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## 2. SANTA CRUZ AND ITS SATELLITE ISLETS

Plaza Sur  
Guy Fawkes  
Eden  
Santa Cruz

Table 2.1 Vegetation of Isla Plaza Sur. Feb. 15, 1970

No.	1	2	3	4	5	6
Record no.	21504	21505	21506	21507	21508	21509
Percentage of lava	20	20	30	30	50	20
Vegetation cover (%)	20	-	50	60	30	50
<i>Sesuvium edmonstonei</i>	1.2	1.2	2.2	.	.	.
<i>Tiquilia galapagoa</i>	1.2	1.2	1.2	.	.	.
<i>Opuntia echios</i>	.	+	+	1.1	1.1	1.1
Dead grasses	.	+2	1.1	2.2	.	.
<i>Scutia spicata</i>	.	.	.	2.2	1.2	1.2
<i>Maytenus octagona</i>	.	.	.	2.2	3.2	2.2
<i>Grabowskia boerhaaviaefolia</i>	.	.	.	3.3	1.2	4.3
<i>Castela galapageia</i>	.	.	.	2.2	.	.
<i>Parkinsonia aculeata</i>	.	.	.	.	1.2	.

South Plaza. Feb. 15, 1970

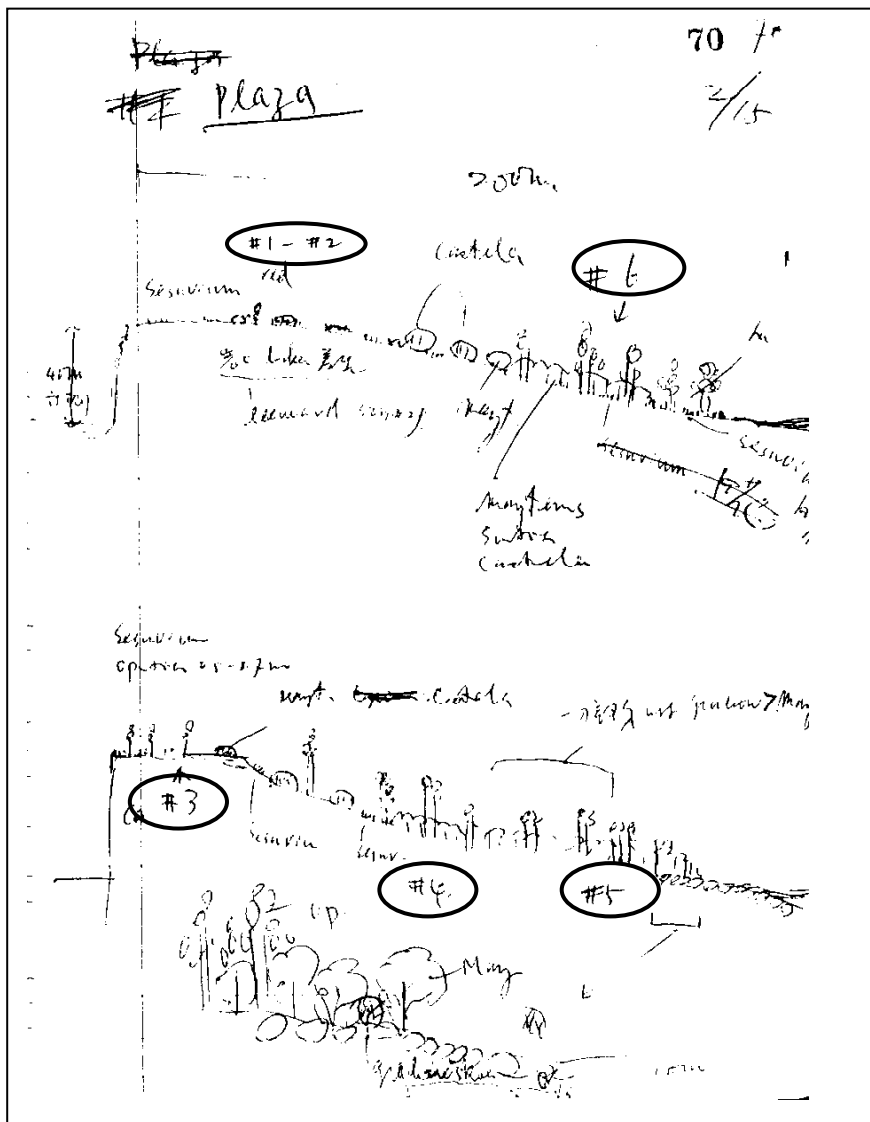


Table 2.2 Guy Fawkes. Aug. 16, 1981

No.	1	2
Record no.	81059a	81059b
<i>Portulaca howellii</i>	2.1	2.1
<i>Ipomoea linearifolia</i>	1.2	1.2
<i>Tribulus cistoides</i>	1.1	1.1
<i>Alternanthera</i> sp.	0.2	0.2
Dead grasses	+	+
<i>Sesuvium edmonstonei</i>	+	.
<i>Heliotropium angiospermum</i>	.	+

Isla Eden. May 16, 1970

Landed at small inlet on the north coast of the island.

Plants recorded were as below, in order of recording. Asterisks mean voucher specimens collected.

*Cryptocarpus pyriformis*, *Sesuvium edmonstonei*\*, *Acacia rorudiana*\*, *Pectis subsquarosa*\*, *Polygala galaoageia* var. *insularis*\*, *Acalypha paruvula*\*, *Scalesia aspera*\*, *Cordia lutea*, *Heliotropium angiospermum*, *Neptunia plena*, *Rhynchosia minima*, *Galapctia velutina*, *Alternanthera vestita*\*, *Ipomoea linearifolia*\*, *Chamaesyche punctulata*\*, *Waltheria ovata*\*, *Ruellia floribunda*\*, *Mentzeria aspera*, *Croton scoulerii*\*, *Maytenus octagona*, *Herissantia crispula*\*, *Bursera graveolens*.

Altitude of the highest point is 140 m above sea level.

Table 2.3 Dune vegetation (1) at Bahia Tortuga, Isla Santa Cruz. May 03, 1970.

