentacles &
 kept in rapid motion, whipping the air

Notes on Smuidero + Suis Lago trip.

Left Havana Sunday 7 am. (April 17/09) for Pinar del Rio. Hotel Ricardo at noon and coach (at \$10 per diem) for Smuidero. The first range of mountains are met at Rebeldes a locality given in error by Amigo, the actual place of his last trip being just over the Range (Ancient Rocks) at a few Magolos called Magolos del Cerro. We stopped there for a few minutes only reversing same for return journey. The Ancient Ranges crossed we see the Sierra de los Organos beyond + descend into the Valley of Isabel Urrutia. Thence to Culebras + Smuidero, reaching the latter place about 6³⁰. This road is the new caroten being built from Pinar del Rio to Guano (about 40 miles). Smuidero being about 1/2 way - stopped at house of pharmacist. Collected next day at Smuidero + Resoldiero. Following day we drove to Suis Lago + San Carlos - next back to Pinar stopping at the Magolos del Cerro.



at Sumidero points collected marked in numbers. 4 and 5 Simpson only.

Chon. macrasoma - *Helicina populata*
 Intro. Subung.
Helicina sp. (*macrasoma*, *Turner*) U.S.

Luis Lazo - + San Carlos Valley.



Chon. crassum (Torr. & Walp.) at 2 ✓

no *Sidaea percrassum* found -

I believe will be at 50 (about 2000')

Mozotes del Cerro de Calvas.

Choan. Tryoni

Choan. haulii + var.

Cyl. hidalgoi

" jugulata ~~bricconii~~

Urb. ~~superba~~ mestrei

" cisnerosi

Jean. wrighti (possibly)

These Mozotes are limestone islands in the range of ancient rock.

Isabel Maria collected

Cyl. violacea

Hel. Sagraiana

" jugulata (red mouth)

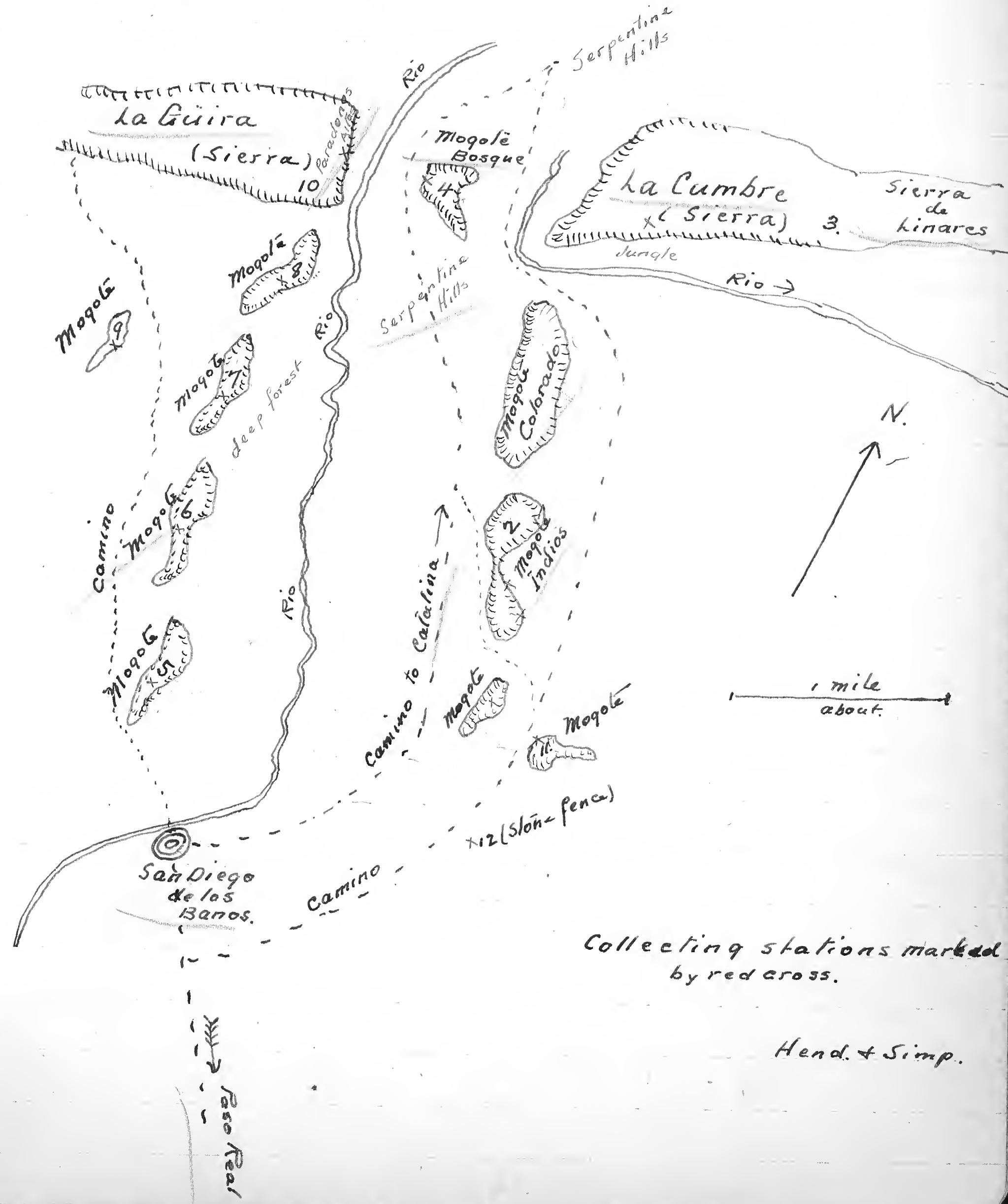
Choan. incrassatum

Choan. blaini

Alcedia

Hel. montana (?)

San Diego de los Baños Trip Nov. 1913.



Collecting stations marked by red cross.

Hend. + Simp.

Mogote de los Indios (#2)

Chon. sordidum - possibly C. blaini. Comp.

Uro. guirensis but larger + closer striae.

Uro. integra. Requires careful study.

Uro. — n.sp.(?) - Resembles volubilis +

saxosa

comp. crystallina difficultuosa.

distineta fraterna.

Microc. elegans - Probably.

Melaniella gracillima (?)

———— Torre wishes large sp.

La Cumbre (and Bosque #4)

Chon. foveatum var.

Strep. episcopalis

O. ottonis - Comp. sicilis and incisa

Melan. acuticostata Orb.

Uro. irrorata

U. guirensis

Hyobasis angustatus

Alcobia minima

Eul. regina

Megal. mani

Chon. shuttleworthi - Some spec. approach
Ch. incrassatum.

Cepolis parraiana var.

Thysan. stigmatica

Pl. rangeliana

Lig. fasciatus.

Mogote del Bosque (#4)

Chon. shuttleworthi var. minor

Chon. latilabre ♂, v. minor Transition to
C. sagebiené but distinct
from both.

Euro. blandiana (= E. acuminata blandiana)

Mogotes 7 and 8 (near La Guira)

Uro. guirensis

Uro. — n.sp. look for this among last
Has much finer striae, less
whorls - Has 3 lam. on axis
but dif. disposed

Uro. integra.

Melan. cubaniana Orb.

Chon. sauvallei (S) Very large fr. Sauvallei - See above
 (much like dent & blaini.)

Megal. mani

Chon. shuttleworthi

Cep. parraiana

Eutr. regina

#7. Uro. irrorata

Uro. — n. sp. Very difficult. Resemble
notata & brunnescens but
 dif. axis.

Oleacina incisa (S)

Chon. latilabre var. (S) (see prev. remarks.)

Pl. rangeli

C. parraiana - verging toward C. multistriata

Megal. mani

Eutro. acuminata (or V. columellaris)

Chon. shuttleworthi

E. regina

La Güira # 10.

Oleac. poeyana or wrighti (S)

Lyobasis angustatus

Chon. blaini (locotypes)

Chon. shuttleworthi

Megal. mani

Eutr. regina

Eutro. acuminata Velz

Emoda sagraiana

Alcacia dissimulans (S)

Uro. irrorata

Uro. quirensis (locotypes)

Uro. saxosa (S) Very like.

Cep. parraiana - (Some approach C. parallela)

Chon. saquebieni (S) (Between it & C. latilabre)

Thysan. stigmaticea (Hugh spec.)

Mogote # 5

Pl. auricoma

C. parraiana

Meg. mani (Trans to apertum)

E. regina

Hel. sagraiana

Uro. — sp. - Resem. notata.

Vinales cochero - Alvaro Martinez - (good man)

Laguna de Piedra Mogolés (Feb 26) 1914

(Mogolés de Marmol) (Mog. del "Ammonite")

(Henderson, Torre, ayudante)

Subulina octona Brug.

Opeas pumila Pfr.

O. (Hyobasis) gundlachi (Ar.) Pfr.

lep. mon. opalescens Sk.

Pseudosubulina exilis Pfr.

Pichardiella acuticostata Orb.

" *gracillima* Pfr.

Uro. irrorata Gundl.

Uro. terebellata Torre, sp. Mogolés del Marmol o de Cabrera.

El Abra (Feb 27) 1914

(Torre, Henderson, ayudante)

O. (Hyobasis) blandiana Pils

lep. monodon opalescens Sk.

Caeciliodes consobrina Orb.

Pseudosubulina exilis Pfr.

Pichardiella acuticostata Orb.

Oleacina o. straminea Desh.

Uro. irrorata Gundl.

Chionodoxoma hendersoni Torre. En lo alto del paredón en la salida del río, en el Zafonal, lugar indicado en el Mapa adjunto.

Mogolí de la Mina (Feb 28) 1914
(Encinar Alto)

(Hend. Torre ayudante)

Subulina octona Brug

Pseudosubulina exilis Pfr.

Pichardiella acuticostata Orb.

" " var. *horrida* Pils

Oleacina o. straminea Desh.

Uro. atropurpurea Ar.

" *thomsoni* Ar.

Baños de San Vicente ("Feb 29" = Mch 1) 1914

(Hend. Torre, ayudante)

(June - Barlösch, Clapp, Hend. Greenlaw, Gill, Rodriguez)

Opeas pumilum Pfr.

Obeliscus n. sp.

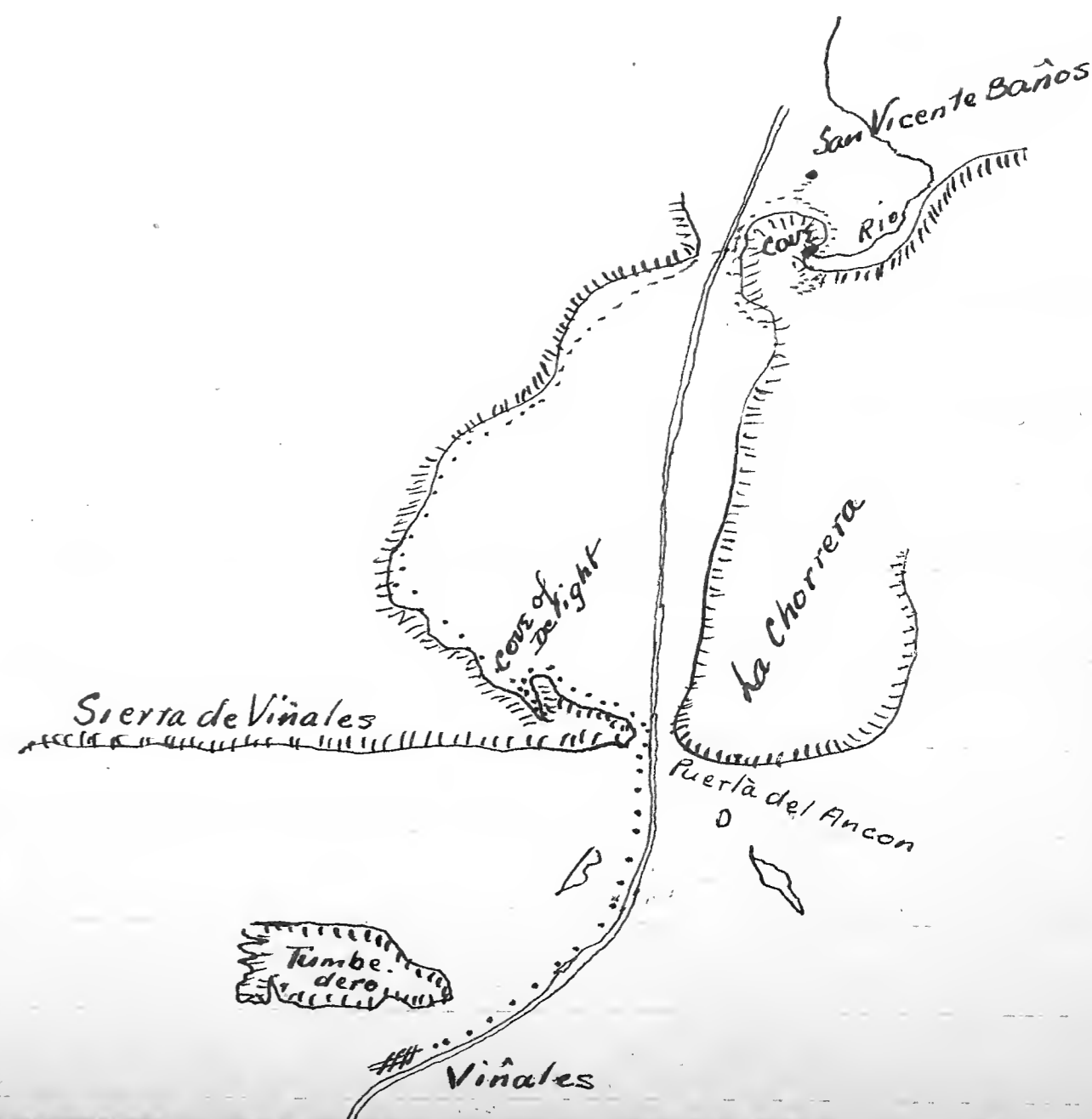
O. (Lyobasis) quadratus (Ar.) Pfr.

Leptinaria mon. opalescens Sh.

Pseudosubulina exilis Pfr.

Pichardiella acuticostata Orb

Uro. irrorata Gundl



La Penitencia (Mogotes) (Mch 1 - Mch 2)

La Laguna Mogotes (Mch "2" = 3).

Oleocina o. straminea Desh.

Uro. atropurpurea Ar. (Var.)

" *thomsoni* Ar.

" *assinitis* Ar.

