
A glabrous shrub with climbing, slender, pendant branches; leaves oblong, 4.5 cm. long, 1.5 cm. wide, acute, narrowed to a petiole 1 cm. long, flat-crenate, interspersed with callous teeth; inflorescence racemose, lax, long; bracts lanceolate, petiolate; pedicels 3 cm. long; hypanthium depressed-globose, 7 mm. in diameter, sepals linear, 6-7 mm. long, divericate and toward the apex again crenate; corolla crimson 33 mm. long (form a); filament-glaucous; anther tube 7 mm. long, lilac-pale in the fissures.

680 - 2050 m.

63a C. w. var. estrellanos E. Wimm. Report, Sp. Nov. 38: 8 1935

Leaves broadly elliptic, 10 cm. long, 7 cm. wide, rounded at the apex, at the base broadly cuneate to a petiole 15-20 mm. long; pedicels 10-15 mm. long; corolla somewhat smaller.

Ayacucho: dense forest 500 m.
KELLY, A.G.L. Garden plants in colour... (Collingridge 1958)

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MANSFIELD, T.C. The border in colour. Revised ed. (Collins 1947)

MARTIN, W.K. The concise British flora in colour... 2nd ed. (Ebury Press, 1969, repr. 1971)

MARTIN, W.K. Sketches for the flora... selected by J. Caldwell... (M. Joseph, 1972)

SANDERS, T.W. Rock gardens and alpine plants... 3rd ed. (London)

SPRY, C. Flower decoration (Dent 1934, repr. 1947)


SYNGE, P.M. Collins guide to bulbs (Collins, 1961)

WAGGERL, K.H. Die schönsten Alpenblumen (Verein zum Schutze d. Alpenpflanzen und -Tiere, München)
1. *Lemna ecuadoriensis* sp. nov.

*Lemnae obscurae* valde affinis sed differt frondibus angustioribus (1 1/2 - 2 partibus longioribus quam latibus), radicibus brevicribus. Fructus incogniti. Habitat in Ecuador.


*L. ecuadoriensis* is very similar to *L. obscura* but its fronds are generally narrower, 1 V2 - 2 times as long as wide (*L. obscura*; 1 V5 - 1 2/3) and the papule at apex seems to be still more prominent; the fronds are dark red underneath and the roots relatively short (up to 1,5 cm); flowers and fruits are not known.

The species is solely known from the type locality in Ecuador; it is therefore difficult to decide which features are diagnostically relevant and how large the whole variation specter is. The taxon might be considered as a variant of *L. obscura*; however, the next station of *L. obscura* is more than 2000 miles apart in Mexico and climatic conditions at the type locality are different from those occurring within the main distribution area of *L. obscura*. The climate at Machala (Ecuador) is warm throughout the whole year and shows a very pronounced dry season; on the contrary, the climate of Southeastern North America where *L. obscura* has its optimum is cool during winter time and has a high rainfall during the vegetation period. It seems reasonable to describe this collection provisionally as a separate unit. More material from the region is desirable.

ECUADOR: Prov. Chimborazo.
Road from Riobamba to Guámeza,

between Pimod 204
Alt. 9800 ft. 25 nov 1974.
with Wade Davis + Lee Jacobs.

4573. Acnistus = Iochroma 1
Lehmannii Bitter

Tree 10 m. tall along stream,
trunk 30 cm DBH. Corolla

[Handwritten notes]

4574. Munnina

Shrub 1.5 m. Corolla dark blue, keel yellow. FRS. reddish.

4575. Bomarea

trace in thicket. Calyx + Corolla

Dark red adaxially, pale yellowish
red adaxially.

4576. Bomarea

[Handwritten notes]
4577. **Podocarpus**

(2) Shrub or tree to 4 m. in thicket.

4578. **Orthosanthus chimboraensis.**

(2) Herb in pasture or hillside.

Fls. light blue.

4579. **Stenomessona aurantiaca**


Fls. orange.

4580. **Solvia**

(2) Shrub 1–2 m. Brochs blue-black

Specifically, green below. Corolla dark blue-violet.