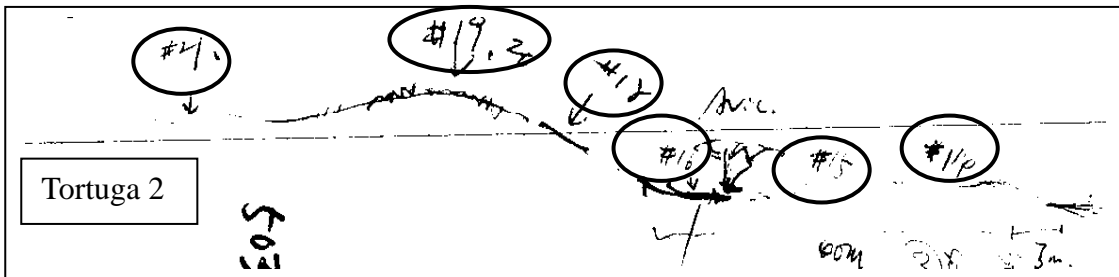
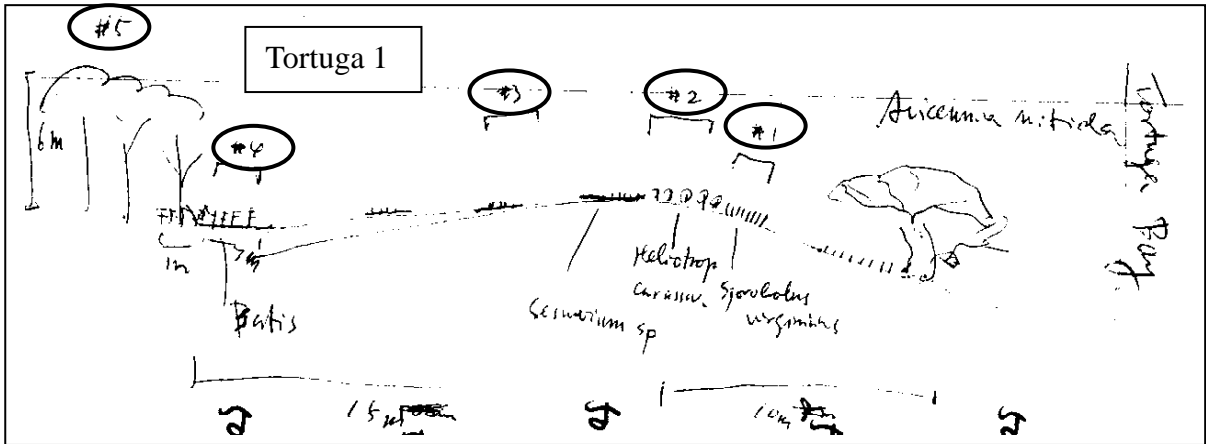
No.	5a	5b	4a	4b	3a	3b	2a	2b	1a	1b
Record no.	50310	50309	50308	50307	50306	50305	50304	50303	50302	50301
Distance from tide line (m)			25					10		
<i>Rhizophora mangle</i>	5.4	5.4	.	.	.	.	.	.	.	.
<i>Avicennia germinans</i>	1.2	1.2	.	.	.	.	.	.	.	.
<i>Batis maritima</i>	.	.	<b>5.4</b>	5.4	.	.	.	.	.	.
<i>Sesuvium edmonstonei</i>	.	.	.	.	3.3	2.3	.	.	.	.
<i>Sporobolus virginicus</i>	.	.	.	.	1.2	1.2	1.2	2.2	3.3	2.2
<i>Heliotropium currasavicum</i>	.	.	.	.	.	.	2.2	3.3	.	.

Table 2.4 Dune vegetation (2) at Bahia Tortuga, Isla Santa Cruz. May 03, 1970.

No.	22	21	20	19	18	17	16
Record no.	50322	50321	50320	50319	50318	50317	50316
Distance from tide line (m)							40
Vegetation cover (%)	40	30	-	80	20	70	70
<i>Ipomoea pes-caprae</i>	1.2	2.2	2.2	2.2	1.2	1.2	1.2
<i>Tiquilia galapagoa</i>	3.2	2.2	<b>2.2</b>	2.3	+ .2	.	.
<i>Heliotropium currasavicum</i>	1.2	2.2	1.2	1.2	+ .2	1.2	1.2
<i>Sporobolus virginicus</i>	.	.	5.4	4.4	.	4.4	3.4
<i>Sesuvium edmonstonei</i>	.	.	.	.	.	.	.

Bahia Tortuga, Santa Cruz.

May 03, 1970



Record of fieldtrip, from Pelican Bay, Puerto Ayora, via old trail, up to Bellavista, then down to Puerto Ayora via new trail (presently paved road)

Date: March 5, 1970.

6.00 a.m., leave Pelican Bay

6.05, Alt. 10 m. *Pisonia floribunda*

6.30, 35 m. Above the Barranco. Pendent lichen (probably *Ramalina*) on *Bursera graveolens*.

6.35, 40 m. *Tournefortia pubescens* and *T. rufo-sericea*.

6.40, 50 m. *Kalanchoe pinnata*, 1 m high.

6.45, 80 m. Mixed forest of *Bursera graveolens* and *Pisonia floribunda*. *Alternanthera* sp. (broad-leaf form) abundant in the ground vegetation.

6.50, 90 m. *P. floribunda* 50 cm DBH. *Zanthoxylum fagara*, *Piscidia carthagenensis*, *Chicocca alba*, *Tournefortia rufo-sericea*, *Croton scoulerii* var. *grandifolius*, *Plumbago scandens*.

7.10. 110 m PaloSanto disappeared, *Psidium galapageium*, *Pisona floribunda*, pendent lichens abundant.

7.25, 120 m. Mixed forest of *Piscidia carthagenensis* and *Pisonia floribunda*. *Trachypteris pinnata*. Brown liverworts on tree branches.

7.40, 130 m. Forest of *Pisonia floribunda*. *Scalesia pedunculata*, *Clerodendrum molle*, *Polypodium dispersum*, *Kalanchoe pinnata*. PaloSanto already disappeared.

7.55, 130 m. Lichens and brown liverworts on *Psidium galapageium*, *Scalesia pedunculata*. Escaped coffee plants.

8.10, 180 m. A big tree of *Psidium galapageium*, 50 cm DBH. *Sida rhombifolia* and *Salvia occidentalis* on disturbed habitats.

Arrived at Bellavista.

9.10 a.m., Alt. 190 m. Leave Bellavista, down to Puerto Ayora via new trail.

Balsa trees. *Scalesia pedunculata*,

9.30, 155 m. *Psidium galapageium* frequent, *S. pedunculata*, *Tremma occidentalis*, *Zanthoxylum fagara*, *Tournefortia rufo-sericea*, *T. psilostachya*, *Clerodendrum molle*, *Croton scoulerii* var. *grandifolius*, *Justicia galapagaana*.

9.40, 140 m. *Scalesia pedunculata* abundant along the forest edge.

9.50, 130 m. Forest of *Pisonia floribunda*. *Psidium galapageium* and *Piscidia carthagenensis*. *S. pedunculata* infrequent. *Croton scoulerii* var. *grandifolius*, *Tremma micrantha*, *Zanthoxylum fagara*, *Chiococca alba*, *Tournefortia rufo-sericea*, *Tillandsia insularis* on *Pisonia floribunda*. *Justicia galapagana*.

10.10, 105 m. *Opuntia echios* and *Bursera graveolens* appeared. *Waltheria ovata*.

10.25, 60 m. *Bursera graveolens* forest, pendent lichen (probably *Ramalina*) abundant on branches.

10.40, 40 m. *Pisonia floribunda*, *Bursera graveolens*, *Opuntia echios*, *Tournefortia pubescens*, *T. psilostachya*, *Cordia lutea*.

11.10, arrived at Post Office.

Record of fieldtrip, from Bellavista, via Cerro Puntudo, down to the north side alt. 380 m, and then back to Bellavista.

Date: March 23, 1970.

7.10 a.m., leave Bellavista, Alt. 190 m.

7.30, Alt. 275 m. Trail turns to right.

7.35, Alt. 290 m. Trail turns to left, toward the highland. Big tree (50 cm DBH) of *Pisonia floribunda*. *Scalesia pedunculata*, *Zanthoxylum fagara* and *Psycotria rufipes*.

7.43, Alt 335 m. Brown Zone begins.

8.00, Alt. 370 m. *Psidium galapageium*, *Z. fagara*, *Darwiniothamnus tenuifolius*, *Miconia robinsoniana* (single specimen).

8.05, Alt. 380 m. Leave Brown Zone, enter *Miconia* Belt.