Costanera de San Vicente

Feb. 1914

North face - (Torre, Hend. Ayudante)

Opeas pumila Pfr.
O. (tyobasis) gundlachi Ar. Pfr.
O. (") blandiana Pils
Leptinaria mon. opalescens Sh.
Caeciliodes consobrina Orb.
Pseudosubulina exilis Pfr.
V. Richardiella gracillima Pfr.
Urocoptis (Cochlodinetta) n. sp.

Varadero (near Cardenas)

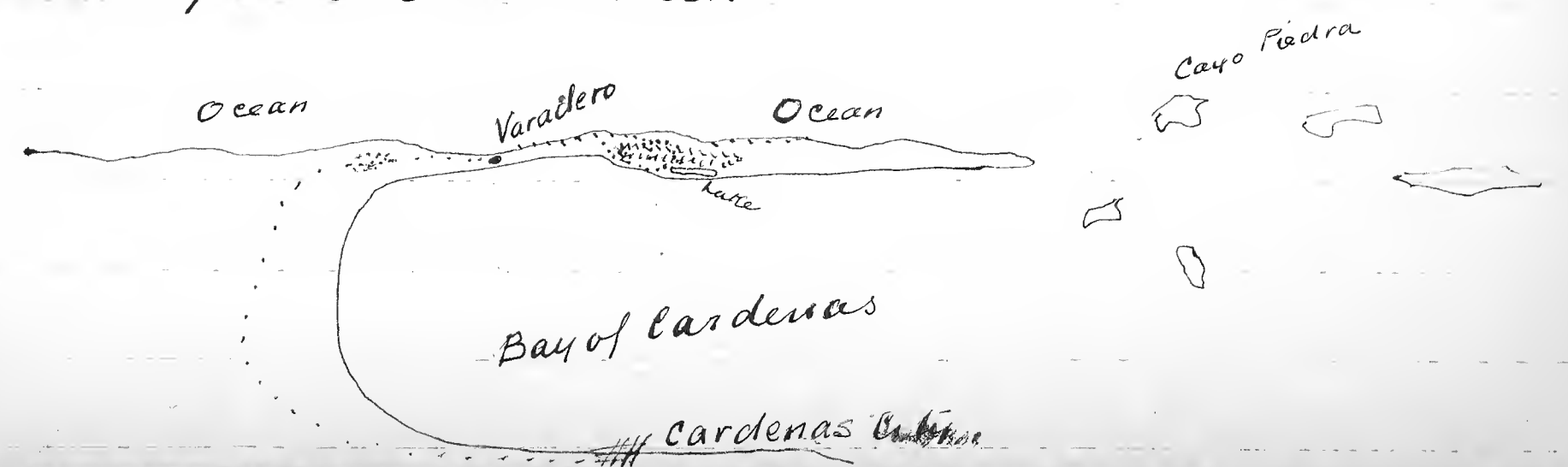
December 1914

(Torre, Greenlaw, J. B. H.)

(see Nautilus Jan. 1915)

Oleacina solidula Pfr.
 " *subulata* Pfr.
Obeliscus homatogyra Sh.
Pichard. gracillima Pfr.
Thysau. selenina Gld
 " *boothiana* Pfr.
Volvidens tichostoma Pfr.
Cepolis cubensis penicillata
Uro. poeyana variegata Pfr.
 " " *garciana* Presas
Mae. gundlachi Pfr.
Micro. gossei Pfr.
 " *denticulatus* Gundl
Perion sagraiana Pfr.
 " " *hologlyptum* Pils
Ligues fasciatus Mull.

Guppya gundlachi Pfr.
Pupoides marginatus Say
Bifidaria
Chondro. pictum Pfr.
 " *dentatum* Say
Alcacia hispida Pfr.
Eutro. rupestris Pfr.



Holguin (Orientē)

Mch. 1915.

Collected on hill about 4 to 5 kilom. S. of
City in Barrio "El Yayal."

(Simpson, Torre & J. B. H.)

Cepolis fuscolabiata (near) on Corajo Palms.

Poly. muscarum - on Palms aestivating - large, fine.

Chond. canescens ^{Pr.} tree trunks

Choan. "alatum" - Really undescribed - possibly
a var. of pseudolatum.
On south side of Loma near
Small cave - under stones.

Pl. marginella ^{Gmel} Dead, few.

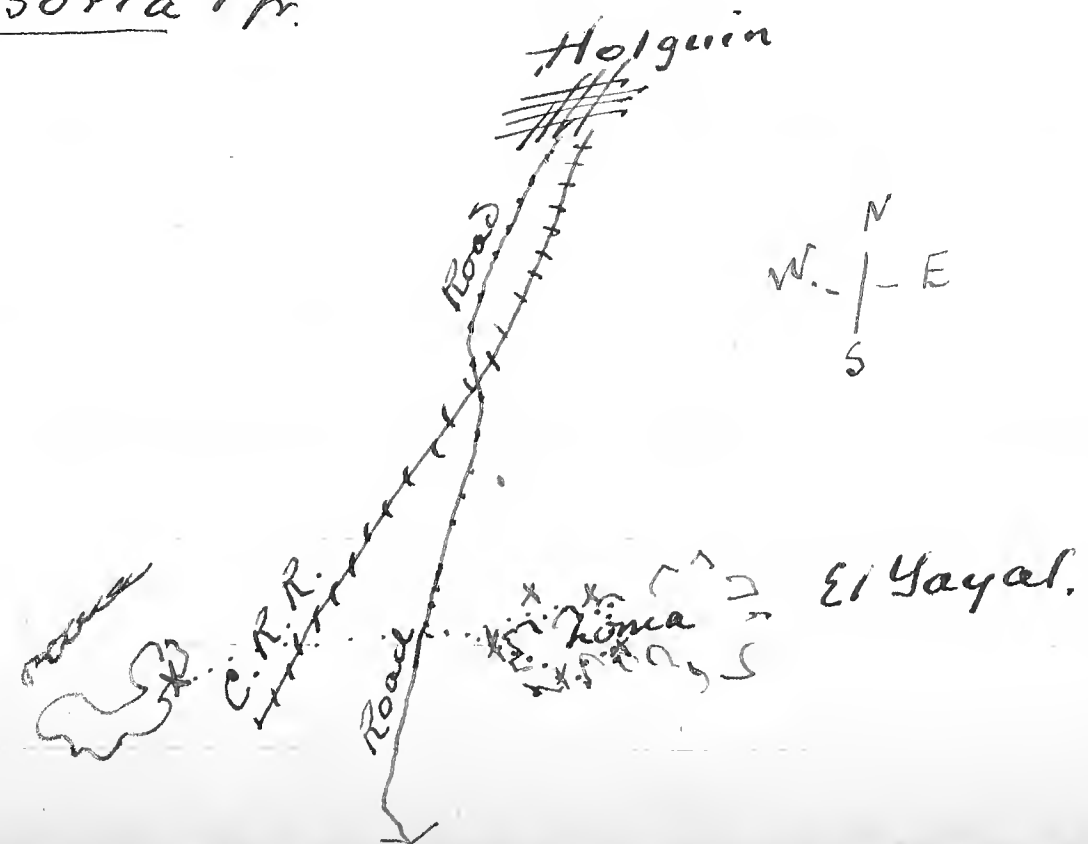
Brachypodella angulifera G. few, dead.

Helicina few, dead.

Obeliscus homalopyra (Sk) ^{Pr.} few - dead.

Circinaria paucispira Poy

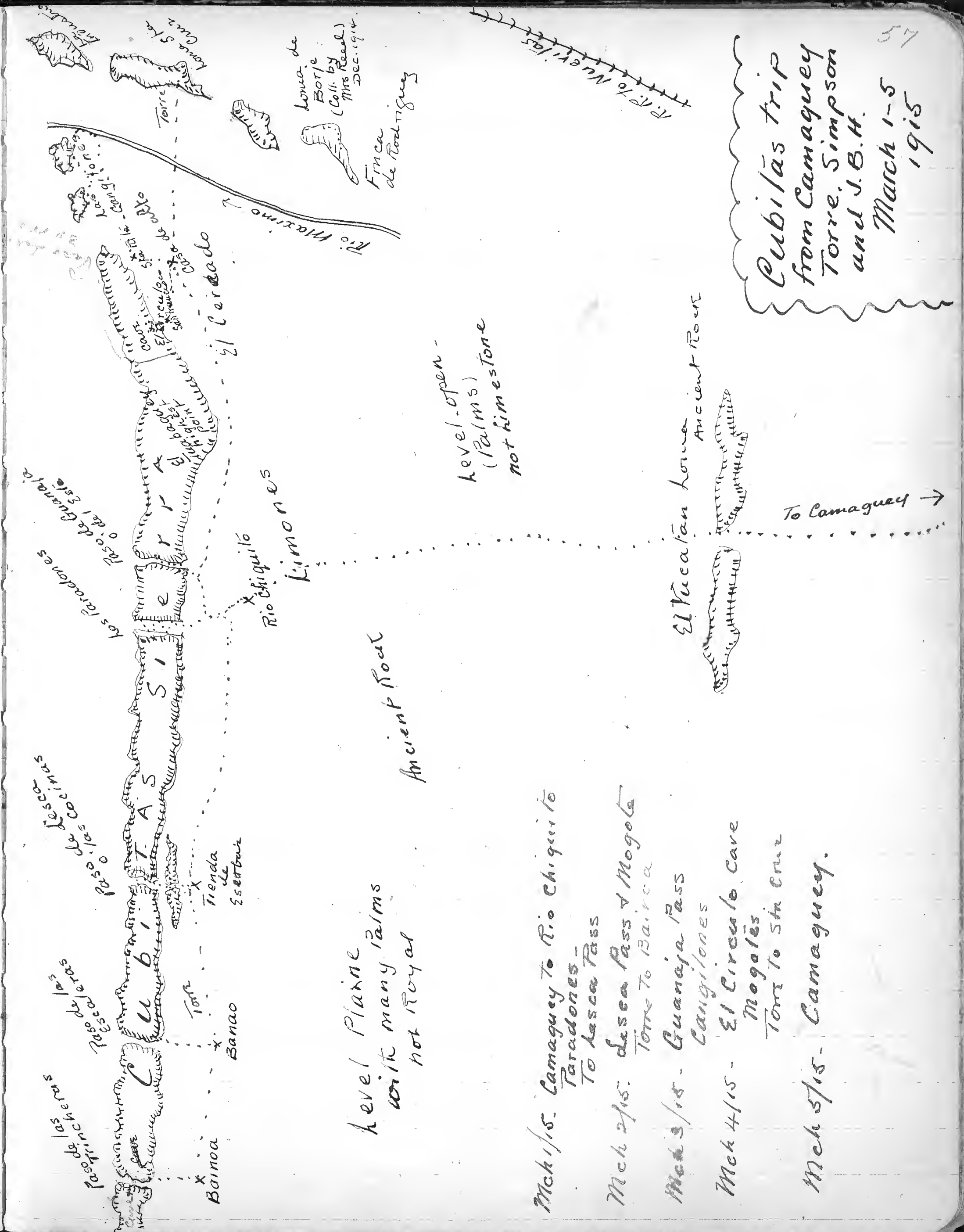
Pl. provisoria ^{Pr.}



Cubitas Sierra in Camaguey Prov.

Hard limestone hills and central range of about 500' elevation extending W.-E. and not immediately connected with any other system. To the East the Sierra breaks into a series of low hills through which flows the Rio Maximo forming a gorge called "Las Caugitones". E. of river the Mts have a NE-SW trend and are broken into a chain of hills - all limestone. Everywhere about the rock is ancient and vegetation very scant. flat country of palms (not royal) - The limestone of the hills is evidently quite old and overlies the Syenite. On the Sierra the vegetation changes abruptly from the plain type and is full and lush.

There are few paradones of the Open Mts. type. Stone often weathers into the "diente de perro" surface and cave formation is apparent.



Cubitas trip
from Camaguey
Torre, Simpson
and J.B.H.
March 1-5
1915

Cubitas Mts (Camaguey)Paso de Guanaja (o del Este) Mch. 3/15

(See Map ante)

Simpson Torre Heud.

Emoda n. sp.
Lucidella n. sp. rugosa
 "
Opistho n. sp.
 " n. sp.
Helicina
Thysan. boothiana
 " selenina
 " turbiniformis (Var.)
Guppya guedlachi (Var.)
Uro. camagueyana n. sp. (Torre)
Obeliscus homalogyra Sh. Pfr.
Richardiella manzanillensis (G.) Pfr.
 " " trinitensis Pils
Macroceramus hendersoni (Small) var.)
Oleacina
Pleurod. marginella (Var.)

Cubitas Mts (Camaguey)Los Paradojes (Pass) Mch. 1/15.

(Torre, Simp. Heud.)

Opistho. n. sp.
 " n. sp.
Chondro canescens Pfr.
Megalom.
Emoda
Helicina
~~*Atene*~~
Lucidella rugosa Pfr.
 "
Pl. auricoma
 " marquiella Gmel.
Cepolis cubensis (near naevula)
 "
Thysan. boothiana Pfr.
 " turbiniformis Pfr.
 " selenina Gadd
 " euclasta Sh.

diguus fasc.
Macro. hendersoni
 "
Uro. camagueyana Torre
Oleacina
Pichardilla manzanillensis (G.) Pfr.
Obeliscus homalogyra Sh.
Pichard. m. trinitensis Pils

Cubitas Mts. (Camaguey)Paso de Lesca (Cocinas) Mch. 2/15

(Main Range) (Simp. Heud.)

Opistho n. sp.

" n. sp.

Emoda n. sp.

Cepolis euclasta

Oleacina

Richardella manzanillensis (G.) Pfr.

Obeliscus homologyra Sh. Pfr.

Helicina

Alcadia

Euhucidella rufosa Pfr.

Thysan selenina

" turbiniformis

" boothiana Pfr.

Macro. hendersoni

"

"

Cepolis naevula Morlet (near)

"Thysan" euclasta Sh.

Cubitas Mts. (Camaguey)Mogote at S. Entrance to Lesca Pass Mch 2-3/15.

(Torre, Simp. Heud.)

Opistho. n. sp.

" n. sp.

Chondro. canescens Pfr.

Megal. camagueyana n. sp.

Emoda n. sp.

Pl. marginella Gmel.

Cepolis naevula (near)

" euclasta Sh.

Macro. hendersoni (large + small var.)

" simpsoni n. sp.

Spiroceramus n. sp.

Oleacina

Obeliscus homologyra Sh. Pfr.

Macro. perlouga (S.)

Succinea

Thysan. boothiana Pfr. (Var.)