4581. **Bomarea**

(1) Vine in thicket. Sepals 11.

Red abaxially, pale brown-yellow adaxially. Petals yellow-green,

Abaxially with medial red stripe,

Adaxially with large dark brown splotches.
4582. Berberis

Shrub 2 m. in thicket. Buds red-orange. Sepals bright orange.

Oreocalis micrantha (R. t P.) Sleumer

4583. Embothrium det B. Sparre 76 Proteaceae

n. v. "galaxy" - fles. for kidney ailments.

Shrub or tree to 6 m. with pink veins.

Stem white, br. at base. Style yellow, pink toward apex.

Stigma yellow green.


4584. Chuquiaga

Composite

Buds orange. Corolla yellow.

Styles deep orange.

ECUADOR: PROV. CANAR
1 Dec 1974.

4585. Erythroxylum

"Coca"

Cultivated at Cocharancay.

Provided by Interpol Agent Cap. Guillermo Gomez Jurado. large.

4586. Erythroxylum

(1) Cultivated at Chile.

sm. u. leaf.
ECUADOR: Prov. AZUAY.
Road Cuenca to Jiron. 1 Dec 1974.

A lt. 8020 ft.

4587. Streptosolen jamesonii

Gtt foto (1) Sphinct. herb 0.5 m. on dry, open road bank. Fls. reddish-orange.

4588. Pitcairnea pavonii Mez

Bromeliaceae

U.

US

S

Foto (3)


det L. Smith 1975

Alt. 67oo ft. Road Jiron-Catawina.

4589. Passiflora manicata (Juss.) Pers.

Vine in thicket. Bracts basally light green, especially brownish.


Seeds black.

Prov. ABOAY

A1l: 5500 ft. Catavita - PASAJE

4596. **Tropaeolum** [Reduction of the Latin name from report, det. B. Sparre 1978]

Herb. Vine on open roadside cut & in thickets. Calyx red-orange, lower 2 lobes pale greenish, tipped green. Upper 2 petals yellow-orange with thin red stripes. Lower 3 petals clawed, yellow-orange with red orange spot adaxially. F1s. pale green.

4591. **Eclites**

(2) Vine in thickets along road. F1s. greenish yellow, margin of petal bright yellow.

4592. **Cereus Trichocereus pachanoi**

(1) Cactus 5 m. tall on steep dry hillside. Hypanthium tube green with black indument. Outer tepals light green; inner tepals white. det. M. Flores 1977.

4593. **Pepersonia**

(2) Succulent herb on dry hillside. Spikes red.
4594. Iochroma ganeum

Stubb 1 m. tall in open waste place along road.
Calyx dark green. Corolla deep purple. Frs. pale green
purplish tinged.

See 7333 cult. (F)


Alt. 5100 ft. Km. 96. from Caluca on road to Pasaje.

4595. Nicotiana glutinosa L.

Sticky herb 1 m. tall on dry roadside. Corolla tube yellow-green, lobes pale red within.

det D'Arcy 1946.

4596. Opuntia

Low creeping cactus.
Dull green. Tepals bright red-orange, outer tepals greenish-yellow.

4597. Jatropha

Herb with succulent stems.
Milky latex. Corolla bright red.
4598 Euphorbia weberbaueri Mansf. Euphorbiaceae
Leaffless branched shrub with yellow green stems. Inf. & fls. dark purple.
det J. L. Webber 1975
PROV. AZUAY
Alt. 2800 ft. JIRON - PASAJE

4599. Lequeuaria corymbulosa Benth.
Vine on dry hillside along road.
Corolla lt. blue. det K. Robertson 76.

4600 Eucrosia aurantiaca (Baker) Treub
det. Plowman 1981
Bulbiferous herb on steep dry hillside. Pedicel & ovary
dark green. Corolla lt. yellow,
Filaments pale green; FRS.
dark green. Bulb white
Seedlings   5 PTBG. Herklotz & FIG. 56C MT, FLAS WOIMA
f. emergans Meez

4601. Clavija angulenta (Wild.) Radlki
Tree or shrub to 3 m. Fls.
orange. FRS. orange.
det. C. Niezgoda 1976

Seedling from 4601. 18 Oct 1978.
J. weberbaueri Helwig

4602. Jacquemontia aff. guayanensis (Aubl.) Meissner

Nude on rocky roadsides. Fls.
light blue.

det. K. Robertson 76.