8.10, 410 m. *Z. fagara*,

8.15, 430 m. Natural vegetation of *M. robinsoniana*.

8.35, 530 m. Fresh water in the water course, just below Cerro Media Luna.

8.40, 560 m. *M. robinsoniana* patch 30 m x 20 m, on the right-hand side of the trail.

8.50, 630 m. Water pool among the bracken brake.

9.25, 690 m. Pass the east foot of Cerro Puntudo, down toward the north side of the island.

9.27, 680 m. *Scalesia pedunculata* forest, 8 m high, 10 cm DBH. The same forest found further up on the north side of C. Puntudo. No *Miconia* scrub on the north side.

9.40, 640 m. *S. pedunculata* forest.

9.45, 630 m. Two-storied *Scalesia* forest; 12 m high and 7 m high.

10.30, 610 m. Two-storied *Scalesia* forest. 11 m high and 10-15 cm DBH, and 6 m high and 3-5 cm DBH. *Psidium galapageium* abundant. *Tournefortia psilostachya*. Brown liverworts on the branch.

10.40, 560 m. Filamentous lichen, *Ramalina*, as well as brown liverworts. *Psidium galapageium* frequent. *Scalesia pedunculata* very infrequent. *Z. fagara*, *Pisonia floribunda*.

10.45, 550 m. *Bursera graveolens*, with *Ramalina* on the branch. *Z. fagara*, *P. galapageium*, *Alternanthera echinocephala*. Lava block scattered on the ground, covering 15 % of the ground surface.

10.50, 520 m. Single tree of *S. pedunculata* in the woodland of *Bursera graveolens*.  
*Tournefortia psilostachya*.

11.00, 480 m. Mixed woodland of *B. graveolens* and *Psidium galapageium*. *T. psilostachya*, *Alternanthera echinocephala*. Single specimen of *Opuntia echios*.

11.10, 450 m. Lava flow.

11.15, 440 m. *Castela galapageia*, *Acacia macracantha*, *A. insulae-iacobi*. Filamentous lichen disappeared from the branches.

11.20, 430 m. *Tournefortia pubescens*

11.30, 380 m. The lowest point on the north side I reached on this day. *Bursera graveolens* woodland as below (Record no. 32301)

(Tree layer: 10 m, 80 %) *Bursera graveolens* (30cm DBH) 5.1, *Zanthoxylum fagara* 1.2, *Pisonia floribunda*\* 1.2, *Psidium galapageium* +.2, *Acacia macracantha* +.2.

(Shrub layer: 1.2 m, 40 %) *Tournefortia psilostachya* 2.2, *Tournefortia pubescens*\* +.2, *Alternanthera echinocephala*\* 1.2, *Pisonia floribunda* +.

(Herb layer: 0.5 m, 70 %) *Commicarpus tuberosus*\* 3.3, *Tetramerium nervosum*\* 1.1, *Pisonia floribunda* 1.1, *Evolvulus glaber*\* +.2, *Helitropium angiospermum* +, *Acalypha* sp. +.

12.15, 380 m. Leave the lowest point on the north side, toward C. Puntudo.

12.25, 430 m. Open woodland of *Bursera graveolens*, mixed with *Opuntia echios*. No filamentous lichen. *Cordia lutea*, *Alternanthera echinocephala*, *Tournefortia psilostachya*, *Acacia* sp., *Walthera ovata*.

12.30, 440 m. *Vallesia glabra*, *Tournefortia pubescens*, *T. psilostachya*, *A. echinocephala*.

12.35, 450 m. Woodland of *B. graveolens*.

12.50, 460 m. Filamentous lichen appeared on *B. graveolens* and *Z. fagara*. *Piscidia carthagenensis*.

13.00, 510 m. *Bursera graveolens* woodland as below (Record no. 32303)

Coverage of lava on the ground surface: 50 %.

(Tree layer: 10 m, 60 %) *Bursera graveolens* 4.3, *Psidium galapageium* 1.2, *Pisonia floribunda* 2.2, *Zanthoxylum fagara* 1.1.

(Shrub layer: 1.3 m, 70 %) *Alternanthera echinocephala* 3.3, *Tournefortia psilostachya* 2.2,

*T. pugescens* 1.2, *Lantana peduncularis*\* 2.2, *Pisonia floribunda* 1.1, *Chicocca alba* +.2, *Waltheria ovata* +.

(Herb layer: 0.5 m, 40 %) *Alternanthera snodgrassii*\* 2.2, *Commicarpus tuberosus* 2.3, *Heliotropium angiospermum*\* 1.1, *Salvia occidentalis*\* +.2, *Evolvulus glaber* +.2, *Acalypha* sp. +, *Pisonia floribunda* +.

(Epiphyte) Filamentous lichen abundant.

13.45, 550 m. *Bursera graveolens* woodland as before; orange lichens appear as epiphyte.

13.50, 570 m. Brown liverworts as epiphyte.

13.55, 590 m. *Scalesia pedunculata* forest. *B. graveolens* disappeared.

14.00, 592 m. *S. pedunculata*, *Psychotria rufipes*, *Tournefortia rufo-sericea*, *Psidium galapageium*,

14.15, 630 m. *Scalesia pedunculata* forest. *Psychotria rufipes*, *Tournefortia rufo-sericea*, *Psidium galapageium*, *Justicia galapagana*, *Doryopteris pedata*. *Chicocca alba*.

14.30, 640 m. Flat topography, lava blocks not seen on the ground surface.

(Record no. 32304)

(Tree layer: 9 m, 90 %) *Scalesia pedunculata* (25 cm dbh) 5.4.

(Shrub layer: 1.5 m, 90 %) *Psychotria rufipes* 5.4, *Tournefortia rufo-sericea* 1.2, *Cordia scouleri*\* 1.2, *Zanthoxylum fagara* 1.1, *Urera caracasana*\* +, *Psidium galapageium* +, *Acnistus ellipticus* +.

(Herb layer: 0.7 m, 50 %) *Doryopteris pedata* 2.2, *Ichnanthus nemorosus* 2.2, *Nephrolepis cordifolia*\* 1.2, *Ctenitis pleiosorus*\* 1.2, *Alternanthera halimifolia* 1.2, *Polypodium phyllitidis* +.2, *Blechnum occidentale* +.2, *Thelyperis patens*\* +.2, *Asplenium cristatum*\* +.2, *Asplenium formosum* +.2, *Adiantum consinnum*\* +, *Pilea baurii* +, *Ctenitis sloanei* +, *Pteris quadriaurita* +, *Justicia galapagana* +.