Alcadia

Pl. auricoma

Uro. camagueyana Torre

Cubitas Mts (Camaguey)El Circulo Cave (Tuabaguey)and Mogotes about San Francisco

Mch 4-5, 1915 (Simp. Heud.)

Opistho dalli n.sp.

Helicina

" camagueyana n.sp.

Lucidella rugosa Pfr.

Chondro.

Megat.

Euoda

Macro. hendersoni

"

Lepolis ("Thysan") euclasta Sh.

"

Pleuro. marginella Gmel.

Thysan turbiniformis Pfr.

"

" boothiana Pfr.

" selenina Gld

" translucens Gmel.

Oleacina o. stram. Desh.

"

Richardiella manzanillensis (G.) Pfr. + var. trinitensis Pils

Obeliscus homologura Sh. Pfr.

Cubitas Mts (Camaguey)Las Cangilonas and Mogotes

Mch. 4/15 (Torre, Simp. Heud.)

Pl. marginella Gmel.

Opistho. n. sp

Lepolis (near naevula)

"

" axilauda Fer.

Chondro. canescens Pfr.

" ("Thysan") euclasta Sh.

" (Hemitro.) varians (!)

Thysan. boothiana Pfr. (San)

" incrustata Poey

Circinaria paucispina Poey

Macrocer.

Urocop. camagueyana Torre.

Oleacina

Richardiella manzanillensis (G.) Pfr.

Obeliscus homologura (Sh.) Pfr.

Euoda

Lucidella rugosa Pfr.

"

Helicina

Loma de Borje (see Cubitas Map) (Camaguey)
(Rodriguez Ranch) (B. H. Hubbard Dec. 1914)

Pl. auricoma

Pl. sagamon (marginella Gmel.)

Cepolis (near *naevula*)

" (*Thysan*) *euctasta* Sh.

Macro. *longa*, Hu. n. sp.

Oboliscus *homalogyra* (Sh.) Pfr.

Meacina *olea*. stom. Desh.

"

Opisthos. n. sp.

Chondro. *canescens* Pfr.

Megalomas.

Pichardiella *manz. trinitensis* Pils

Emoda

Lucidella

"

Helicina

Liquus *fasc.*

Circinaria *paucispira* Pouy.

Thysan. *boothiana* Pfr. var.

" *turbiciformis* Pfr.

" *selenina* Gled

" *plagiptycha* Shull

Arroyo Hondo (Finca Montejo) Camaguey

3 leagues E. of Camaguey City

Small limestone (Cretaceous) elevation

March 1915 Torre

Urocop. n. sp.

Ctenop. n. sp.

Santa Lucia Plantation (Sr. Sanchez)
Orienté - (near Gibara)

Simpson, Torre, Henderson

Los Portales de Camayen (Arroyo Blanco) Mch. 1915.
 Limestone hill N.E. of Central about $\frac{1}{2}$ way to coast.
 Most of surrounding country syenite - limestone
 only capping the higher hills. This hill all lime
 even to base and less hard and altered.

Ramsdenia n. sp. ^{near mirifica Preston} (*Habitatam*?)

Microceramus

Pichardiella gracillima Pfr.

Oleacina

Brachypodella angulifera G.

Thysan. *boothiana* Pfr.

" *Selenina* Gld

" *saxicola* Pfr.

Obeliscus bacillus Pfr.

Opeas

Leptinaria striosa abdita Poy

Selenina paucispa

Cerata discus

Alcudia

Lucidella granum Pfr.

Helicina

Chondro. n. sp. (*n. ernesti*)

Coryda nigropicta Ar.

Poly. muscarum

Circinaria paucispira Poy

Santa Lucia Plantation (de Sanchez)Orienté - Mch. 1915."La Silla" Mountain - (Simpson, Torre, Hend.)

A large detached mountain S. of Central about 5 miles - locally called "La Silla de Gibara".

Base ancient rock - capped with hard limestone. Consists of 3 partially separated mts. Collected on central and W. ones.

<i>Helicina</i>	<i>Ctenop.</i> (gr. of <i>enode</i>)
<i>Lucidella granum</i> Pfr.	<i>Chondrop. canescens</i> Pfr.
"	<i>Coryda alauda</i> Fer.
<i>Alcadia</i>	<i>Pl. marginella</i> (arangiana Poy)
<i>Eulroe.</i> n. sp. (5)	" <i>auricoma</i>
<i>Obeliscus homaloga</i> (Sh) Pfr.	<i>Chondro.</i>
<i>Oleacina</i>	<i>Polymita muscarum</i> Lea
"	<i>Circinaria paucispira</i> Poy
<i>Macro. pictus</i>	<i>Chondrop. oxytrema</i> (G.) Pfr.
<i>Micro.</i>	" <i>ernesti</i> Pfr.
<i>Pichardita m. cienfuegensis</i> Pils	
"	
<i>Selenites</i>	
<i>Thysan. boothiana</i> Pfr.	
" <i>selenina</i> Gld.	
" <i>saxicola</i> Pfr.	
" <i>euclasta</i> Sh.	

Santa Lucia Plantation (de Sanchez)Orienté Mch. 1915.Miramar BeachBetween Vitá and Gibara (Simpson, Torre, Hend.)

Typical rock coast excavated by sea & much weathered limestone - small sand beach - semi-open country back with forest patches. *Cerion* and *Cepolis* & *Polymita* in thick clumps of Guinea grass and dead palm leaves (dry season)

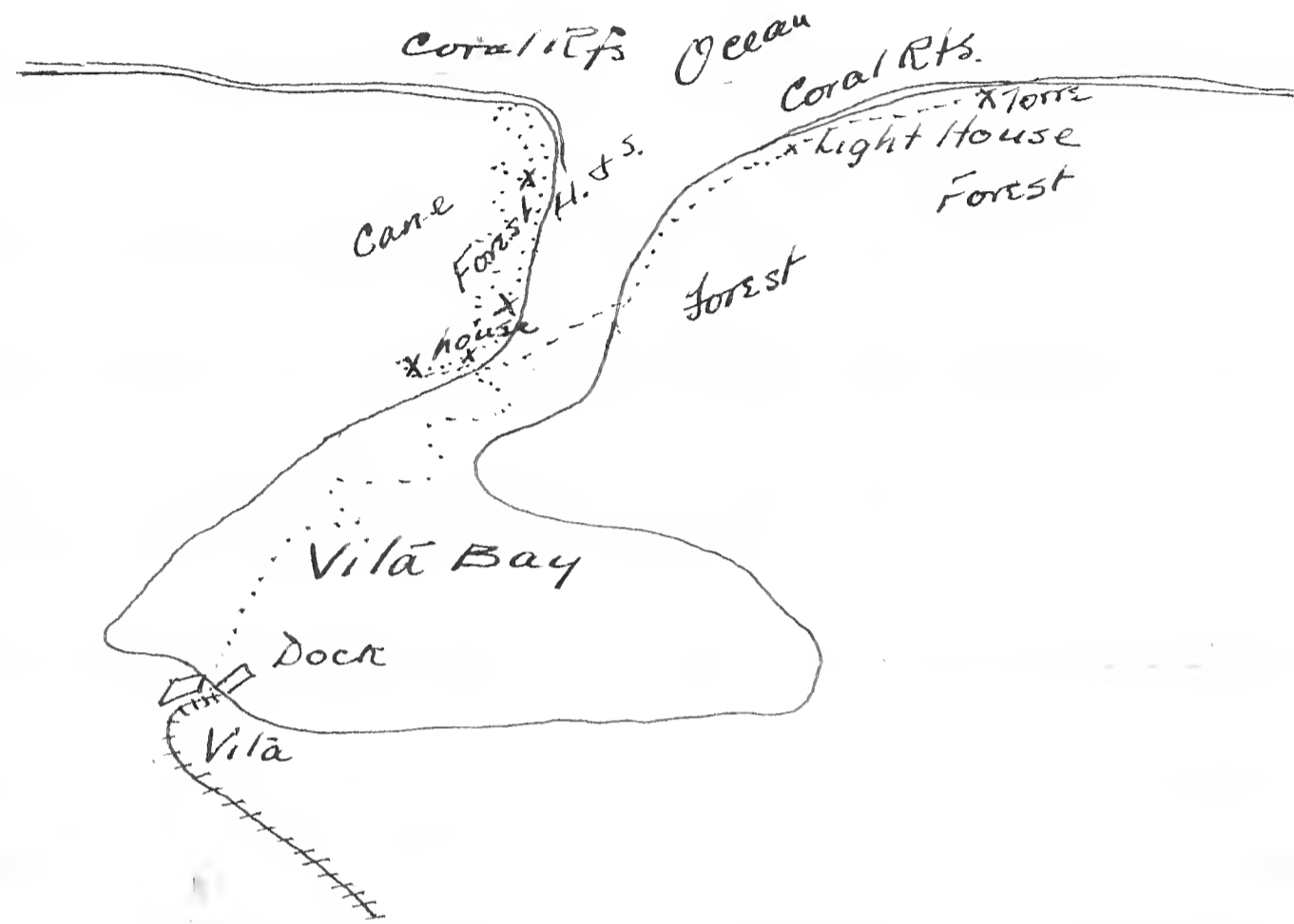
Cerion n. sp.
Cepolis amplecta Guedé (color form)
Polymita muscarum Lea
Chondropoma
Ctenop (gr. of *enode*)

Vila Bay Orienté

Mch. 1915.

(Port of Santa Lucia Plantation)

(Torre, Simpson, Hnd.)

*Cerion torrei* (On West side near house)" *ornatum* (On East side beyond light H.)*Chondro.**Coryda nigropicta* *alanda* Fer.*Cepolis amplecta* *lundii* (color form)*Polymita muscarum* *lea*Santa Lucia Plantation (Orienté)Hill between Central and Vila on right of
track going N. - about midway -

(Mch. 1915. Torre, Simpson, J. B. H.)

Polymita muscarum *lea**Thysan selenina*" *boothiana* Pfr. (typical)*Obeliscus bacillus* Pfr.*Pichardiella scalarina* (G. Pfr.)*Alcacia**Lucidella granum* Pfr.*Eutroch.* (*ptiffiana* Pfr. ?)*Circinaria paucispira* Poey*Ceratodiscus**Chenop.* (gr. of *euode*)*Coryda alanda* Fer" *nigropicta* Pfr.*Chondro. canescens* Pfr.*Emoda pulcherrima* *lea*

Hoyo de Manicarraqua (Sta Clara Prov.)

about 1 mile S. of Mr. Koop's house

Feb 1915. Simpson, Wilcox, J.B.H.

All ancient rock - no limestone - Rolling country - open.

Succinea

Oleacina

Thysanooth.

"

Ctenop. immersum Gundi

Cepolis auberi Ors.

Alcadia

Lucidella rugosa Pfr.

Oboliscus homologura Sh. Pfr.

Pseudobalva peruviana *Cryptelasmus canteroiana (G.) Pfr.*

M.

Planorbis

Limnaea

Physa

Loma de Ternero (Sta Clara Prov.)About 6 to 8 miles N. of Hoyo de Manicaragua

Limestone hill. Capped with limestone.

Isolated in granitic region. Compare

Arango's locality "San Juan de las Lleras"

(Feb. 1915 - Simpson, Wilcox, J.B.H.)

Megalom.Chounop. uncinatum Ar.Chondro. delatreanum (G.) Pfr.
+ small var.Cten. torquatum
Cten. immersum GündlAlcudia

"

Lucidella rugosa Pfr.Helicina ads. marmorata Orb.Eutroch. petrosa Pfr." conica Pfr.Pl. trinitaria GündlCepolis poeyi" auberi Orb.Oleacina

"

Pichard. gracillima Pfr." m. cienfuegensis PilsPseudob.Obeliscus homalogyra Sh. Pfr.Opeas pumila Pfr.Microcer.BulinulusThysan boothiana Pfr." selenina Gtd." saxicola Pfr.Guppya gundlachi Pfr.Urocop lajoncherei Ar." contentiosa Ar." n. sp (near livida Torre)Oleacina oleacea Stram.Liquus fas.Loma de Bonachea (Sta Clara)Hill of limestone (on N. side of Casaleñafrom City of Sta Clara to Remedios) about

5 or 6 miles from city.

(Feb. 1915 - Simpson, J.B.H.)

Chondro. delatreanum (G.) Pfr.
+ small var.Ctenop. — n. sp. ♂Megalom.Eutroch. conica Pfr.Lucidella rugosa Pfr.AlcudiaObeliscus homalogyra (Sh.) Pfr.Pichard. gracillima Pfr.Oleacina

"

Pl. auricomaCep. poeyi PetitCep. auberi Orb.Thysan selenina Gtd" boothiana Pfr." euclasta ShMicro.BulinulusUro. proteus bonachensis Men.

"

Liquus fas.Pich. m. cienfuegensis PilsHelicina globulosa Orb.

Loma de Santa Fe (Sta Clara)About 12 miles N.E. of Sta Clara on road toRemedios - limestone cap

Feb. 1915 (Simpson, J. B. H.)

*Pl. auricoma**Pl. trinitaria* Gund*Cep. poeyi**Cep.**Thysan selenina**Megat.**Ctenop.* — n. sp. ?*Chondro. delatranum* (G.) Pfr.*Oleacina oleacea* Stram. Desh.

"

"

*Helicina**Lucidella rugosa* Pfr.*Eutroch. conica* Pfr.*Obeliscus homalogyra* Sh. Pfr.*Pichard.**Liq. fasc.**Uro. mediana alternans* TorreLoma de Capiro (Sta Clara)limestone hill N. of, and less than a mile
from, the city of Sta Clara.

Feb. 1915 (Simpson & J. B. H.)

Cepolis auferi orb.*Thysan. selenina*" *boothiana**Eutroch. petrosa* Pfr.*Lucidella rugosa* Pfr.*Ctenop.* — n. sp. ?*Oleacina*

"

*Pichard.**Obeliscus homalogyra* Sh. Pfr.*Succinea**Bifidaria*

80

Varadero

(Matanzas.)

Sea side resort of Cardenas

Sandy peninsula with central
cove of elevated reef limestone covered
with thick scrub -

Dec. 1914, Torre, Greenlaw, J. B. H.

Thysan inaguensis Weint.

See previous entry
on page -

Furcillones de Nise

(Oriente)

(Finca de Sabanita) Cayo del Rey

(see map on page)

(about 8 miles f. Hito Cedro) May 1915 - Rodriguez + B.H.

Guide, Jose Barqa Gomez. Estacion de Puerto Oriente

Tulon, Sr. Antonio Gonzales, jefe del merradero, Hito Cedro.