4603. Pisonia

Shrub 3 m. Frs. dark brown.

4604. Buxhania aculeata L.

Shrub 3-4 m. Corolla pure white. Frs. brown.
Calyx pale green.

4605. Anthurium pohlilii

Epiphyte. Lvs. Coriaceous.
Spathe light green. Spadix dull pink.

det. T. Croat 78.

Alt. 2500 ft.

4606. Escobadera scabrifolia

Herb on hillsides. Fls. white.
4607. **Morning**

Gh (1)

| Herb. | (m. Rachis) | petiolar. | Fls. violet, keel yellow.

4608. **Epidendrum**

Ames (2)

| Herb. on Boulder along road. | Fls. peduncle greenish brown.

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**Lemna ecuarensis Landolt** det. E. Landolt 1974

*Syntype!*


300 ft. alt. Between Machala + Santa Rosa.

**Lemna perpusilla Torrey**

Floating aquatic herb.

Det. J. Cramer 1976

Road Arenillas to Huaquillas. Alt. 400 ft.

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4610. **Cephalis**

USM (3)

| Vine in dry deciduous forest. | Fls. white.

4611. **Carica parviflora (A.DC.) Solms**

Gh

| Shrub unbranched to 3 m. with semi succulent stem. Rachis & fls. bright pink.

4612. **Tillandsia disticha** H.B.K. Bremcheid.

(A)

| Epiphyte in dry thorn scrub. | Fls. dull yellow. det. T.B. Smith 76
PERU: Depto. LIMA, Prov. Ganta,
Valle del Rio Chillon, Yangas
Alt. 3500 ft. 8 Dec 1974.

4613. Rumex

(1) Weed 1 m. along river, in sand.

4614. Zanichellia palustris L

(2)✓ Aquatic submerged herb in Rio Chillon, det. Utrecht 1182.

4615. Cucurbit

USM

(2)✓ Vine on river bank. Fls. yellow. Frs. bright yellow-green.

4616.

USM

(2)✓ Aquatic herb on shallow place along river. Stems red-purple.
Fls. yellow.

4617. Heliotropium angiospermum Murr.

(2) ✓ Herb on riverbed in sand. Fls. white.


(2)✓ Shrub 1.5 m. on riverbed. Fls. violet. det. M. Frohlich 1984.
4619. Desmodium
(2) Submerging herb on sandy beach along river. Fls. blue-violet.

4620. Passiflora suberosa L.
(3) Herbaceous vine with thick woody stalk in sandy beach along river.
Perianth H. green. Corolla yellow.

4621. Ceratonia
(2) Shrub 2-3 m. along irrigation ditch.
Corolla tube greenish yellow, lobes deep brown.

4622. Acerius arborescens (L.) Schlecht.
(3) Shrub 1-3 m. along irrigation ditch. Fls. creamy white. FR. pale orange.

4623. Cyclanthaceae pedata (L.) Schrad
(3) Cult. vine along irrigation ditch. Fls. yellowish. FR. green.
Peru: LIMA. La Molina.

9624. Erythroxylum novogranatense var. haussilense (Rusby) Plummer
Cult. shrub 2 m. tall in Jardi Botanico. Buds creamy yellow.
From Trujillo.

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Peru: Lambayeque - Trujillo
Alt. 8700 ft. Kg. 87 from Lima
Lycopodicon
4625. Solimi

G4 (2) semi-erect herb. vine on dry roadside. F13. bright yellow.

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Bought in Estancia de Coca. 28 Dec 74.

4626. Erythroxylum Coca
"gringuita." From Huancayo. "Best chew"
Price: 60 soles/pound.

Econ 4627. Erythroxylum Coca
"Cuyo Verde." *60 soles/pound.