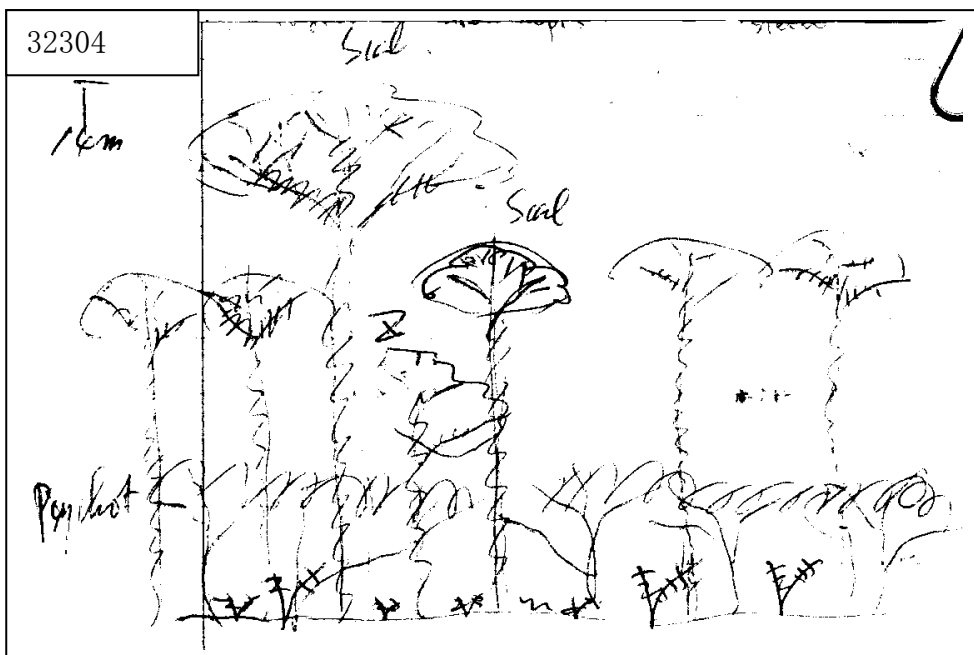
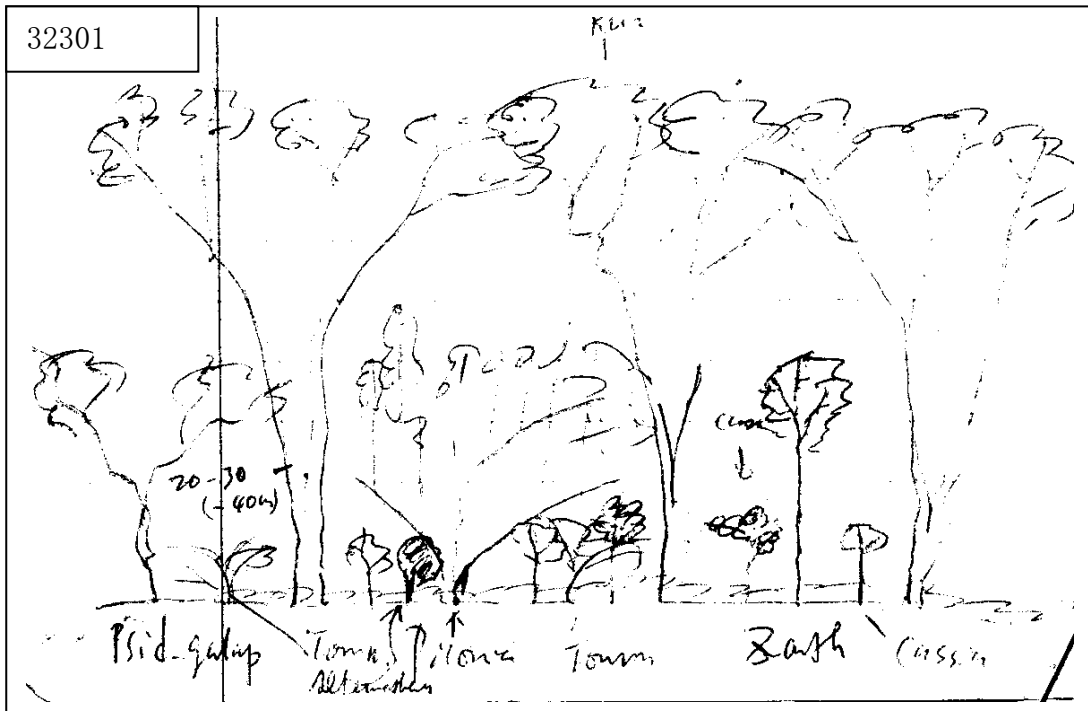
(Epiphyte) *Phoradendron henslovii*, *Epidendrum insularum*, *Ionopsis urticulatus*, *Peperomia* sp1., *Peperomia* sp2.. *Asplenium formosum*, *Asplenium praemorusum*, *Nephrolepis cordifolia*\*, *Polypodium lanceolatum*, *Polypodium steirolepis*.

15.40, 680 m. Passed through *Scalesia* forest, here an open area.

16.00, 720 m. Cerro Puntudo.

16.35, 560 m. Cerro Media Luna.

17.35, Bellavista.



Trip to the highland of Santa Cruz.

Feb. 02, 1964.

Leave Horneman's farm, for the highland.

Altitude 350 m:

Coffee plantation, and avocado trees.

360 m:

*Psidium galapageium*, branches festooned with brown liverworts. Cow grazing in the fenced pasture.

370 m:

*Darwiniothamnus tenuifolius*, *Psidium galapageium*, brown liverworts, *Psychotria rufipes*, *Chiococca alba*, *Blechnum polypodioides* (epiphyte). *Miconia robinsoniana*, 3.5 m high. Orchids, *Polypodium steirolepis* and *Lycopodium passerinoides* epiphytic on *Psidium galapageium*.

420 m:

*Miconia robinsoniana* dominant, *Acnistus ellipticus*. Epiphytic orchids abundant.

430 m:

*Miconia robinsoniana* 4 m high; *Psidium galapageium* 9-10 m high but less frequent. Ferns abundant; *Polypodium steirolepis*, *Polypodium aureum*, *Blechnum occidentale*, *Nephrolepis cordifolia*, *Asplenium* sp. and others.

440 m:

*Pityrogramma calomelanos*, *Pteridium aquilinum*.

470 m:

Extensive thicket of *Miconia robinsoniana*. *Psychotria rufipes*.

480 m:

*Lycopodium thyoides*.

490 m:

*Lycopodium clavatum*.

520 m:

*Miconia robinsoniana*

570 m:

Flat topography, grassland-like. *Miconia robinsoniana*, 0.6-0.7 m high, scattered. *Pteridium aquilinum* abundant.

(Ascent continued toward higher altitudes)

730 m: (Lunch)

*Pteridium aquilinum*, *Conyza* sp., Cyperaceae, *Blechnum polypodioides*, *Pityrogramma calomelanos*, *Marchantia* sp. abundant on burnt sites.

Undulating topography, thin soils. Vegetation composed of *Pteridium aquilinum* 2.3, *Conyza* sp. 2.3, *Setaria* sp., Cyperaceae, *Jaegeria gracilis*,

850 m:

Highest point I reached on this day, but not the summit of Cerro Crocker.

Table 2.5 Sparse woodland of mixed *Opuntia echios* and *Bursera graveolens* in and around the Charles Darwin Research Station, Puerto Ayora, Isla Santa Cruz. June 8-11, 1970.