<i>Pistula interstitialis</i> (G.) Pfr.	<i>Pl. (Thel.) baracoensis</i> (Gut.) Poey
<i>Choanopoma storchi</i> Pfr.	<i>Pl. (Thel.) a. provisoria</i> Pfr.
<i>Chondropoma carescens</i> Pfr.	<i>Megal. ungula</i> Poey
<i>Xenopoma humboldtiana</i> Pfr. ^{n. sp.}	<i>Succinea</i> sp.
<i>Varicella (ds) swiftiana</i> Pils	<i>Uro. (Ideo.) geminata</i> Pfr.
<i>Oleacina incerta</i> Roe.	<i>Uro. (Gongy.) hilleri</i> Pfr.
<i>Obeliscus terebraster</i> Lam.	<i>Uro. (Gongy.)</i> sp.
<i>Pleurodonte marginella</i> Gmel	<i>Brachypodella angulifera</i> G.
<i>Cepolis alauda</i> Fer	<i>B. - n. sp.</i>
<i>Cep. melanocephala perlevala</i> Pils	
<i>Polymita picta</i> Bom + <i>scaphurosa</i> Mor.	
<i>C. (Hemitrochus) incipeta</i> Poey + var.	
<i>C. (Cysticopsis) pempthigodes</i> Pfr.	
<i>Thysan. boothiana</i> Pfr.	<i>Helicina subglobulosa</i> Poey
<i>Thysan. selenina</i> Gld.	<i>Alcadia proxima</i> Gundl
<i>Circinaria paucispira</i> Poey	
<i>V. Pichardiella multcosta</i> (G.) Pfr	
<i>Emoda submarginata</i> Gray	

Furcillones de Canapa

Oriente

Finca de Cayo del Rey

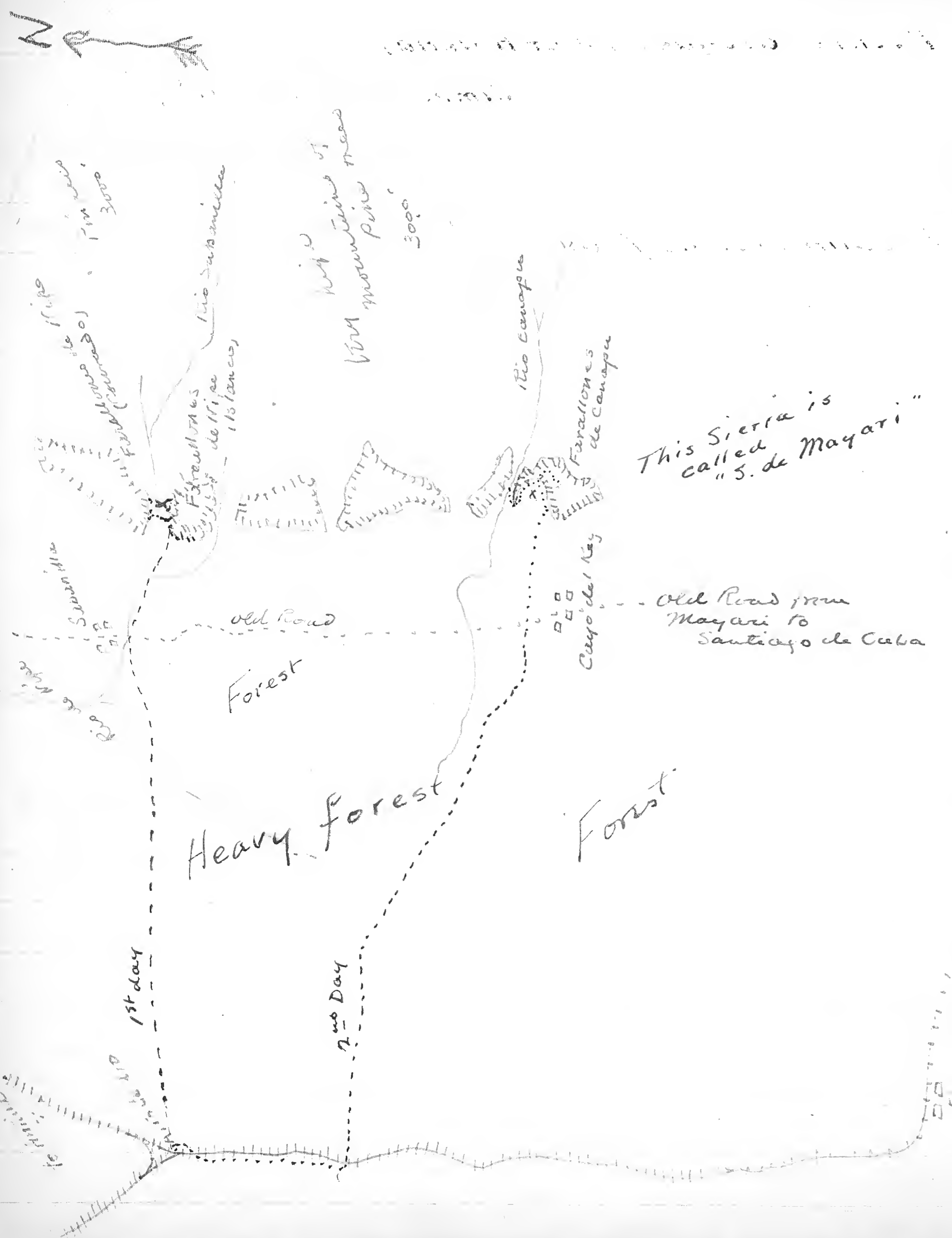
(map, next page)

May 1915 - Rodriguez + J. R. H.

about 10 miles from Hito Cedro

This is probably the ancient locality of Wright.

<i>Pistula interstitialis</i> (G.) Pfr.	<i>Eutroc. pfeifferiana</i> Pfr.
<i>Choanopoma storchi</i> Pfr.	<i>Pseudobalea lata</i> Gundl
<i>Chondropoma carescens</i> Pfr.	<i>Geometania lirata</i> Poey
<i>Adamsiella chordata</i> Gundl	<i>V. (Richard.) scalarina</i> (G.) Pfr.
<i>Xenopoma humboldtiana</i> Pfr. ^{n. sp.}	<i>Emoda submarginata</i> Gray
<i>Varicella (ds) swiftiana</i> Pils	<i>Pl. (Thel.)</i> Tupper ^{n. sp.}
<i>Oleacina incerta</i> Roe.	<i>Macro. paxi</i> Gundl
<i>Oleacina cyanozoaria</i> Gundl	<i>Uro. (Gongy.) hilleri</i> Pfr. (var)
<i>Obeliscus terebraster</i> Lam.	<i>Brachy. angulifera</i> G.
<i>Pleurodonte marginella</i> Gmel.	<i>Alcadia proxima</i> Gundl
" <i>soberina</i> Fer.	
<i>Cepolis alauda</i> Fer	
<i>C. melanocephala perlevala</i> Pils	
<i>Polymita picta</i> Bom (<i>scaphurosa</i> Mor.)	
<i>C. (Cysticopsis) pempthigodes</i> Pfr.	
<i>Thysan. boothiana</i> Pfr	
<i>Circinaria paucispira</i> Poey	
<i>Proserpina depressa</i> Orb.	



Puentes Grandes (near Havana)

Simpson, Bartsch, Gill. (May 1914)

Subulina octona, Brug.

Oleacina o. straminea Desh.

Uro. poeyana Orb.

Cabañas (Light House Hill, harbor entrance)

(Henderson, Patron) June, 1914.

Subulina octona Brug.*Opeas pumila* Pfr.*Opeas micra* Orb.*Oleacina o. straminea* Desh.*Uro. poeyana* Orb. (also Potrero Constante; also islands in bay)Bahia Honda (N. of city, at entrance to Grave yard.)

(Bartsch, Clapp, Henderson, Rodriguez)

June 1914

Subulina octona Brug.*Uro. poeyana* Orb.

Puerlā del Ancon (Viñales) (see maps pp

Feb 4/14 - Hend. Torre, Ayudante.

June 14 - Bartch, Simpson, Clapp, Hend.

Opeas pumila Pfr.*O. (Hyobasis) gundlachi* Ar. Pfr.*Pseudosubulina exilis* Pfr.*Pichardiella acuticostata* Orb.*Oleacina o. straminea* Desh*Uro. irrorata* GundlMogolē at Kilometer 14 on Road (also Mog #2 + 3 on
W. side of Road).
from Pinar del Rio to Viñales

(Feb 4/14 - Torre, Hend, Ayudante)

^{May}
(June 14 - Clapp, Bartsch, Simpson, Hend.)*Opeas pumila* Pfr.*Leptinaria mon. opalescens* Sh.*Caeciliodes consobrina* Orb.*Pseudosubulina exilis* Pfr.*Pichardiella acuticostata* Orb.

" " (Mog. #2)

" *gracillima* Pfr.

Mogotes de la Vega (Viñales)

June, 1914. (May 30/14)

(Clapp, Bartsch, Hewd. Rodriguez)

O. (hyobasis) gundlachi (Ar.) Pfr. 1, 2, 3, Tumb.,

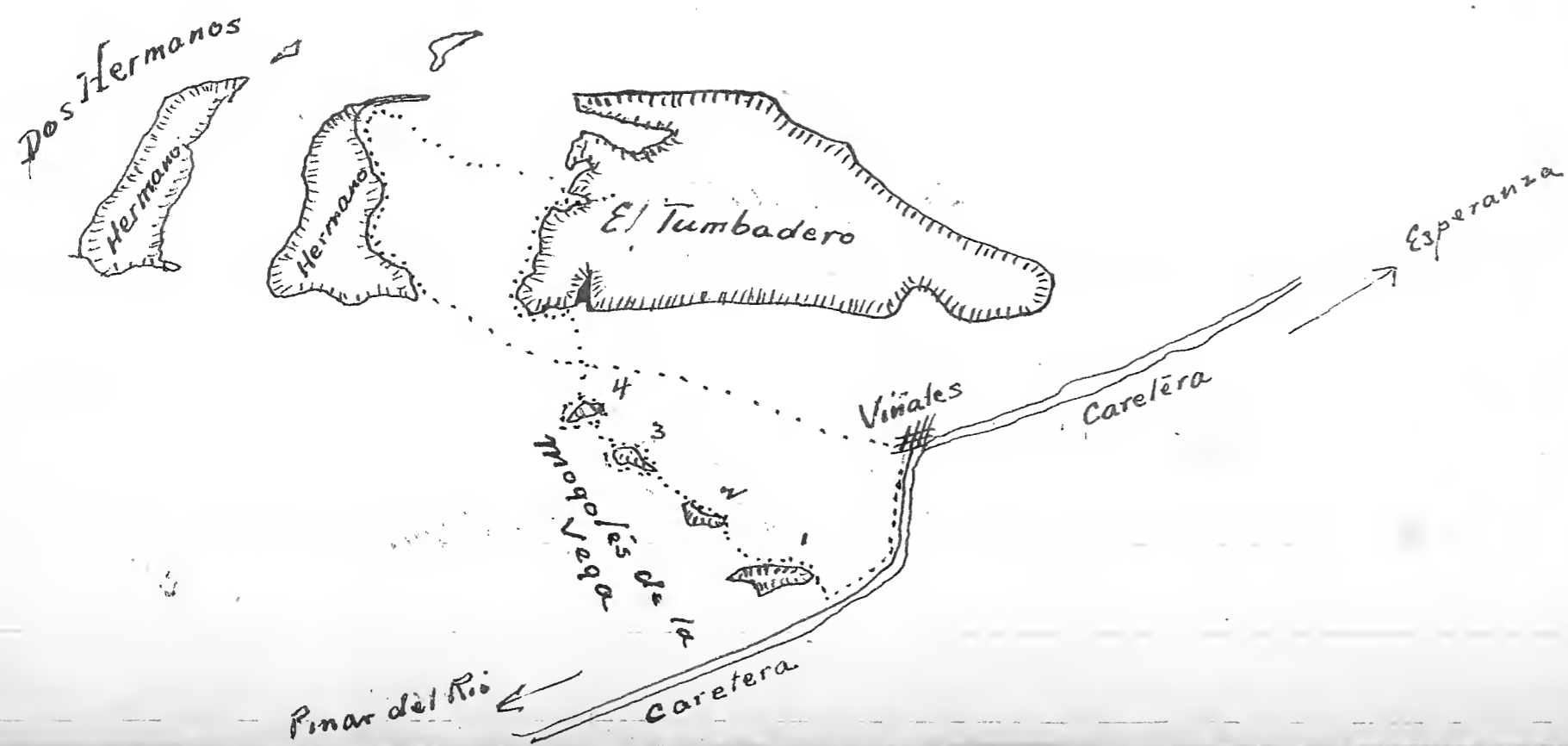
lep. monodon opalescens Sh. (Dos Hermanos)

V. (Richardiella) acuticoσταλά Orb.

" " " (Tumbadero)

Oleacina o. straminea Desh. 1.