Econ 4628. Erythroxylum Coca
"Cuyo Negro." "Cuyo Huantioso"
60 soles.
PERU: Depto. Huancavelica.
Prov. Tayacaya. Between Acostambo and Izcuchoca, km. post 173
(from La Oroya). Alt. 11500 ft.

4629. Cassia latipetiolata Domb.  4630. Duranta rupestris Hayek
(2)  (3)  red.  Shrub 1.5 m. Ffs. golden
  NY yellow. Very frequent.
  GT det. R. Barneby 1975

4631. Iochroma Dunalis spinosa.  4632. Colletia
GH USM (7)  (2)  Spiny shrub 2-3 m. on dry roadside
GT BFF and hanging from cliff. Pedicel +
MO F col blue-violet. Ffs. still green.
K COL DUNALIA OBOVATA (R.P.) DAMHNER
(47 K)
DET. HUNZIKER 1986

4633. Neperomelos, Rosae
ASM (2)  Shrub 1.5 m. on roadside.
GT  Ffs. dark red. Fks. green with red blush.
4634. Prostrate herb on rocks with succulents. F. red.

4635. Peperomia pucu-pucu

4636. Solanum

4637. Calceolaria

4638. Calceolaria

4639. Bomarea

Vine in thicket along stream. Ovary light green. Sepals dull red abaxially, creamy white adaxially, with tiny maroon spots at apex. Petals
clawed, adaxially with red claw + midrib, blade yellow-green with small maroon dots near margin; abaxially claw cream, blade yellow-green with dense maroon spots throughout.
Authors green.

Kin. Marker 176, same locality.
Alt. 11,300 ft.

4640. *Tecoma stanis (L.) Juss. ex HBK. s.l.*
(3) Treelet 2-3 m. tall in roadside banks. Corolla deep yellow.
det. A. Gedry 75.

det. JLI 1979.
(2) Shrub 1-2 m. tall in thicket
Live: Lyonarb along stream. Calyx green, corolla + filaments creamy white.

4642. *Ephedra*
(3) Shrub with lax scandent branches, 1.5 m. tall. Cone green.

asm
MO
GTH

2

1

K

usm
GTH

5

1
4643. *Solanum aff. lycioides* L.
subshrub, with slender erect branches. Corolla pale blue-violet. Anthers bright orange.
det. A. Hengher 1976

4644. *Solanum nitidum* R. & P.
Razd. Shrub 1m. tall. Ripe berries bleenish red.
det. R. N. Leite 1975
Peuv: Dept. Huancavelica. 13 mi. SW of Huancavelica; 2km Huam. Alt. 13100 ft.

(s)  A Semi prostrate shrub growing against vertical rock faces. Frs. pendent, calyx light green.
Corolla light yellow. Frs: yellow green.

GH  BIRM

GH  USM  COL
US  SF  US  BIRM  K  NO
A -> NY
4646. (Loasaceae: Cajophora horrida Urb. & Gilg.)


4648. (Erythroxylum) Coca

Leaves bought in Ayacucho Market. 1 pound 50 soles.
From "La Selva", Upper Aperimac (near Ayuna").
Perú: Depto. Ayacucho.
Prov. Huamanga. Road from La Quina to Abra Apacheta de Tambo. 3 Jan 75.

Alt. 11,580 ft.


4651. *Poecidochroma spinosum* (O.Ktze.) Hunziker

Peru: Depto. Ayacucho. Prov. La Mar. 3 Jan 75.

Road Tambo to Ayna. Near La Estrellita. Alt. 11,500 ft.

4653. **Cantua**
- Shrub 1.5 m. Fls. red.
- Seed PTBG

4654. **Valleca**
- Shrub 4 m. Fls. carmine red.
- Elaeocarp

Road from Tambo to Ayna. Near Jano. Alt. 9,580 ft.