No.	1	2	3	4	5	6	7	8	9	10	11	12
Record no.	60808	60809	60901	60902	60903	61101	61102	61103	61104	61105	61106	61107
Location	Barranco	Barranco	Barranco	Barranco	East of Barranco	CDRS	CDRS	CDRS	CDRS barranco	CDRS barranco	CDRS	CDRS
Altitude (m)	15	15	35	35	35	40	15	20	20	25	6	7
Topography			Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat
Percentage of lava (%)	100	95	100	95	100	90	100	95	100	100	100	100
Tree layer: Height (m)	5	7	8	8	8	4	8	9	7	9	6	5
Total cover (%)	10	40	60	40	40	20	20	40	50	40	10	10
Shrub layer: Height (m)	1.5	2	2	2	2.5	1.5	2	2	2	2.5	2.5	2
Total cover (%)	60	20	30	20	40	10	40	50	40	50	90	80
Herb layer: Height (m)	0.7	0.7	0.7	0.5	0.7	0.5	0.7	0.7	0.7	0.8	0.5	0.7
Total cover (%)	20	60	10	20	40	5	20	20	20	30	10	10
(Tree layer )												
<i>Opuntia echios</i>	1.1	2.1	1.1	1.1	1.1	1.1	2.1	1.1	1.1	1.1	1.1	1.1
<i>Bursera graveolens</i>	+ .2	1.2	2.2	1.1	1.2	+	+	2.2	2.2	1.2	+	.
<i>Tournefortia pubescens</i>	.	+ .2	+ .2	2.2	+	.	+ .2	1.2	+ .2	+ .2	.	.
<i>Jasminocereus thouarsii</i>	.	1.1	.	.	.	.	1.1	+	1.1	+	+	.
<i>Piscidia carthagenensis</i>	.	.	3.3	<b>2.3</b>	3.2	.	.	1.2	.	2.2	.	.
<i>Acacia macracatha</i>	.	.	.	.	.	.	+ .2	+ .2	1.2	+	+	.
<i>Erythrina velutina</i>	.	.	1.2	1.2	2.3	.	.	.	.	.	.	.
<i>Pisonia floribunda</i>	.	.	1.2	2.3	.	.	.	.	.	.	.	.
(Shrub layer)												
<i>Castela galapagiea</i>	.	+ .2	1.2	1.2	1.1	+ .2	2.2	1.2	+ .2	+ .2	+ .2	.
<i>Acacia insulae-iacobi</i>	+ .2	1.2	.	1.2	1.2	1.2	+	+ .2	+ .2	+	.	.
<i>Scutia spicata</i>		1.2	1.2	1.2	1.2	.	2.2	1.2	1.2	1.2	.	1.2
<i>Croton scouleri</i>	3.4	2.2	.	.	.	2.2	.	3.2	2.1	3.2	1.2	1.2
<i>Cryptocarpus pyriformis</i>	+	+ .2	.	.	.	.	.	.	+	1.2	5.4	4.4
<i>Tournefortia psilostachya</i>	.	.	.	+	+ .2	.	+	+	1.2	+ .2	.	.
<i>Cordia lutea</i>	+ .2	.	.	.	.	+ .2	1.2	+ .2	.	1.2	.	.
<i>Clerodendrum molle</i>	.	+ .2	.	+ .2	+ .2	.	+ .2	.	+ .2	.	.	.

(Continued)

<i>Maytenus octagona</i>	.	.	.	.	.	.	+	.	1.2	+ .2	1.2	+ .2
<i>Zanthoxylum fagara</i>	.	.	1.1	1.1	1.1	.	.	+	.	.	.	.
<i>Cordia leucophlyctis</i>	.	.	.	<b>+ .2</b>	.	1.2	+ .2	.	.	+ .2	.	.
<i>Vallesia glabra</i>	.	.	.	+ .2	.	.	+ .2	.	+ .2	.	.	.
<i>Waltheria ovata</i>	+ .2	+	.	.	.	.	.	.	.	.	.	.
<i>Scalesia affinis</i>	.	.	1.2	+ .2	.	.	.	.	.	.	.	.
<i>Chiococca alba</i>	.	.	.	+ .2	+	.	.	.	.	.	.	.
<i>Parkinsonia aculeata</i>	.	.	.	.	.	.	.	.	+	.	.	1.2
<i>Lantana peduncularis</i>	.	.	.	.	.	2.2	.	.	.	.	.	.
<i>Prosopis juliflora</i>	.	.	.	.	.	1.2	.	.	.	.	.	.
<i>Hippomane mancinella</i>	.	.	.	.	.	.	.	.	.	.	.	+ .2
(Herb layer)												
<i>Commicarpus tuberosus</i>	+ .2	1.2	1.2	1.2	1.2	+ .2	+ .2	1.2	1.2	1.2	.	.
<i>Galactia velutina</i>	.	+	+	+	+	+	+	+	.	+	+	.
<i>Opuntia echios</i>	+	+	.	+	+	+	+	+	.	+	.	.
<i>Rhynchosia minima</i>	.	+ .2	+	+	+	+ .2	+	.	+	+	.	.
<i>Boerhaavia caribaea</i>	.	2.2	.	.	.	.	+	.	+	.	.	.
<i>Trachypteris pinnata</i>	.	.	+	+	+	.	.	.	.	.	.	.
<i>Alternanthera filifolia</i>	.	.	.	<b>+ .2</b>	.	.	+ .2	.	.	.	.	<b>1.2</b>
<i>Mentzeria aspera</i>	1.2	.	.	.	.	.	.	.	.	1.2	.	.
<i>Sarcostemma angustissima</i>	+	.	.	.	.	.	.	.	.	+	.	.
<i>Plumbago scandens</i>	.	.	2.2	1.2	.	.	.	.	.	.	.	.
<i>Cyperus anderssonii</i>	.	.	.	.	.	.	+	.	+	.	.	.
<i>Lycium minimum</i>	.	+ .2	.	.	.	.	.	.	.	.	.	.
<i>Evolvulus glaber</i>	.	.	.	.	.	1.2	.	.	.	.	.	.
<i>Csardiospermum corindum</i>	.	.	.	.	.	.	.	+	.	.	.	.
<i>Passiflora foetida</i>	.	.	.	.	.	.	.	.	+	.	.	.
<i>Alternanthera echinocephala</i>	.	.	.	.	.	.	.	.	.	.	1.2	.

Table 2.6 Transition Zone vegetation of mixed *Piscidia carthagenensis* and *Pisonia floribunda* on the south side of Isla Santa Cruz. April-June, 1970.

No.	1	2	3	4
Record No.	42101	42102	42103	62306
Location	Between Caseta & Ayora	Between Caseta & Ayora	Between Caseta & Ayora	Old trail
Altitude (m)	100	120	180	70
Topography	Flat	Flat	Flat	Flat
Percentage of lava (%)	80	80	80	80
Tree layer: Height (m)	8	10	15	7
Total cover (%)	80	60	40	40
Shrub layer: Height (m)	2	2	2	1.7
Total cover (%)	40	40	50	70
Herb layer: Height (m)	0.7	0.5	0.7	0.7
Total cover (%)	60	70	70	10
(Tree layer)				
<i>Piscidia carthagenensis</i>	1.2	2.3	2.3	2.2
<i>Pisonia floribunda</i>	1.2	2.3	1.2	2.3
<i>Psidium galapageium</i>	4.4	3.3	2.3	.
<i>Zanthoxylum fagara</i>	1.1	1.1	.	1.2
<i>Erythrina velutina</i>	+ .2	.	.	3.2
<i>Acacia rorudiana</i>	.	.	.	+ .2
<i>Opuntia echios</i>	.	.	.	+
<i>Bursera graveolens</i>	.	.	.	+ .2
(Shrub layer)				
<i>Tournefortia rufo-sericea</i>	1.2	1.2	+ .2	1.2
<i>Chicocca alba</i>	+ .2	+ .2	+	3.3
<i>Zanthoxylum fagara</i>	+	+	+	1.2
<i>Croton scouleri</i> var. <i>grandifolius</i>	2.1	1.1	3.3	.
<i>Tournefortia psilostachya</i>	+ .2	1.2	.	1.2
<i>Pisonia floribunda</i>	1.1	1.1	.	1.1
<i>Tournefortia pubescens</i>	+ .2	.	.	.
<i>Clerodendrum molle</i>	1.2	.	.	.
<i>Opuntia echios</i>	+	.	.	.
<i>Psychotria rufipes</i>	.	.	+ .2	.
<i>Piscidia carthagenensis</i>	.	.	.	+
(Herb layer)				
<i>Alternanthera halimifolia</i>	<b>4.4</b>	4.4	<b>1.2</b>	1.2
<i>Trachypteris pinnata</i>	+	1.1	1.2	1.2
<i>Blechnum brownei</i>	<b>+</b>	1.2	<b>2.2</b>	.
<i>Plumbago scandens</i>	+ .2	+ .2	.	.
<i>Galactia velutina</i>	<b>+ .2</b>	1.2	.	.
<i>Polypodium dispersum</i>	.	.	2.2	<b>+ .2</b>
<i>Justicia galapagana</i>	.	.	<b>4.4</b>	.
<i>Asplenium formosum</i>	.	.	<b>+</b>	.
<i>Salvia</i> sp.	.	.	+	.
<i>Commicarpus tuberosus</i>	.	.	.	1.2
<i>Doryopteris pedata</i>	.	.	.	+ .2
<i>Polypodium tridens</i>	.	.	.	+
(Epiphyte)				
<i>Ramalina</i> (or <i>Usnea</i> ) sp.	+	+	+	+
<i>Polypodium insularum</i>	.	+	+	+
<i>Peperomia</i> sp.	.	+	.	.