Uro. irroratá Gundl



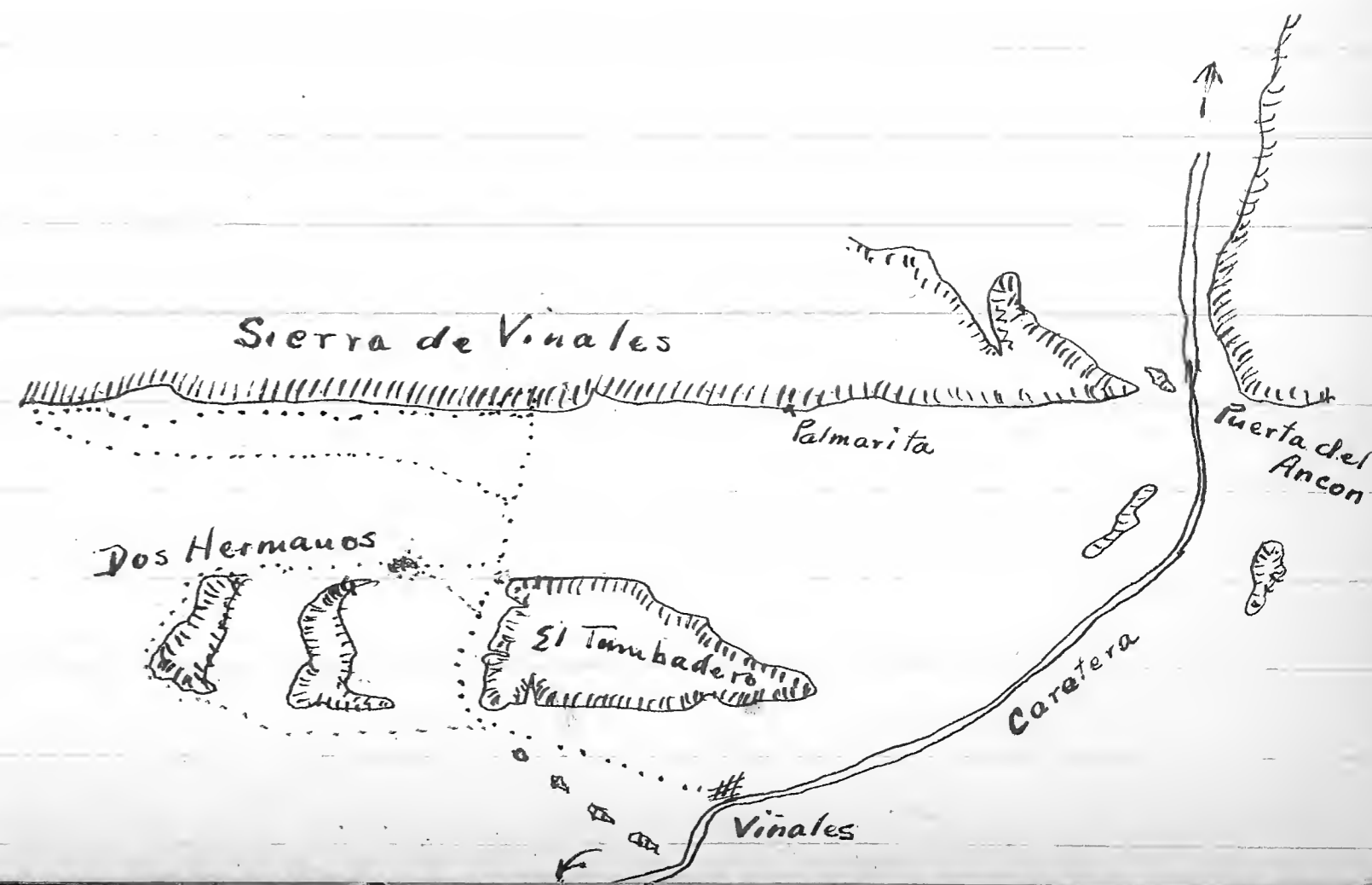
Sierra de Viñales (Viñales)

May 31/14 - Clapp, Bartsch, Hewd. Rodriguez

O. (hyobasis) gundlachi Ar. Pfr. (Little Mog. n.e. of Hermanos)

Oleacina o. straminea Desh.

Uro. thomsoni Ar.



Pan de Guajaibon (see map p. 91)

(San Jose de la Sagua)

(Bartsch, Clapp, Rodriguez, Henderson)

O. (kyobasis) n. sp.

V. (Pichardiella) a. horrida Pils

O. o. straminea Desh.

Uro. crenulata G.

Pan de

p. Rodriguez, Henderson)

Pichardi

Oleacina

Theconocoides
Ctenopoma
Chromatopoma



Rio Colorado

LOS PINALES

MOUNTAINS COVERED WITH PINE

LA M...
ET...
SEA...
32

La Verge

PILE 109E

CUBA R.R.

Alto Cedro

TOOL HOUSES

TO SANTIAGO

CUBA R.R.

Yiran or Gallaru

Yiran

Sabanilla

Rio

Sabanilla

Socorona

Rio Maracaes

Rio Canape

Rio Bio

Bio

Bio

A. Maraguaba

A. Amarino

Canada del Medio

Cayo del Rey

Cayo del Rey

Rio Barigua

Maria

CUBA R.R.

Paso Estancia

Rio Cauto

I Giro 375

Bayate

Miranda

Ponatico

Rio Jagua

Tra 200
I 190

A. Colorado

Pesado

MONTE PICOTE

209

1500

2000

LOS PINALES

2000

1500

1500

1500

1500

1500

1500

Pan de Guajaibon (see map p.)

(San Jose de la Sagua)

(Bartsch, Clapp, Rodriguez, Henderson)

O. (kyobasis) n. sp.

V. (Pichardiella) a. horrida Pils

O. o. straminea Desh.

Uro. crenulata G.

Pan de Guajaibon (see map)

North Side

(Bartsch, Clapp, Rodriguez, Henderson)

Pichardiella a. horrida Pils

Oleacina o. straminea Desh.

Pan de Azucar (Terre, Simp. Clapp, Henderson) May 1914.

Oleacina o. straminea Desh.

Cape San Antonio (light house station) May 1914

(Bartsch, Clapp, Rodriguez, Patron, Hend.)

Oleacina o. straminea Desh (Var.)

Mendoza (near Guane)(Barrera Sup^o) 1914

Borisch, Clapp, Rodriguez, Henderson)

- Uro. dautzenbergiana* Cr. (Mogote: on stones in fields (Simp.))
 " *coeruleans* Poey (Mog. + Fields)
 " *discors lajunillensis* Pils (Fields)

I

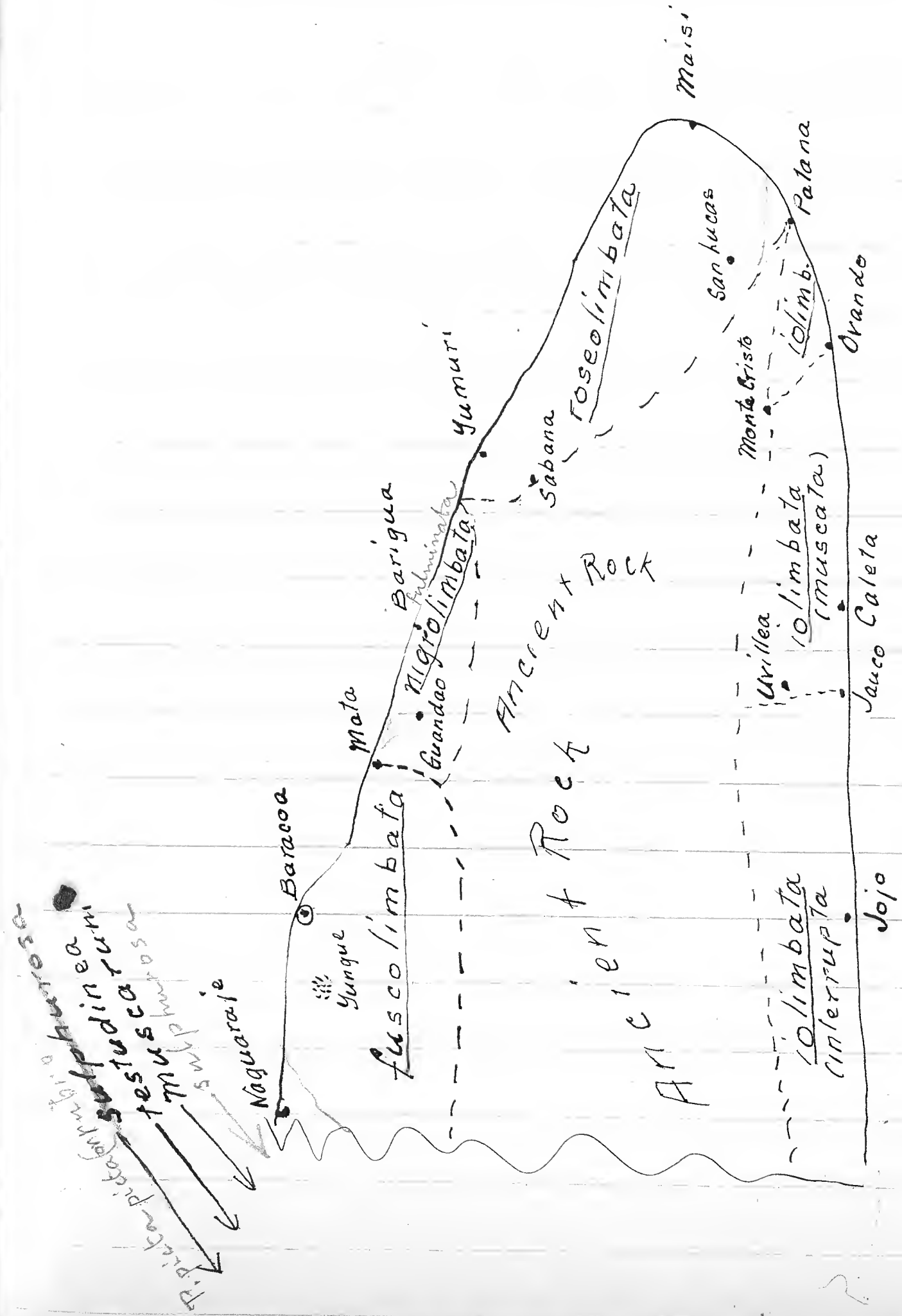
- Polymita picta (+ form testudinea)
- " " fuscolimbata T.
- " " roseolimbata T.
- " " nigrolimbata T. (+ form fulminata T.)
- " " iolimbata T. (+ form muscata T.)

II

- Polymita sulphurea
- " s. flammulata
- " " " (zigzag)

III

- Polymita brocheri [Maisi]
- " " (a) [Cuesta del Palo]
- " " (b) [Orando]



Loma de Anafe (Havana Prov.)

Nov. 1915. (J.B.H.)

"Falda" refers to foot on S. side near the property of Shaler Williams.

"La Barranca" refers to deep gorge near top of hill on North side -

- | | |
|--|--|
| <i>Thysanophora boothiana</i> Pfr. (F.) | <i>Oleacina o. straminea</i> Desh. (B, F.) |
| " <i>selenina</i> Gld. (F.) | " <i>solidula</i> Pfr. B. F. |
| " <i>saxicola</i> Pfr. (F.) | " |
| " <i>stigmatica</i> Pfr. (Barr.) | <i>Proserpina depressa</i> Orb |
| <i>Emoda submarginata</i> Gray (B.) | <i>Rectoleacina suturalis</i> Pfr. |
| <i>Helicina adspersa</i> Pfr. B. F. | <i>Varicella</i> (Pich.) <i>gracillima</i> Pfr. |
| <i>Alcadia minima</i> Pfr. (F.) | " " <i>acuticostata</i> |
| " <i>rotunda</i> Orb. (Var.) (B.) | Var. <i>horrida</i> Pils (B.) |
| <i>Eutrochatella sloani</i> Orb (F, B.) | <i>Pl. (Thelidomus) auricoma</i> Fer. |
| " <i>rupestris</i> Pfr. (F.) | <i>Cepolis</i> (J.) <i>multistriata</i> Desh. |
| " <i>conica</i> Pfr. (F, B.) | " (Cyst.) <i>cubensis</i> Pfr. |
| <i>Chondropoma poeyanum</i> Orb (F.) | <i>Urocop. cyclostoma</i> |
| " (<i>pfeifferianum</i> ?) n.sp. (B.) | <i>anafensis</i> Hend. (B.) |
| " <i>ottonis</i> Pfr. (F, B.) | Uro-staistis |
| <i>Ctenopoma rugulosum</i> Pfr. (F, B.) | <i>Uro. poeyana</i> Orb |
| " <i>nodulatum</i> Poey (B.) | <i>Microceramus</i> ^{peruvianum} petitiana |
| <i>Megalomastoma apertum</i> Poey (B.) | <i>anafensis</i> Hend. |
| <i>Liguus fasciatus</i> , Müll (B.) (Western type) | |

Marianao (Havana)

Nov. 1915 (Torre, J.B.H.)

(A) near the town.

(B) On road to Beach near Country Club - Fence on E. side of road.*Thysanophora selenina* Gld (A, B)*Chondropoma poeyanum-pfeifferianum* (A)*Opeas micra* Orb. (*contracta* Poey) (A)*Subulina octona* Chem. (B)*Urocoptis sinistra* Torre (B)" *poeyana* Orb (B)*Succinea* (A)*Polygyra paludosa* Pfr. (A)*Bulimulus exilis* Gmel (A)

(+ other mogolés)

Isabel Maria 4th Mogolé S.E. right side of road going S.
(P. del R.) June, 1916 Hlad. + Barisen.

Cepolis (Jeann.) *parraiana* Orb. (medium size - light phase)

Emoda sagraiana Orb. (1st Mog. S.E.) minor

" " " (3rd Mog. S.E.) minor

Eutro. regina Mor. + small var

Helicina adspersa marmoratā Orb.

Alcacia velutina Poey (mog)

Eutrochatella jugulatā Poey

Megalomastoma madi Poey

Annularia blaini (G.) Pfr.

Chondropoma shuttleworthi ^{Pfr.} (trans. to *incrassatūm*)

" " *incrassatūm* Wr.

Oleacina o. straminea Desh.

Rectoleacina cubensis Orb.

Urocoptis violacea (Wr.) Pfr.

Liguus fasciatus Mull

Luis Lazo. Central isolated Mogolē. (Hend. + Barisen) June 1916.
map next page.

Cepolis (Jeann.) *parraiana* Orb.

" " *subtussulcatā* (Wr.) Pfr. (var. minor)

Polygyra johannis Poey

Cepolis arctistria Pfr.

Pleurod. (Zachrysis) guanensis Poey

Emoda sagraiana Orb. (minor)

" " *percrassa* Torre (Fine red lip)

Eutrochatella regina Mor.

Helicina adspersa Pfr.

Posepina depressa Orb.

Clenopoma bilabiatūm Orb.

Chondropoma shuttleworthi Pfr. (*incrassatūm* Wr.)

" *sagebieni* Poey

Oleacina o. straminea Desh.

Rectoleacina cubensis Orb.

Pichardiella pichardi Ar.

Urocoptis bartschi Hend. n. sp.

Liguus fasciatus Mull

Luis Lazo. ^{+ S.} The range on the East of the valley on some maps called Sierra de San Carlos.

Hend. + Barisch. June 1916.

- Cepolis* (Jearn.) *parraiana* Orb. (Medium size - light color)
Pleurod. (*Zachrysis*) *guanensis* Poey (strongly ribbed)
Emoda sagraiana Orb. (minor)
 " " *percrassa* Torre (red + white)
Eutrochatella regina Mer.
 " *jugulata* Poey
Ctenopoma bilabiatum Orb.
Chondropoma sh. *incrassatum* Wr.
 " *sagebieni* Poey
Oleacina o. *straminea* Desh.
Rectoleacina cubensis Orb.
Liguus fasciatus Mull



Luis Lazo. ^{+ N.} Main sierra forming western boundary of the San Carlos valley. Hend. + Barisch June 1916.