**Embatothrix grandiflorum** Lam.
- 4655. **Popocallpa** det: C. Niegoda 1976
  - Shrub 2-4 m. tall. Frequent.
  - Pedicel, corolla & pistil bright pink.
  - Seed PTBG

4656. **Erica**
- Shrub 1 m. tall on steep s. hillside. Calyx red. Corolla greenish white.
4657. *Eriogonum beckmanii*  
(2) Slightly hairy. Flower heads white. Flowers white.

4658. *Baccharis sp.*  
(2) Annual. Heads white to pale pink.

4659. *Miconia sp.* (Sect. Cremonium)  
(2) Shrub 1.5 m. in steep open hillside. Fks. dark purple.

4660. *Cuphea*  
(2) Subshrub to 1 m. Hypopodium. Dark red. Petals red orange.

4661. *Umbellifer*  
(1) Tall herb 4 m. in cloud forest. Fls. br. green.

4662. *Lugnianum*  
(2) Shrub 1.5 m. in hillside. Banner blue violet. Petals blue violet. Keel white. Fks. brownish black.
4663. Peperomia
(1) Fleshly herb on steep open road.

4664. Demosthenesiaceae pearcei (Britton) A.C. Smith
(2) Shrub to 1m. on steep hillside.

4665. Piper
USM (2)
Shrub 3 m. along quebrada at edge of forest. Spikes dark grey-brown.

4666. Myrteola weberbaueri Diels
ex descr. det. R. McVaugh 1985
(2) Shrub 1 m. tall on steep slope.

4667. Begonia
USM (2) Herb on wet road bank. Petals, deep pink, underside of leaf.

4668. Begonia
GH (2) Herb on wet road bank. Petals, deep pink, underside of leaf.
4668
Ames
(1) Epiphyte on tree trunk in wet forest. Lf. purple beneath. green above. Fls. dark red with paired yellow markings.

U. 4669. Peperomia

4670.
Ames
(2) Epiphyte on tree trunk in wet forest. Fls. dull red-purple.

4671.
Aralia
(1) Herb 1 m. tall. Fls. light green.

(1) Herb 1 m. in forest. Lvs. Lt. green. Needs me.

**4673. Fuchsia ovalis R. & P.**

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**4694. Crescuta**
*Parasitic vine. Stems yellowish. Fls. pale yellow.* Roadside

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**4675. Asplenium**
*Fern on bank in wet forest*

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**4696. Polypodium**
*Epiphytic fern on treetrunk in wet forest*

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**4677. Asplenium**
*Terr. fern on bank in wet forest*

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**4678. Fuchsia denticulata R. & P.**
*Shrub 2 m. on wet road*
*det Kew 1977.*
4679. Ranunculus
Herb. Petals cadmium yellow. Open roadside in wet places.

4680. Asplenium
Herb on bank in wet forest.

4681. Asplenium
Terr. Herb in wet forest.

4682. Bomeran
Vine in thickets. Oval, purplish green, sepals obliquely brown, obliquely deep yellow green at tip with purple spots. Petals: claw deep yellow blade green with purple spots.

4683. Bomeran
Vine in thicket F.R.S. dark green.
**Gtt 4684.** 
**Usm (2)**

Crep. tree fern in wet forest.

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**Gtt 4685.** 
**Usm (1)**

*Bonarea*

Dine in thicket. Ovary purplish.
Sepals pale red-orange, green at tip. Petals: dark yellow, blade green, with purple brown spots on adaxially surface.

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Road from El Tembo to Ayna.

*Alt. 7800 ft.*

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**Gtt 4686.** 
**Usm (2)**

*Ruyschia pannonii* G. Don

Mangrove shrub on steep rocky cliff.

*det. C. Nieszgode 1976.*

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**Gtt 4687.** 
**Usm (2)**

*Bergeria*

Plant (m. in wet forest.
Perianth pinkish white.

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**Gtt 4688.** 

*Helostis Corynnea* sprucei Eichl. Balsagh.

Sepals purple in thick leaf mold, arising from large woody thallus 6 in. diam.
Peduncle brown. Sulf. dull salmon pink.