Location :

42101: Along the old trail from Puerto Ayora straight to Caseta. Lava block 50–70 cm in size.

42102: Along the old trail from Puerto Ayora straight to Caseta. Lava block 50 cm in size.

42103: Along the old trail from Puerto Ayora straight to Caseta. Lava block 30–50 cm in size.

42106: E of the old trail. Lava block 20–70 cm in size.

Table 2.7 *Scalesia pedunculata* forest in the Tortoise Reserve, Isla Santa Cruz. April 21-23, 1970.

No.	1	2	3	4	5
Record no.	42104	42201	42202	42301	42302
Location	Caseta	Cerro Lechoso	Cerro Lechoso	E of Caseta	E of Caseta
Altitude (m)	220	260	340	170	185
Slope aspect	Flat	Flat	S	Flat	Flat
Slope steepness			3		
Percentage of lava (%)	1	60	30	20	0
Tree layer: height (m)	7	10	10	12	12
total cover (%)	40	60	70	60	50
Shrub layer: height (m)	2	2	2	2	2
total cover (%)	10	50	70	40	60
Herb layer: height (m)	0.7	0.8	0.8	0.7	0.8
total cover (%)	100	80	70	50	100
(Tree layer)					
<i>Scalesia pedunculata</i>	3.2	3.2	4.4	3.2	3.3
<i>Psidium galapageium</i>	1.2	2.3	1.2	3.3	2.3
<i>Pisonia floribunda</i>	.	1.2	1.2	1.2	+ .2
<i>Zanthoxylum fagara</i>	.	2.2	.	1.2	2.2
<i>Sapindus saponaria</i>	.	.	.	<b>1.1</b>	.
(Shrub layer)					
<i>Zanthoxylum fagara</i>	1.2	2.2	3.4	1.1	3.2
<i>Tournefortia rufo-sericea</i>	+ .2	+ .2	1.2	1.2	2.2
<i>Psychotria rufipes</i>	1.2	+ .2	2.2	2.2	3.2
<i>Chiococca alba</i>	1.2	.	+ .2	+ .2	.
<i>Pisonia floribunda</i>	.	.	.	1.2	+
<i>Glerodendrum molle</i>	.	+ .2	.	.	.
<i>Tournefortia psilostachya</i>	.	2.2	.	.	.
<i>Tournefortia pubescens</i>	.	.	.	<b>2.3</b>	.
(Herb layer)					
<i>Justicia galapagana</i>	<b>5.4</b>	2.3	<b>2.2</b>	1.2	2.3
<i>Doryopteris pedata</i>	+ .2	.	+ .2	2.2	1.2
<i>Alternanthera halimifolia</i>	.	3.3	<b>1.2</b>	<b>2.3</b>	1.2
<i>Thelypteris tetragona</i>	.	.	+	<b>+ .2</b>	1.2
<i>Polypodium phyllitidis</i>	.	.	+ .2	+ .2	+ .2
<i>Peperomia petiolata</i>	+	.	+	.	.
<i>Polypodium dispersum</i>	+	.	.	2.2	.
<i>Asplenium formosum</i>	.	.	+ .2	1.2	.

(Continued)

<i>Ctenitis sloanei</i>	.	.	<b>1.2</b>	.	3.3
<i>Asplenium cristatum</i>	.	.	+ .2	.	+ .2
<i>Adiantum macrophyllum</i>	.	.	.	+ .2	+ .2
<i>Desmodium canum</i>	<b>2.2</b>	.	.	.	.
<i>Blechum brownei</i>	<b>1.2</b>	.	.	.	.
<i>Stenotaphrum secundum</i>	<b>1.2</b>	.	.	.	.
<i>Hyptis rhomboidea</i>	<b>1.2</b>	.	.	.	.
<i>Peperomia</i> spp.	+	.	.	.	.
<i>Borreria laevis</i>	.	.	<b>+ .2</b>	.	.
<i>Brickellia diffusa</i>	.	.	<b>1.2</b>	.	.
<i>Plumbago scandens</i>	.	.	2.2	.	.
<i>Polypodium dispersum</i>	.	.	+ .2	.	.
<i>Adiantum henslovianum</i>	.	.	.	<b>+</b>	.
<i>Asplenium auritum</i>	.	.	.	1.2	.
<i>Ichnanthus nemorosus</i>	.	.	.	.	3.4
<i>Pteris quadriaurita</i>	.	.	.	.	+ .2
(Liana)					
<i>Passiflora colinvauxii</i>	<b>+</b>	.	<b>+</b>	.	.
<i>Stictocardia tiliaefolia</i>	.	.	.	<b>+</b>	<b>+</b>
<i>Momordica charantia</i>	<b>+</b>	.	.	.	.
(Epiphyte)					
<i>Polypodium lanceolatum</i>	.	.	<b>+</b>	<b>+</b>	<b>+</b>
<i>Polypodium insularum</i>	<b>+</b>	.	.	<b>+</b>	.
<i>Tillandsia insularis</i>	.	.	<b>+</b>	<b>+</b>	.
<i>Asplenium auritum</i>	.	.	<b>+</b>	.	<b>+</b>
<i>Polypodium steirolepis</i>	.	.	.	<b>+</b>	<b>+</b>
<i>Polypodium dispersum</i>	<b>+</b>	.	.	.	.
<i>Phoradendron henslovii</i>	.	.	<b>+</b>	.	.
<i>Peperomia galapagense</i>	.	.	<b>+</b>	.	.
<i>Asplenium praemorsum</i>	.	.	.	<b>+</b>	.
<i>Epidendrum insularum</i>	.	.	.	<b>+</b>	.
<i>Polypodium auritum</i>	.	.	.	<b>+</b>	.
<i>Peperomia petiolata</i>	.	.	.	.	<b>+</b>
<i>Ramalina</i> (or <i>Usnea</i> ) sp.	<b>+</b>	.	.	.	.
Green mosses	.	.	.	<b>+</b>	<b>+</b>
Brown liverworts	.	.	.	<b>+</b>	<b>+</b>

Table 2.8 *Scalesia pedunculata* forest at Los Gemelos, Santa Rosa and north foot of Cerro Puntudo, Isla Santa Cruz. March 30-31, 1978.