- Thysan. stigmatica* Pfr.
Eutro. regina Mer.
Alcacia velutina Poey
Eutrochatella jugulata Poey
Ctenopoma bilabiatum Orb.
Chondropoma sh. *incrassatum* Wr.
 " *sagebieni* Poey
Rectoleacina cubensis Orb.
Pichardiella pichardi Ar.
Microceramus paivanus Pfr.
Liguus fasciatus Mull

Sierra de Limones (P. del R.), El Abron.

Hend. + Barlsch. June 1916.

Cepolis (Jeann.) *parruiana* Orb.*Thyssa*. *stigmatica* Pfr.*Eulico*. *regina* Mer.*Helicina* *adpersa marmorata* Orb.*Rhytidopoma* *undosum* (G.) Pfr.*Annularia* *majusculum* Morl.*Chondropoma* n. sp. (near *C. excisum*)*Pichardiella* a. *horrida* Pils*Urocoptis* *torquatā* Morel." *saxosa* PoeySierra de Limones El Toro

(Hend. Barlsch Torre Rod.) June, 1916.

Thyssa. *stigmatica* Pfr.*Eulico*. *elongata* Orb.*Megalomastoma* *mani* Poey*Rhytidopoma* *undosum* (G.) Pfr.*Annularia* *majusculum* Morl.*Chondropoma* *foveatum* (G.)" n. sp. (near *excisum*)*Pichardiella* a. *horrida* Pils*Lyobasis* *gundlachii* (Fr.) Pfr." *blandianus* Pils*Leptinaria* *monodon* C.B. Ad. (!)*Urocoptis* *torquatā* Morl." *saxosa* Poey*Microceramus* *elegans* (G.) Pfr." *latus* (G.) Pfr. var.

Rangel. Gorge of Taco-Taco river. June 1916.
Hend. & Barlsch, Torre.

Cepolis (Jeann.) *parraiana* Orb.

Thyson. *stigmatica* Pfr.

Pl. (*Zachrysia*) *rangeliana* Pfr.

Emoda *sagraiana* Orb.

Eutro. *regina* Mor.

Helicina *adspersa marmorata* Orb.

Uledia *rotunda* Orb.

Eutro. *straminea* *poeyi* Poey

" *chrysochasma* Poey

" sp.

Megalomastoma *mani* Poey

Rhytidopoma *undosum* (G.) Pfr.

Colobostylus *rangelinus* Poey

Chondropoma *claudicans* Poey

" " *minor*

Oleacina *o. straminea* Desh.

Rectoleacina *episcopalis* Mor.

Pichardiella *a. horrida* Pils

Urocoptis *torquata* Morl.

Rangel (Arriba) Region about "Colonia del Rio"
"Colonia Puerio Rico"; "El Rangel" and
the mountains between the upper
parts of Taco-Taco & Santa Cruz rivers.

Barlsch, Hend. Rodriguez, Torre.

June, 1916.

Cepolis (Jeann.) *parraiana* Orb.

Thysanopora *booth. pinarensis* Hend.

Pl. (*Zachrysia*) *rangeliana* Pfr.

Cepolis (Cyst.) *letranensis* Pfr.

Emoda *sagraiana* Orb.

Eutro. *regina* Mor.

Helicina *adspersa* Pfr.

" " *marmorata* Orb.

Uledia *rotunda* Orb.

Eutroch. *straminea* Mor.

" sp.

Megalomastoma *gundlachi* Pfr.

Rhytidopoma *undosum* (G.) Pfr.

Annularia *majusculum* Morl.

Chondropoma *claudicans* Poey

Liguus *blainianus* Poey

Rangel (Abajo). Region from entrance of Taco-Taco
river gorge East along mountain base almost
to Santa Cruz river - El Espiro. June 1916.

Hend. Barisch, Torre, Rodriguez.

(This is the finca of Blain, & likely his
locality of "Rangel")

Cepolis (Jeann.) *parraiana* Orb.

Thysan. *stigmatica* Pfr.

Pl. (*Zachrysia*) *rangeliana* Pfr.

Emoda *sagraiana* Orb.

Eultr. *regina* Mor.

Alcedia *rotunda* Orb.

Proserpina *depressa* Orb.

Eutrochatella *pyramidalis* Sby.

Megalomastoma *mani* Poey

Ctenopoma *bilabiatum* Orb.

Annularia *majusculum* Morl.

Chondropoma *claudicans* Poey

Rectoleacina *episcopalis* Mor.

Oleacina *o. straminea* Desh.

Urocoptis *torquatā* Morl.

" *sauvalleana* (G.) (at El Guabinacho)

" sp.

Liguus *blainianus* Poey

Rio Santa Cruz de los Pinos #1. Entrance to valley
and up about 1 mile. (Paratonces)
June 1916. Hend. Barisch, Torre, Rodr.

Cepolis (Jeann.) *parraiana* Orb.

Thysanophora *selenina* Gld.

Pl. (*Zachrysia*) *rangeliana* Pfr.

Emoda *sagraiana* Orb.

Eultr. *regina* Mor.

Liguus *blainianus* Poey

Alcedia *minima* Orb.

" *rotunda* Orb.

Proserpina *depressa* Orb.

Eutrochatella *acum. columellaris* G.

" *chrysochasma* Poey

Megalomastoma *mani* Poey

Ctenopoma *bilabiatum* Orb.

" *undatum* (G.) Pfr.

Annularia *majusculum* Morl.

Chondropoma *claudicans* Poey

Oleacina *o. straminea* Desh.

Rectoleacina *cubensis* Orb.

" *suluralis* Pfr.

" *episcopalis* Morelet

Urocoptis *sauvalleana* (G.)

" sp.

Rio Horido.N. of San Cristobal in the mountains
a day's ride from Candelaria.

Hend. Barlöch. Rodriguez. June 1916.

Cepolis (Jeann.) *parraiana* Urb.*Thysan.* *stigmatica* Pfr." *boothiana pinarensis* Hend." *selicina* Gid.*Polygyra paludosa* Pfr.*Pl.* (*Zachrysia*) *rangelina* Pfr.*Enoda sagraiana* Urb.*Eulro regina* Mor.*Helicina adspersa* Pfr.*Lyobasis angustatus* (G.)*Uradia minima* Urb.*Urocoptis acus* Pfr." *rotunda* Urb.*Roserpina depressa* Urb.*Eulrochalilla straminea* Mor.sp.
Megalomastoma mani Poey" *gundlachi* Pfr.*Annularia majusculum* Mor.*Chondropoma* ^{ottonis Pfr. var.} *claudicans* Poey (Mor.)*Oleacina o. straminea* Desh.*Rectoleacina cubensis* Urb." *suluralis* Pfr.

Peña Blanca (Mt.) - Near "El Huro" and "Finca Dolores"
and S. of Bahia Honda.

Barlisch, Hend. Rodriguez. June 1916.

Cepolis (Jeann.) *parruiana* Orb.

Thysanophora setosa Gr.

Emoda sagraiana Orb.

Helicina adpersa Pfr.

Alcudia minima Orb.

" *rotunda* Orb.

Proserpina depressa Orb.

Eutrochatella straminea Muls.

" " var.

Megalomastoma gundlachi Pfr.

Chondropoma ottonis Pfr.

Oleacina o. straminea Desh.

Rectoleacina cubensis Orb.

" *suturalis* Pfr.

Urocoptis acus Pfr.

" *poeyana* Orb.

Lomas del Cuzeo (El Mulo) - High Hill N. of the
Finca Merced † of the complex
known as "Loma del Cuzeo."

(Hend. Barlisch, Rodrig.) June 1916.

Cepolis (Jeann.) *parruiana* Orb.

Thysan. stigmatica Pfr.

Pl. (Zachrysis) rongeliana Pfr.

Emoda sagraiana Orb.

Helicina adpersa Pfr.

Alcudia minima Orb.

" *rotunda* Orb.

Proserpina depressa Orb.

Eutrochatella straminea politula Poey

" " var.

Megalomastoma mani Poey

" *gundlachi* Pfr.

Chondropoma claudicans Poey

" " (minor)

" *ottonis* Pfr. (var.)

Pichardiella a. horrida Pils. *P. acuticostata* Orb.

Lyobasis angustatus (Gr.) *Succinea* sp.

Urocoptis decolorata (Gr.) Pfr.

Candelaria #1. (Frias) N.W. of town at foot of
mountains.

(Hend. Bartsch, Torre, Rodriguez) June 1916.

Cepolis (Seann.) parraiana Orb.

Pl. (Zachrysis) auricoma Fer.

Megalomastoma mani Poey

Annularia majusculum Mot

Chondropoma ^{ottonis Pf} *claudicans* Poey

Finca Dolores. (see Peña Blanca) near Lomas del Cuzco.
Hend. Bartsch, Rodriguez. June 1916.

Cepolis (Seann.) parraiana Orb.

Alcadia rotunda Orb.

Santa Catalina (Lomas del Cuzco) Among the Cuzco
hills - S. of site of Cuzco.

June, 1916. (Hend. Bartsch Rodriguez.)

Cepolis (Jeann.) *parraiana* Orb.

Helicina *adspersa* Pfr.

El Mogolē (Candelaria) Entrance to Hills from
plain. south of "Cuzco."

Hend. Bartsch, Rodriguez.

June 1916.

Cepolis (Jeann.) *parraiana* Orb

Polygyra *poludosa* Pfr.

Helicina *adspersa* Pfr.

Chondropoma *ottonis* Pfr.

Urocoptis *poeyana* Orb.

Esquela de las Frias - Candelaria - P. del R.

Stone fence - Torre, Simpson, J.B.H.

March 20/20

Polygona paludosa Pfr.*Chondropoma ottonis* Pfr.*Annularia majusculum* Orb. - small race -Road between Havana and Batabanóat Kilometer 14 - Stone fence - March 1920

Torre, Simpson, J.B.H.

Urocoptis poeyana Orb." *elegans* ~~at~~ *auroriana* Orb." *humboldtiana* Afr.*Chondropoma dentata* Say" *pfeifferiana* Poey" *ottonis* Pfr.*Alcudia hispida* Pfr.*Alcudia solidula* Pfr.*Cephalis* (Jean.) *multistriata* Desh.*Thysanophora selenina* Gld.

Libano
Monte Toro, Guantánamo (Orientē) (March, 1911)

About Cave, source of Guaso River
(Barlsch, J.B.H., Ramsden, Rodriguez)

Geometaria lirata Poey

V. Pichardiella

" "

" "

" *swiftiana* Pils

"

Leptinaria

Coeciloides consobrina Orb.

Oleacina o. straminea Desh

" *translucida* Gundi

Obeliscus terebraster Lam

" *maximus* Poey

Urocoptis sowerbyana Pfr.

" *pilsbryana* Ramsden

Brachypodella angulifera G.

Macroceramus gundlachi, var.

" *pazi* var.

Thysanophora boothiana Pfr.

" *selenina* Gld.

" *saxicola* Pfr.

" *plagyoptica* Sh.

" *Thysanoph.* *euclasta* Shuttl.

Zonitoides subupex H.

" n. sp.

Guppya gundlachi, Pfr.

Cepolis (Lys) pemphigodes Pfr.

" *alauda* Fer.

" (Hem.) *gilva* Fer

Pleurodontē (Poly.) sobrina Fer.

Pleurodontē marginella Gmel.

" (*Zachrysia*) *proboscidea* Pfr.

Ceratodiscus minimus (G.) Pfr.

Rhytidipoma jeannereti Pfr.

Diploma architectonica (G.)

Chondropoma dilatatum (G.) Pfr.

Annularia ramsdeni Pils + Her.

Lucidella tantilla Pils

" *granum*

Eulrochalēlla Pfeifferiana (Av.) Pfr.
var.

Alcadia (poor spec)

" (poor spec)

Pseudobatea latus (G.)

Bifidaria

Circinaria paucispira Poey

Proserpina depressa Orb.

Emoda submarginala Gray

U.S. Naval Station at Guantánamo Bay Cuba

March 1917 (Barlsch, J.B.H.)

Stations: (A) Fishermans Point.

(B) Cuzco Beach and Trail

(C) Windmill Beach and trail.

(D) About Rifle Range

(E) Island, head of Cumberland Inlet

(F) Hill, Bayward from Rifle Range

(G) Boqueron Trail N.E. of

Amusement House.

H. Hospital Point.

Thysanophora selenina Gld.

" *inaquensis* Weind. (C)

Macroceramus festus (G.) Pfr. (F, E, H, D, A)

" " (var.) (B)

Cepolis (Hemitrochus) lucipela Poey (A, B, G)

" " " *velasqueziana* Poey (A, B)

" (*Coryda*) *ovumreguli*, Lea (H, A, G, D)

Pleurodontē (Z.) aur. provisorio Pfr. (B)

Polymila versicolor Born (D, G)

Chondropoma marginalbum Gundl. (G, C, D)

Alcadia exserta Gundi (E)

Caimanera (Orientē) Cuba

(Mch, 1917)

(Bartsch, J.B.H.)

- Stations: (A.) "Island Hill in flats on E.
Side of R.R. track about
 $\frac{1}{2}$ mile from Caimanera.
- (B.) Hills on W. side of
track about $\frac{1}{2}$ miles
from Caimanera.

Succinea (B)

Oleacina translucida (Ct)

Macroceramus festus (G.) Pfr. (A)

Cepolis (Hemilfo.) lucipela Poey (B)

" (Coryda) ovumreguli, Lea (B)

Pleurodontē (Zachrysia) auricoma provisorio Pfr. (A.B.)

" (Caracolus) marginella Fer. (A.B.)