*det. B. Hansen 1976.*
Git USM NY

4689. *Clusia*
(2)
Tree 5 m. in wet forest along *quebrada*. Fls. pale yellowish to cream.

Git 4690. *Tradescantia*?
U. (2) Creeping herb at edge of forest. Fls. white.

Git 4691. *Pilea*
U. (2) Herb 1.5 m. in wet forest. Fls. cream.

Git 4692. *Franchantha* sp. nov.
(2) Shrub 2-3 m. in wet forest. Pedicel + calyx green-yellow. Corolla dull red, takes yellow.

Git 4693.
(2) Vine 4-5 m. Buds green. in wet forest.

Git 4694. *Reperomia*
(2) Epiphyte, succulent stems red, lvs. yellow-green. Spikes red & fls. dark red.
4695. *Lycianthes*
BIRM (2)
Weak shrub 1.5 m. Fls. light green.

4696. *Croton*
USM (2)
Shrub 1.0 m. Fls. cream. Frs. light brownish green.

4697. *Solanum*
GH
Treelet 3 m. Fls. white. Frs. orange at maturity. In 2' fst.

4698. *Pilea*
GH
Herb 1 m. Fls. pale green. In forest along quebrada.

4699.
GH
Herb. Vine 4-5 m. long in forest margin. Ovary +/- panthrum pale green. Corolla yellow-orange.

4700.
GH
Herb vine 4-5 m. in wet forest. Frs. dark green mottled with dark lighter green spots.
4f01. **Epidendrum**

Tall reed-like on rocky outcrop in wet forest, 3 m. Tall. 
Stem Raclis t ovary dark brown. 

4f02. **Epiphyte on tree trunk in moist forest. Sepals violet. Petals white w violet fringe.**

4f03. **Availia.**

Unbranched tree 4 m. tall. Buds light green. Lvs. rusty brown beneath.

4f04. **Dioscorea**

Vine 2 m. Fis. dull yellow. Forest margin along trail.
Road from Tambo to Ayru.  
Alt. 5500 ft.  3 Jan 1975.

Gh 4705.  *Begonia parviflora*  
Unbranched herb 6 m.  
Lfs. dark red beneath, green above.  Frs. brown.  Fst. margin serrate.

Gh 4706.  *Solenium*  
Crested shrub 2 m. on open roadside.  Lfs. dark green above, whitish beneath.  Frs. white.  
Frs. dark green.

Alt. 6100 ft.

Gh 4707.  *Solenium* (lycanthus)  
Shrub 3 m. on open roadside.  
Corolla deep violet, fading pale violet.

Gh 4708.  *Heliconia acuminata* subsp. subulata  
Herb 2-3 m. Peduncle green.  
Bracts + racemes red.  Pedicel red.  
Alt. 4700 ft.

4709. Heliconia lingulata R. & P.

Herb 2 m. on open roadside at edge of hillside. Racemes, bracts, pedicel, bracteoles ovary bright yellow. Fls. black. det H. H. G. Daniels 1976.

Alt. 3200 ft.

4709a Costus


4710. Calotheca


Aff. Erythroxylum coca

5 hectares planted in rows. Sowed from seed. Plants live 10-15 years. Harvest every 3 months. 100-150 arrobas. No pruning—plants are "left" when they get too old or diseased. No fertilizer used. Sprayed with DDT and Kinne (barbasco).

Planted 1-3 inches apart. Rows 12-2 ft. apart. Soil red. Vertical furrows 3 in. deep.

1. toksay - 3 trunk green burned
2. lasazgelma - 3 to make tea.

Witches broom - 2opa. lichenus? eucentro.

Price: 1000 soles/arroba. Tax in Machuca = $55.20/arroba.

Shrubs 1-1.5 m. trunk to 2 cm. gray. Picked 1 week earlier. Lvs. yellowish green, pale green beneath. 2 distinct pale lines. Pedicel + calyx pale green. Petals cream, becoming yellowish. Fls. dull yellow, becoming dull orange, then red. Fls. long & short styles.
4712. *Erythroxylum coca*  
(1)  
USM Plantation on hillside, dark brown soil.  
F02  
COL Shrub 0.5-1.0 m tall, hus. dark green above, pale green beneath with 2 lines; some plants chlorotic with light yellow green leaves. Soil dark brown.  