No.	1	2	3	4	5
Record no.	78001	78002	78004	78262	78265
Location	Los Gemelos	Los Gemelos	Los Gemelos	Santa Rosa	Cerro Puntudo
Altitude (m)	590	600	580	550	690
Slope aspect	Flat	E	WSW	Flat	Flat
Slope steepness	-	-	5	-	-
Tree layer: height (m)	8	6	8	-	-
total cover (%)	60	60	40	-	-
Shrub layer: height (m)	1.5	5	1.5	-	-
total cover (%)	20	60	60	-	-
Herb layer: height (m)	0.8	0.5	0.5	-	-
total cover (%)	100	60	100	-	-
(Tree layer)					
<i>Scalesia pedunculata</i>	29*	32	3	4.4	3.3
<i>Zanthoxylum fagara</i>	13	7	8	1.1	+
<i>Psidium galapageium</i>	1	4	12	.	.
(Shrub layer)					
<i>Tournefortia rufo-sericea</i>	5	5	5	1.2	1.2
<i>Psychotria rufipes</i>	17	6	17	2.2	3.3
<i>Acnistus ellipticus</i>	5	2	.	1.1	+ .2
<i>Chiococca alba</i>	.	54	4	1.1	.
<i>Cordia</i> sp.	.	16	.	+	.
<i>Pisonia floribunda</i>	.	.	4	.	.
<i>Tournefortia pubescens</i>	.	.	2	.	.
<i>Tournefortia psilostachya</i>	.	.	5	.	.
<i>Plumbago scandens</i>	.	.	1	.	.
(Herb layer)					
<i>Alternanthera halimifolia</i>	+	1.2	2.3	4.4	+
<i>Passiflora colinvouxii</i>	+	+	12	+	.
<i>Asplenium praemorsum</i>	.	+	E**	E	E
<i>Doryopteris pedata</i>	+	+	+	.	.
<i>Borreria laevis</i>	4.4	.	.	+	+
<i>Asplenium auritum</i>	.	+	.	E	E
<i>Justicia galapagana</i>	2.3	1.2	.	.	.
<i>Adiantum henslovii</i>	+	+	.	.	.
<i>Commelina difusa</i>	+	+	.	.	.
<i>Blechnum occidentale</i>	2.2	.	.	.	+
<i>Ctenitis sloanei</i>	+	.	.	+	.
<i>Paspalum conjugatum</i>	+	.	.	+	.
<i>Thelypteris tetragona</i>	.	+	.	2.1	.
<i>Polypodium phyllitidis</i>	.	+	.	+	.
<i>Peperomia</i> spp.	.	.	.	E	E
<i>Epidendrum spicatum</i>	.	.	.	E	E
<i>Nephrolepis cordifolia</i>	.	.	.	E	E

Species occurred once in No. 2 are *Thelypteris pilosula*, *Conyza bonariensis*, *Oxalis corniculata*; in No. 3, *Cissampelos pareira*, *Solanum* sp., *Asplenium steirolepis*; in No. 4, *Pteridium aquilinum*, *Hypolepis hostilis*; in No. 5, *Jaegeria crassa*, *Asplenium serra*, *Lycopodium passerinoides*, *Polypodium insularum*.

\* Numerals for tree records in 78001, 78002 and 78004 show the number of trees in a 100 sq. m. quadrat.

\*\* E means epiphyte.

Table 2.9 Heavily trampled habitat at Bellavista, Isla Santa Cruz. March 6, 1970.

No.	1	2	3	4	5	6
Record no.	30604	30605	30606	30607	30608	30609
Vegetation cover (%)	100	100	100	100	100	100
Vegetation height (cm)	7	7	7	7	7	7
<i>Cynodon dactylon</i>	<b>5.4</b>	5.4	4.4	5.4	3.4	4.4
<i>Sida acuta</i>	<b>2.1</b>	2.2	2.2	1.2	3.3	2.2
<i>Digitaria horizontalis</i>	<b>1.2</b>	+ .2	.	.	.	+
<i>Sida rhombifolia</i>			.	<b>1.1</b>	+	+
<i>Salvia occidentalis</i>	.	.	.	+	+	.
<i>Eleusin indica</i>	<b>+ .2</b>	.	.	.	.	.
<i>Synedrella nodiflora</i>	.	.	.	.	.	<b>+ .2</b>
<i>Borreria laevis</i>	.	.	.	.	.	+

Table 2.10 Shrubland dominated by *Caesalpinia bonduc*, located between Caseta and Cerro Lechoso, Isla Santa Cruz. Altitude not recorded. April 22, 1970

No.	1	2
Record no.	42203	42204
Vegetation height (m)	1	1
Vegetation cover (%)	100	100
<i>Caesalpinia bonduc</i>	3.2	4.4
<i>Passiflora colinvauxii</i>	4.4	3.3
<i>Lablab purpureus</i>	1.2	2.3
<i>Stictocardia tiliifolia</i>	1.2	1.2
<i>Momordica charantia</i>	3.4	.
<i>Browalia americana</i>	.	1.2
<i>Justicia galapagana</i>	.	+ .2

Table 2.11 Brown Zone vegetation on Isla Santa Cruz, Jan. 1964 (1-3) and March 1970 (4-8), and on Isla Pinta, March 1978 (9 and 10).

No.	1	2	3	4	5	6	7	8	9	10
Record No.	64180	64179	64160	32101	32204	32206	50602	50604	78198	78201
Location	Bellavista	Bellavista	Bellavista	C. Mesa	C. Mesa	C. Mesa	St. Rosa	St. Rosa	Pinta	Pinta
Elevation (m)	350	370	400	480	450	410	580	470	500	550
Slope Aspect			SSE	Flat	Flat	Flat	Flat	Flat		
Slope steepness			2							
Tree: height (m)	10	10	-	5	5	8	6	10	5	4
total cover (%)	20	-	-	80	80	30	30	30	-	-
Shrub: height (m)	3.5	4	4	2	1.5	2	2	2.5	-	-
total cover (%)	?	-	95	80	40	70	80	95	-	-
Herb: height (m)	0.8	-	0.8	0.7	0.5	0.7	0.7	0.7	-	-
total cover (%)	100	-	60		80	70	100	50	-	-
(Trees)										
<i>Zanthoxylum fagara</i>	.	.	.	5.4	5.4	3.4	.	2.2	4.4	5.4
<i>Psidium galapageium</i>	2.2	X	1.2	.	.	2.3	2.2	.	.	.
<i>Scalesia pedunculata</i>	.	.	.	.	.	1.2	2.2	.	.	.
(Shrubs)										
<i>Psychotria rufipes</i>	1.1	X	+	5.4	3.3	4.4	2.3	4.4	+	1.1
<i>Acnistus ellipticus</i>	3.3	X	+	+	1.2	+	.	3.3	2.1	+
<i>Tournefortia rufo-sericea</i>	.	.	.	+	2.2	2.3	1.2	.	1.1	1.1
<i>Zanthoxylum fagara</i>	1.1	X	+	.	.	2.2	.	.	.	.
<i>Miconia robinsoniana</i>	.	X	5.5	.	.	.	.	.	.	.
<i>Chiococca alba</i>	.	X	.	.	.	1.2	.	.	.	.
<i>Darwiniothamnus tenuifolius</i>	.	X	.	.	.	.	.	.	.	.
<i>Croton scouleri</i> var. <i>grandifolius</i>	.	.	.	.	.	.	+	.	.	.