Alcadia exsertā Gundl

La Vigia - Hill back of city of Trinidad

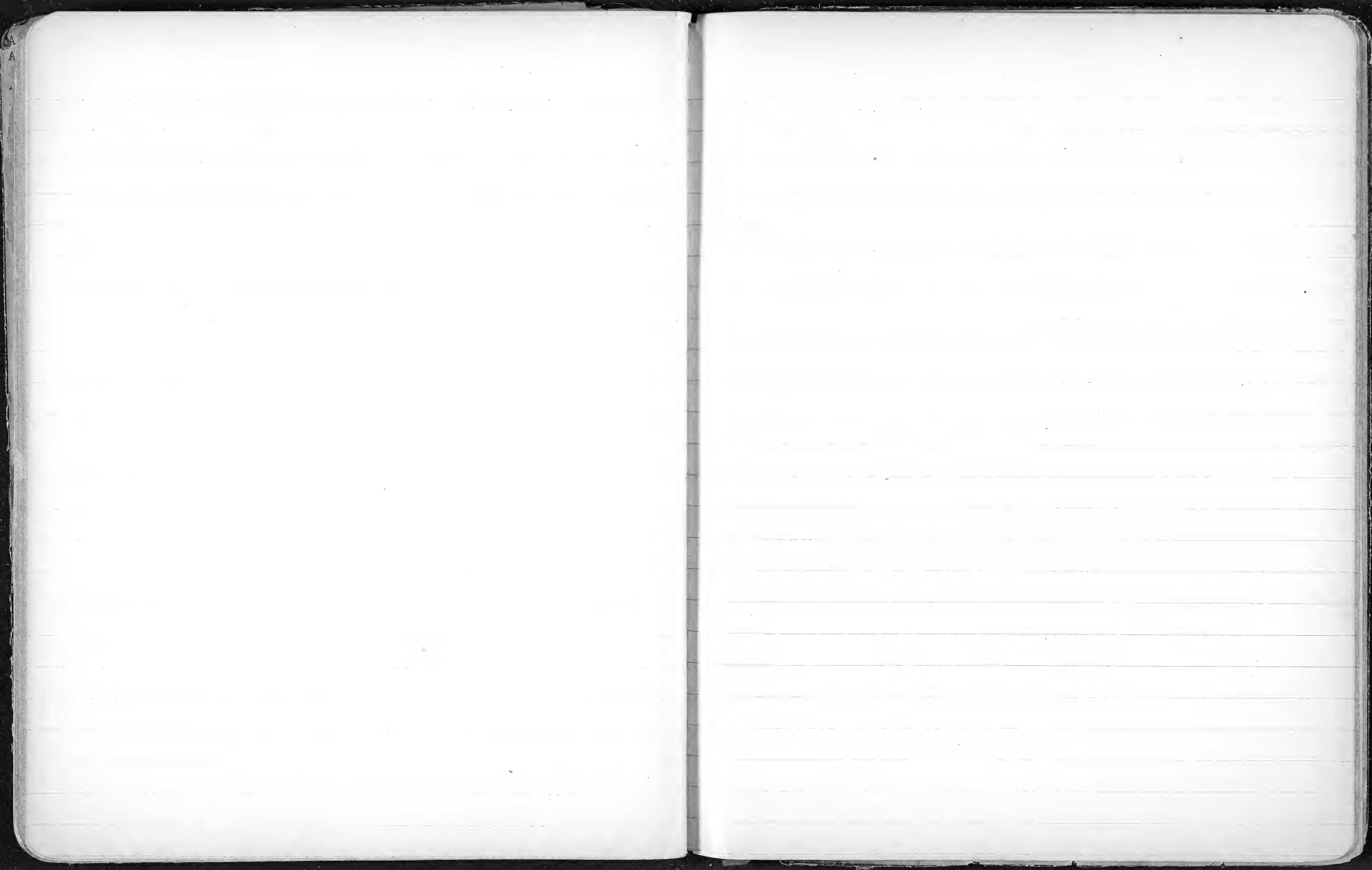
Mch. 1920 - Rodriguez, Simpson, J.B.H.

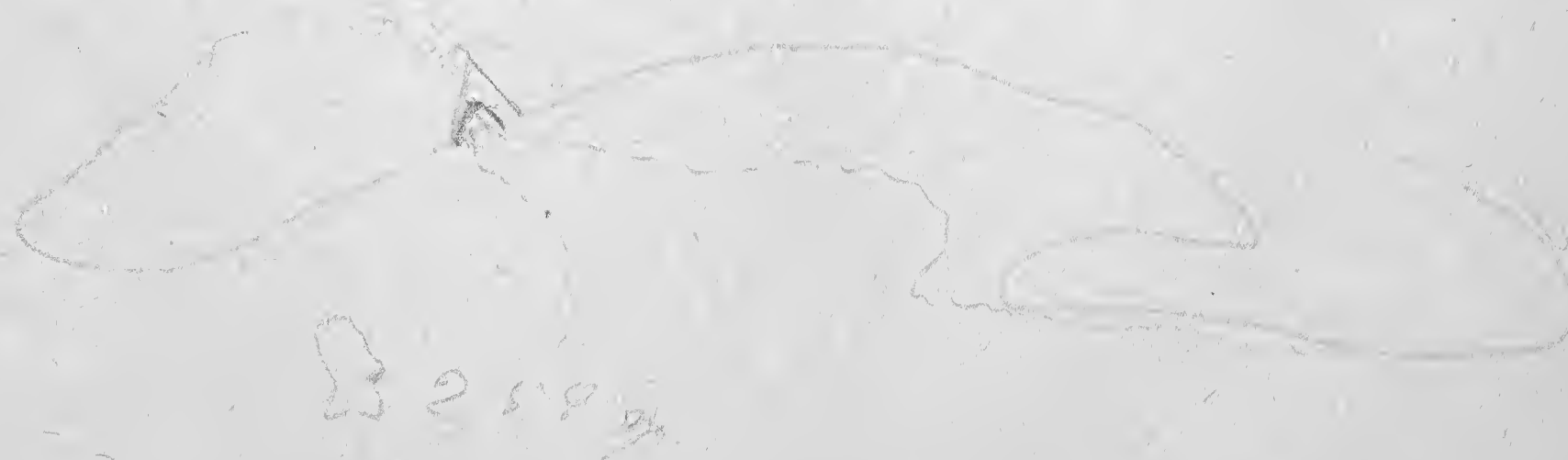
Zachrysia auricomma var
Cepolis gilva Fer.
Microceramus trinidadensis Pils
Urocoptis canteroiana (G.) Urango
Thysanophora suavis G.
Cyrtelasmus canteroiana Pfr.
Oleacea orysacea Orb.
 " *cyanozoaria* G.
Megalomastoma
Cistula inculta Poy
Chondropoma violaceum Pfr.
Emoda ciliata Poy
Liguus fasciatus Mull

Sopimpa - On R.R. between Fomento and Trinidad - About 3 Kil South at Kil. 46-45 - Mch. 1920

Rodriguez-Simpson - J.B.H.

Succinea
Thysanophora boothiana
 " *suavis*
Zachrysia trinitaria
Macroceramus canimarensis
Urocoptis producta
 " *trinidadensis*
Eutrochatella petrosa
Alcacia hispida
 " sp.
Emoda ciliata
Helicina adpersa lanieriana
Lucidella rugosa
Obeliscus homalopyra
Cyrtelasmus canteroiana
Oleacina cyanozoaria
 " *orysacea*
Chondropoma violaceum
Cistula illustris Poy
Megalomastoma bituberculatum

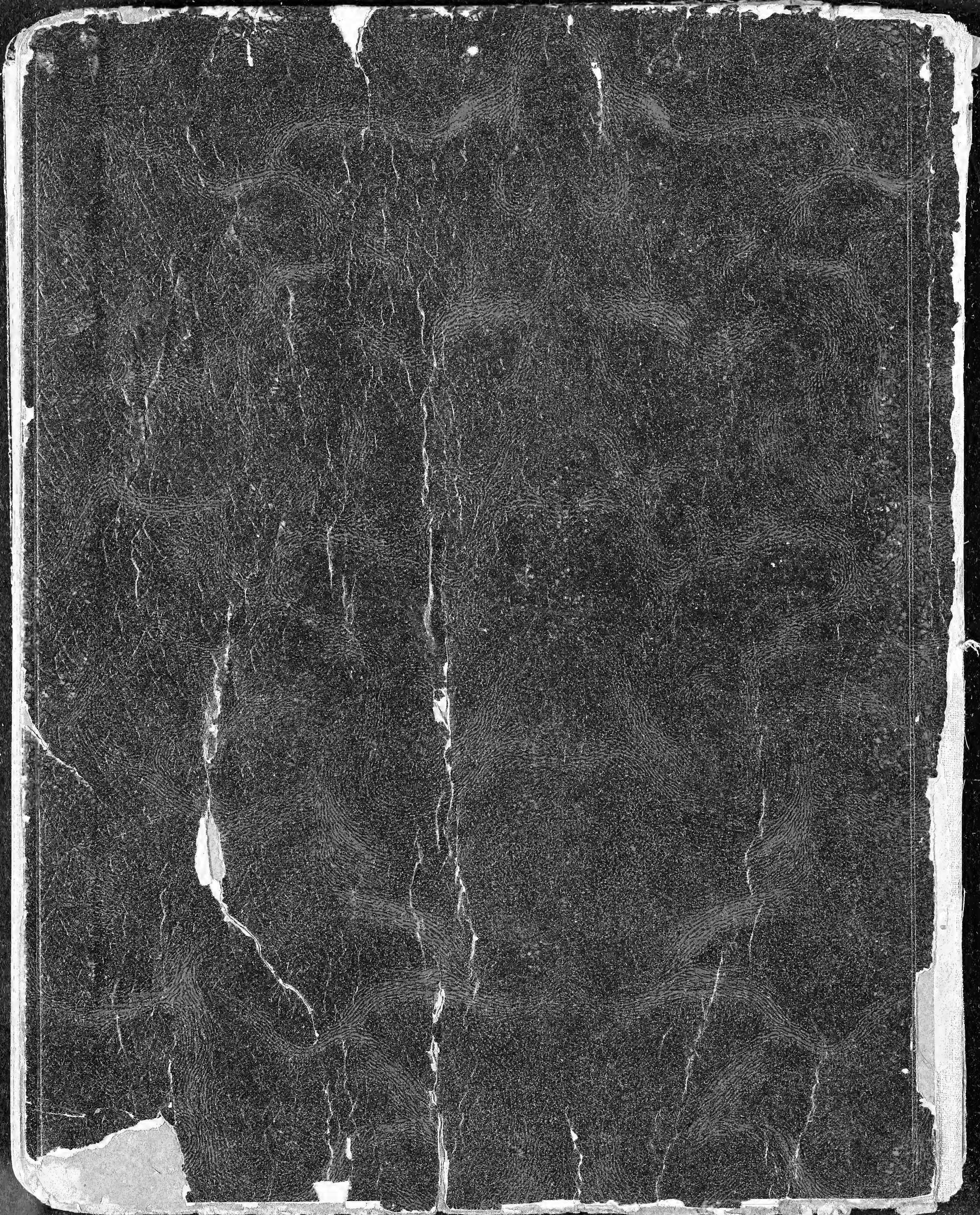




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Copy of John B. Henderson's field notes.

(C U B A)

Hacienda Jiqui, Rosario,

Ensenada de Cochinos, Cuba. February, 1908

The Cienega de Zapata (Orientae) is back about 3 miles from shore line.

Collecting here now (dry season) is poor. The few operculates are found dead in open spaces among limestone rocks and on the ground near the shore, but no specimens taken in the forest. (see later) The few live specimens found same station. No Liguus seen whatever, even fragments (see later), yet all natives say they are abundant on trees in the rainy season. Cerion iostoma Pfr. occurs along the shore on vegetation, but usually hidden from open sight, concealed in crevices of wood and upon dead palm leaves, generally in colonies or patches. The Cepolis supertexta are only found on dead palm leaves, generally the withered ones in the folds of which they can hide, and by their similar color make discovery difficult. Dead specimens of these, as of almost every species other than the very small ones, are inhabited by hermit crabs, with which this region fairly swarms. The Ampullaria apparently occurs in limited numbers wherever there is fresh water, but are abundant on the vegetation in the Cienga proper. They live concealed from sight and are preyed upon by the water fowl, according to the report of natives. Shells of Ampullaria are met almost anywhere tenanted by hermits, even on the shore of the bay.

Helicina sparingly on dead palm leaves near the salt water, but dead specimens were taken a mile inland in cleared patches in woods.

Polygyra paludosa on wet ground along edge of Cienga.

Ancylus and Annicolids were taken on dead leaves and pieces of palms lying in Cienga.

A very few dead specimens of Cep. multistriata taken under stones in cleared spaces in woods. C. cubensis, or an allied species, was found dead sparingly in some very open woods near edge of Cienga.

This country is perfectly flat, of sharply weathered limestone, in places broken into fragments which lie scattered about. Often deep pot holes. Underneath the surface rivers from the Cienga flow to the sea occasionally appearing on the surface. At the margin of sea the rock is weathered into the sharpest possible surface, and is cut under by waves forming overhanging shore line.

About two or three feet above
water line. Tide 12 to 18 inches.

Little sea

Further exploration developed two operculates, especially the large one about $\frac{1}{2}$ mile from shore, under stones in the heavy forest. These were taken alive. The smaller operculates and an Opisthosiphon were taken alive near the shore under stones, slabs of weathered limestone and particularly in the loose friable dirt under the stones.

The Urocoptis was taken dead (a very few live specimens) under stones and in the debris and humus along side of paths in woods.

The Thysanophora were taken same station as Urocoptis, and generally occur wherever other ground snails are found.

A few fragments of Liguus found near shore.

A more careful search among the palms (Thyaca parviflora) for Cepolis supertexta has netted us a very large series varying in size, height of spire, and color. They seem to occur in zones along the shore, being far more abundant along 50 or 100 feet of shore line and then practically disappearing for $\frac{1}{4}$ mile or so, although the growth of palms continues along apparently the same. The leaves most frequented are those longest dead and most folded. Occasionally specimens were taken on tree trunks, under bark, etc., and evidences of them are found in the deep woods where there are no palms at all.

In places along the shore, the Cerions were found in great abundance, clinging to stones, tree trunks, leaves, and on the ground.

A visit to the shore across the Bay directly opposite developed no land shells whatever. The character of the coast there is very different from here, being sandy, shallow. The swamp comes to the beach and vegetation is small and scrubby. Such a pest of mosquitoes, any very thorough work was impossible.

The above shows roughly the typical elevation and types of tree growth at Rosario.

The wonderful clearness of the water is very striking, probably 60 feet bottom may be seen, corals, sea fans, neptune cups and white sand.

Above tide on the sharp rock occurs several marine mollusks,

notably Nerita peloronta and tessellata and versicolor, Litorina tessellata. Tectarius nodulosa (?) is abundant on tree trunks along with Cerion. Tectarius muricata also abundant same station as last, but not so high on trees. Neritina pupa (very dark form) in patches on rocks. Fissurella barbadensis and several Acmaea are fairly abundant about high tide mark also the large Chiton. A number of marine species, Columbellas, Cerithia, Conus, etc., are found sparingly in cavities of rock below high tide.

Dredging off this shore is rendered impossible by the corals. Many very desirable marine species are brought up in a more or less broken condition by hermit crabs, showing their probable presence not far off if a dredge could only be used.