(Continued)

<i>Pisonia floribunda</i>	.	.	.	.	.	.	.	.	+	.
(Herbs & ferns)	NoRec.	NoRec.								
<i>Blechnum occidentale</i>	-	-	2.3	+	1.2	.	1.2	.	3.3	.
<i>Justicia galapagana</i>	-	-	.	+	3.3	4.3	3.4	.	.	.
<i>Polypodium phyllitidis</i>	-	-	.	.	.	.	+	+	+	+
<i>Ctenitis sloanei</i>	-	-	.	+	+	.	1.2	.	+	.
<i>Borreria laevis</i>	-	-	.	+	2.2	.	1.2	.	.	.
<i>Doryopteris pedata</i>	-	-	.	1.2	.	1.2	+2	.	.	.
<i>Asplenium crisatatum</i>	-	-	.	<b>2.2</b>	.	.	.	.	+2	<b>2.2</b>
<i>Alternanthera halimifolia</i>	-	-	.	.	+	<b>3.3</b>	<b>1.2</b>	.	.	.
<i>Dennstaedtia globulifera</i>	-	-	4.4	+	.	.	.	.	.	.
<i>Oplismenus setarius</i>	-	-	+	.	+	.	.	.	.	.
<i>Thelypteris</i> sp. (1)	-	-	+	.	.	.	.	+	.	.
<i>Pteris quadriaurita</i>	-	-	.	+	+	.	.	.	.	.
<i>Ichnanthus nemorosus</i>	-	-	.	.	2.3	.	.	.	+	.
<i>Ipomoea nil</i>	-	-	.	.	.	+	.	+	.	.
<i>Adiantum henslovianum</i>	-	-	.	.	.	.	.	.	+	2.2
<i>Acalypha</i> sp.	-	-	.	.	.	.	.	.	<b>1.2</b>	1.2
<i>Polypodium phillitidis</i>	-	-	.	.	.	.	.	.	+	+
<i>Pilea baurii</i>	-	-	+	.	.	.	.	.	.	.
<i>Thelypteris</i> sp. (2)	-	-	+	.	.	.	.	.	.	.
<i>Blechnum polypodioides</i>	-	-	+	.	.	.	.	.	.	.
<i>Diplazium subobtusum</i>	-	-	.	<b>1.2</b>	.	.	.	.	.	.
<i>Pleuropetalum darwinii</i>	-	-	.	1.2	.	.	.	.	.	.
<i>Adiantum macrophyllum</i>	-	-	.	2.2	.	.	.	.	.	.
<i>Asplenium auritum</i>	-	-	.	+	.	.	.	.	.	.
<i>Pilea baurii</i>	-	-	.	+	.	.	.	.	.	.
<i>Thelypteris tetragona</i> var. <i>aberrans</i>	-	-	.	<b>+2</b>	.	.	.	.	.	.

(Continued)

<i>Thelypteris pilosula</i>	-	-	.	+ .2	.	.	.	.	.	.
<i>Ctenitis pleiosoras</i>	-	-	.	<b>1.2</b>	.	.	.	.	.	.
<i>Dennstaedtia globulifera</i>	-	-	.	+	.	.	.	.	.	.
<i>Dichondra repens</i>	-	-	.	.	1.2	.	.	.	.	.
<i>Solanum nodiflorum</i>	-	-	.	.	+ .2	.	.	.	.	.
<i>Asplenium formosum</i>	-	-	.	.	.	.	.	.	+	.
(Epiptytes)	NoRec.	NoRec.								
<i>Asplenium auritum</i>	-	-	.	+	+	.	+	+	+	<b>+</b>
<i>Peperomia</i> sp.	-	-	.	+	+	+	.	.	+	+
<i>Epidendrum spicatum</i>	-	-	.	+	+	.	.	+	.	<b>+</b>
<i>Polypodium lanceolatum</i>	-	-	+	.	+	.	.	.	.	+
<i>Ionopsis urticularioides</i>	-	-	.	+	+	.	.	.	.	<b>+</b>
<i>Phoradendron henslovii</i>	-	-	.	.	+	<b>+</b>	.	.	.	+
<i>Asplenium praemorsum</i>	-	-	+	.	.	.	.	.	.	+
<i>Polypodium steirolepis</i>	-	-	+	.	.	.	.	.	.	.
<i>Nephrolepis cordifolia</i>	-	-	.	.	.	.	.	.	.	+
Brown liverworts	-	-	5.5	+	5.5	5.5	+	+	+	+
Green mosses	-	-	.	+	.	.	.	.	.	+

Table 2.12 *Miconia robinsoniana* scrub at south and southwest of Cerro Media Luna (No. 1-5), and on Media Luna (No. 6), Isla Santa Cruz. March 7 and May 25, 1970.

No.	1	2	3	4	5	6
Record no.	30712	30713	30714	30715	30716	52501
Location	SW of Media Luna	SW of Media Luna	South of Media Luna	South of Media Luna	South of Media Luna	Media Luna
Altitude (m)	550	510	490	460	460	590
Slope aspect	S	S	S	S	S	S65W
Slope steepness	7	2	2	3	2	25
Shrub layer: height (m)	2.0	2.0	2.3	3.0	3.0	1.7
total cover (%)	85	90	90	85	85	70
Herb layer: height (m)	0.5	0.5	0.6	0.7	0.7	0.6
total cover (%)	30	30	20	20	30	100
(Shrub layer)						
<i>Miconia robinsoniana</i>	5.4	5.4	5.5	5.4	5.4	4.4
<i>Psychotria rufipes</i>	.	+ .2	+ .2	+	+ .2	.
<i>Darwiniothamnus tenuifolius</i>	.	<b>1.2</b>	.	.	.	.
(Herb layer)						
<i>Blechnum occidentale</i>	1.2	<b>1.2</b>	+ .2	+	+ .2	+ .2
<i>Blechnum polypodioides</i>	<b>+ .2</b>	+ .2	<b>+ .2</b>	+ .2	+ .2	+ .2
<i>Thelypteris pilosula</i>	<b>1.2</b>	<b>1.2</b>	1.2	<b>1.2</b>	1.2	1.2
<i>Thelypteris</i> sp.	2.1	+	.	+	2.2	+
<i>Nephrolepis cordifolia</i>	<b>+ .2</b>	.	1.2	+ .2	+ .2	.
<i>Pteridium aquilinum</i>	.	1.1	1.2	1.2	1.2	.
<i>Scleria pterota</i>	.	+	1.2	1.2	1.2	.
<i>Gtenitis sloanei</i>	<b>+ .2</b>	.	.	<b>+ .2</b>	1.2	.
<i>Lycopodium clavatum</i>	<b>1.2</b>	.	.	.	.	5.4
<i>Asplenium auritum</i>	.	.	.	+	.	.
<i>Paspalum conjugatum</i>	.	.	.	.	.	1.2
(Epiphytes)						
<i>Nephrolepis cordifolia</i>	.	+	+	+	+	.
<i>Asplenium auritum</i>	.	.	.	.	+	.