Tide pools farther down the bay showed up in some quantity, Livona pica, Leucozonais leucozonais, Conus mus, Purpura patula, Neritina pupa typical in color, Litorina mespilum (in great quantities), Mytilus dominiguensis, Columbella mercatoria, Litorina tessellata.

At Perdices 7 miles S. from Rosario no land shells were found alive, - except Cerion iostoma. The very few dead shells taken were of the same species as found here. Beginning at about Perdices the shore is more bold, the elevation of 10 to 15 feet, found here only a distance back then comes to the shore, forming a cliff theoretically, but in effect so much eaten into by the sea it presents much the same appearance as here:

Drawing

The shore line back for 10 to 20 feet is excessively sharp "honey-comb" limestone with no soil and barren with frequent pot holes and underground rivers. Back of this is generally a fringe of scrub and palms more or less dense and usually filled with thorny shrubs. This is probably 100 feet wide and merges into the forest.

Showing typical shore line and a caleta or River in Rosario neighborhood. Depths feet--not from actual example.

Drawing

List of Rosario species;

Chon. dentatum
 " caudeanum (so-called) = caranenses P. & H.
 " wilcoxi (large sp.)
 Ct. clathratum Gld. (see Torre notes)
 Thysan. boothiana (or vuytesi) Thysan. debilis Pfr.
 Cepolis cubensis v. pennicillata
 " supertexta
 " multistriata
 Pleurs. auricoma
 Poly. paludosa
 Helicina adpersa
 " rugosa
 " globulosa
 Alcadia minima
 Oleacina oleacea straminea
 Urocoptis poeyana
 Sphaerium cubensis
 Ancylus
 Ampullaria conica
 Cerion iostomum

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 Poly. paludosa
 Helicina adspersa
 " rugosa
 " globulosa
 Alcadia minima
 Oleacina oleacea straminea
 Urocoptis poeyana
 Spnaerium cubensis
 Ancylius
 Ampullaria conica
 Cerion iostomum

VINALES	Uro. vinalensis
PASO REAL	" nubila
S. DE GUAM	" coerulans
PORTALES	" discors
TENERIA	" incerta (possibly discors - paradoxa)
GUAM	Eutro. subunguiculata
	" remota
	" jugulata
PASO REAL	" chrysochasma
VINALES	" regina
	Hel. sagraiana
SIERRA DE GUAM	Chon. shuttleworthi
	" sagebieni
	Ct. bilabiatum
	Cepolis paralella (typical)
	Helicina jugulata
	" elongata
	" remota
	" sagraiana
	Uro. coerulans
	Megal. mani

Notes from Pilsbry's Cuban shells

Alcacia nitida Pfr. - Yumuri Valley

" *rotundata?* - La Salud, S. of Havana

(Similar to last but more rotund, last
whorl being large and globose)

" *hispid*a - (Typ. from Trinidad and Cienfuegos)

" *hispid*a var. *gundlachi* Pfr. ? Havana and Matanzas.

(Quite similar to *nitida* but a bit smaller
and hispid)

See Bull. Geol. Soc. America, VI, 103; VII, 67 (1896).

The Havana form of *nitida* has been called *glabra*.

Soledad Plantation, 20 miles S. E. of Cienfuegos

First visit, Simpson, Wilcox and J. B. H.

Helix auferi (so called)

Pseudobalea perversa

Cten. immersum (near) *Torrellia* (*Torrelliaca*) *simpsoni* H. & B.

Thysan. boothiana

Oleacina orysacea

Thysan. saxicola (or *boothiana*)

Uro. variegata

Cten. torcuata

"*Thysan.*" *debilis* Pfr.

Locality: Small loma on side of track from river landing to
Central and about 3/4 mile from Central.

Soledad Plantation 2d visit, February, 1915

Simpson, Wilcox and J. B. H.

Locality: 1st same as last visit

2d two hills E. of Central about 2 and $2\frac{1}{2}$ miles.

(beyond botanical experimental station)

Cepolis "auberi"	Alcacia
" poeyi	Helicina
" bonplandi	Picardiella nr. cienfuegensis Pils.
Pl. trinitaria	Obeliscus homalogyra Sh. P. + var.
Thysan. suavis	Chondropoma violaceum Pfr. var. atkinsi Hen.
" boctniana	Liguus fasc. (dead)
" selenina	Eutroch. petrosa Pfr.
Uro. n. sp. (near <u>livida</u> Torre)	Megalomas
Uro. cienfuegosensis Pils.	Guppya gundlachia
Opisthos. torquata Gut.	Macrocerin
" simpsoni Torre	Thysan. n. sp. (suavis group)
"	Cryptalasmus canteroiana (G.) Pfr.
Oleacina orysacea	Guppya (n. sp.?)
" o. straminea Desh.	
Emoda	
Lucidella rugosa Pfr.	

Soledad Plantation (E. of Cienfuegos) Sta. Clara

Fence on N. side of carretera just before reaching Cumanayagua. February, 1915.

Simpson, Wilcox and J. B. H.

Chondropoma delatreanum (G.) Pfr.

The smoother var., small, less convex whorls.

Eutrochatella petrosa Pfr.

Cryptalusmus canteroiana (G.) Pfr.

Oleacina o. straminea Desh.

Uro. cienfuegosensis Pils.

The following are the species we collected at Ceiba Mocha, El Palenque and El Pan de Matanzas as determined by Torre. Mocha is 10 miles W. of Matanzas and the Palenque and Pan are 6 miles N. of Mocha.

Megalomestoma apertum Poey	Mocha, Palen.
Chon. pictum	"
" " v. major.	"
" dentatum Say	" "
" irradians Shuttl.	"
Ct. rugulosum Pfr.	" "
" " v. nodulatum Poey	" "
Helicina submarginata Gray	" "
" adpersa Pfr.	" "
" nitida Pfr.	" "
" conica Pfr.	" "
Alcadia hispida Pfr.	" "
" minima Orb.	" "
Eutrochatella sloanei Shuttl.	" "
" rupestris	El Pan "
Helix auricoma Fer.	" "
" bonplandi Lam.	" "
" cubensis Pfr.	" "

<i>Helix stigmatica</i> Pfr.	Mocha,	Palenque
" <i>debilis</i> Pfr.	"	"
" <i>multistriata</i> Desh.	"	"
" <i>vortex</i> Pfr.	"	"
<i>Liguus fasciatus</i> Mull.	"	"
<i>Macroceramus palenquensis</i> Gund.		"
<i>Urocoptis seaeva</i> Gundl.	"	"
" <i>fortis</i> "	"	
" <i>modesta</i> Poey		"
" <i>gracillima</i> Poey	"	
" <i>fumosa</i>	El Pan	"
" <i>rugeli</i> Shuttl.?	"	"
<i>Glandina oleacea</i> Fer.	Mocha	"
" <i>solidula</i> Pfr.	"	"
" <i>subulata</i> Pfr.	"	"

We failed to get on the Palenque Chon. presasiana, which much resembles Ch. irradians, except in sculpture, but this sp. only occurs on the north side of the mountain, which Torre and I failed to reach after a long and very tiresome ride horseback.

The Pan and Palenque are two mountains of about 1000 feet of much weathered coral limestone and densely grown over in jungle.

The fine Urocop. gracillima occurs on an old stone fence near the station of Mocha (W. 1/8 mile and N. side of track).

Reported from Guajaibon and Azucar (Crosse L) Guahaibon

G. oleacea

G. ottonis

G. sicilis

G. incisa

Strep. cubaniana

H. sublussulcata

H. parraiana

H. guianensis

H. rangeliiana

H. sagraiana

H. raripila (Thysan.)

Macrocer. latus

" *maculatus*

" *elegans*

" *palvanus*

Urocop. torquata

" *irrorata*

" *crenulata*

" *vincata*

" *arcustriata*

" *soluta*

" *pressiana*

Guajaibon

Azucar

Urocop. volubilis

" brunnes cens

" blainiana

Stenog. gundlachi

Megaeomas. procer

" mani

Choan. majusculum

" pretrei

" blaini

Chondro. latilobre

" egregium

" canaliculata

" assimile

" shuttleworthi

" sericatum

" excisum

Eutro. regina

" subunguiculata

Helicina sagrosiana

" jucunda

" elongata

" rotunda

" remota

" wrighti

Guajaibon

Azucar

Helicina nodae" *fuscula*" *rubromarginata**Alcudia minima*

The above 50 sp. are specially reported from these two localities by Crosse.

Loma de Tapaste

U. planospira or (?) *arangiata* (?)*Cistula jimenoii**Chon. pictum*

San Jose de las Lajas

U. humboldiana or *oveideana*(= var. *peraffinis* Pils.)

At Coca near Guines.

U. humboldtiana--*strangulata*

U. planospira

U. gracillima

Eutrochatella rupestris and *sloaniana*

Caon. pfeifferianum

Helix cubensis *pencillata*

Camoa on water *U. philippiana* *U. aculeus*

Ganuga *Caon. pfeifferiana* (small var.)

Isle of Pines species

Megal. procer + vars.	Cepolis pityonesica
Chon. dissolutum (like pictum)	Thaenpha boothiana
" semicanum (S. part of Isl.)	Cepolis comus
Ct. denegatum)	Pleuro. auricoma
) prob. iden.	
" rugulosum)	Liguus fasciatus
Tudora pupoides (Caballos)	Ancylus radiatulus
" moreletiana (Casas)	Planorbis lucidus
Eutrocha. constellata (Casas)	Limnea cubensis
" stellata (Caballos)	Hydrobia
" caliosa Poey	Polygyra peludosa
" luteoapicata (both mts.)	Ampullaria.
Helicina scopulorum (like sloani)	
" elongata	
" adpersa (both mts.)	
Uro. pruinosa (both mts.)	
Pineria terebra	
" beathiana	
Oleacina follicularis	
" oleacea straminea	
" solidula	
" subulata	
Sten. stricta	
Glandinella poeyiana	
Cerion pineria Dall	
Proserpina globulosa	

Isle of Pines Notes

SKETCH

(Key to map)

Eu. constellata 1, 2, 3
 Eu. stellata 6, 12
 Pineria beathiana 14, 15
 " terebra 15 (only)
 Chon. dissolutum 19
 Tudora pupoides 6, 7, 8, 9, 10, 12
 Megal. procer 11, and 17 are especially good.
 Fresh-water things and Polygyra in old corduroy road, 17.
 Ampullaria tores 16, just back of beach

Cerion pineria probably on S. coast and at Cabo Fransica in west; also Chon. semicanum.

Up river from Nueva Gerona about 5 miles are said to be rapids, stones, falls, etc., probably good for f. w.

Eu. constellata in dry weather live in deep crevices of rock and not easily seen. Live in colonies. Best loc. is no. 1 on map.

Eu. stellata same, but less abundant, on Caballos and that system only. Not on Casas.

In conglomerate on Colombo Mt. Eu. constellata was observed!

To be visited from Los Indios the Canada Mts. and San Jose. Also Western Cape (Frances) for Cerion and Morelet's Chon. semicanum (probably) Daguilla Mt. near Santa Fé is ancient rock and presumably poor collecting. None of these locs. have been explored.

Torre visited Canada Mts. in 1913 and reports nothing there. Morelet's Ch. semicanum is a spurious species.

Notes on live animals Isle of Pines

Tudora pupoides

Foot very short. Tentacles all white. Animal crawls side-wise as to longitude of shell and progresses by lifting shell over every foot length of progress



Sketch

Chon. dissolutum

White tentacles, foot short, drags shell just in opposite way from last.

Eut. scopulorum

Has the long vibrating tentacles like Eu. constellaris.

(See paper in Carnegie of Pittsb. Isle of Pines by J.B.H.)

Eu. luteoapicina and *calliosa* not in Smithsonian.

Helicina mestrei Ar. from Mogote del Cerro de Cabras has long, quickly moving tentacles, the eye being at outer base. The mouth is projectile and slit longitudinally, thus giving two lips, a right and left. When feeding, these lips open and close in a very peculiar motion, while crawling the black slender tentacles are kept in rapid motion, whipping the air.

Notes on Sumidero and Luis Lazo trip.

Left Havana Sunday 7 a.m. (April 17, 1909) for Pinar del Rio. Hotel Ricardo at noon and coach (at \$10 per diem) for Sumidero. The first range of mountains are met at Bebedero, a locality given in error by Arango, the actual place of his last trip being just over the range (ancient rock) at a few mogotes called Magotes del Cerro. We stopped there for a few minutes only, reserving same for return journey. The ancient range crossed we see the Sierra de los Organos beyond and descend into the Valley of Isabel Maria; thence to Cabezas and Sumidero, reaching the latter place about 6:30. This road is the new carretera being built from Pinar del Rio to Guave (about 40 miles); Sumidero being about one-half way. Stopped at house of pharmacist. Collected next day at Sumidero and Risoidiero. Following day we drove to Luis Lazo and San Carlos, next back to Pinar, stopping at the Mogotes del Cerro.

Enclosure

At Sumidero points collected marked in numbers.

4 and 5 Simpson only.

Chon. incrassatum -- Helicina jugulata

Eutro. subui

Helicina sag. (percrassa, Torre) MS.

Luis Lazo and San Carlos Valley

Drawing

Chon. crassum (Torre MS.) at 2.

No Licina percrassum found.

I believe will be at 50 (about 2000').

Mogotes del Cerro de Cabras

Choan. tryoni.

Chon. hamlini and var.

Cyl. hidalgoi

"

Hel. mestrei

" cisnerosi

Jean. wrighti (possibly)

These mogotes are limestone islands in the range of
ancient rock.

Isabel Maria, collected

Cyl. violacea

Hel. sagraiana

" jugulata (red mouth)

Chon. incrassatum

Choan. blaini

Alcadia

Hel. montana (?)

San Diego de los Banos trip. November, 1913

Map

Torre's notes on San Diego specimens given him

Mogote de los Indios (no. 2)

Choan. sordidum -- possibly C. blaini. Comp.

Uro. guirensis, but larger and closer striae.

" integra. Requires careful study

" ---- n. sp. (?) Resembles volubilis and saxosa

comp. cristallina difficultuosa

distinct fraterna

Micro. elegans, probably

Melaniella gracillima (?)

---Torre wishes large sp.

La Cumbre (and Bosque No. 4)

Chon. foveatum var.

Strep. episcopalis

O. ottonis - comp. sicilis and incisa

Melan. acuticostata Orb.

Uro. irrorata

U. guirensis

Lyobasis angustatus

Alcacia minima

Eut. regina

Megal. mani.