4713. *Erythroxylum coca*  
G18 needs Older planting full of weeds and witches broom and lichens.  
US  

4718A.  

Lichens on 4713!


4717. Lippia erecta L. (2) det T.P. 73 Weed in coral. 1 m. Petals golden yellow, ovary dark red.

4718. Eleusine indica (L.) Gaertn. (2) USN gram. Weed in coral. det C.W. Greene 1975


   Weed in coral. det C.W. Greene '75.

   Weed in coral. det C.W. Greene '75.

4723. *Panicum laxum* Sw. gram.
   Weed in coral. det Craig Greene '76.

4724. *Vernonia*? comp.
   (?) m.u. tokyo
   Shrub 2 m. sterile. Roadside.
   Stem & leaves used to make "tocra" cf. Plowman 7939.
   Tocra sample.

4725. *Dimorco costus argenteus* (R.+P.) Maas
   Herb 4-5 in. in low lying swampy place along road. Lvs. silvery
   pubescent beneath. Bracts green; appendage green. Brcles + calyx pale yellowish green. Petals translucent, pale yellow.
   Labellum (Staminode) translucent pale creamy with golden yellow hairs on inner limb surface.
Stamen creamy white, limb extension 16. yellow. Tuft 4-4 cm. long.

4726. Lonchocarpus usucu Killip & Shaw

Ecol (1) "kuba" "barbasco"

Scandent shrub 2 m. tall
cult. for roots. Sterile.
Roots dried, shipped to Lima
to extract rotenone.
det C. Greene 1975

4727. Bomarea

Usq (2) Vine in thickets, frequent.
Sepals orange. Petals yellow-orange.

4728. B. dens pilosa L. var. minor (Bl.) Schef

Grod (1) Weed in coral. Rays white.

Above San Francisco. c. 3300 ft.

4729. Erythroxyllum coca Lam.

Ecol (2) Shrub 1.5-2 m. in old planting.

Interplanted with piña, citrus, yuca.

47/7 K
Machete, between Ayna + San Francisco.
5 JAN 1975. 2° Thicket. Alt. ?

4730. *Acalypha*

GHT (1) Shrub 2 m. on hill behind town. 9 fls. 1/4 in. brown, 7 fls. green with red stigmas.

4731. *Piper elongatum Vohl*

GHT (2) "matico" det. R. Collejas 1982

F Shrub 2 m. tall behind town on hill. Stems & pedicel red. Spikes cream.

4782. *Curcuma*

u. (2) / "patillo" (tumeric)

Herb to 1 m. on hillsiode behind town. Bracteas pale greenish white. Cream toward apex of spike. 1 fls. yellow.
Dry thorn scrub. Alt. 10,500 ft. 5 Jan. 75.

Cajaphora sp. cirsiiifolia Presl

47.33. Low growing herbaceous vine.
Petals red-orange.

47.34. Solanum lycoides A. Humzeker 1976
Densely branched, armed shrub 1-2 m tall. Corolla white to pale violet, anthers red-orange.

47.35. Buxarea
Twining vine in thickets.
DUNALIA OBOVATA (R.d.P.) DAMMER
S.D. SMITH (WIS) 2003

4736. Trichodesmus = Dunalia spinosus

Armed shrub 2-3 m. tall,
in thickets & along road-sides. Corolla
deep blue-violet. Fr. yellow at maturity. Frequent.

Tricho-

4736. Erebus sp.

USM 1 (2) ✓ Cactus 3-4 m. tall, branched
forming clump. Hypanthium
yellow green with dark brown
hairs. Outer tepals pale green
near base, dark maroon in upper
half. Inner tepal pale maroon
to creamy white. Filaments +
style very pale green, stigmata
yellowish.


4737A. Passiflora

BH seed only -
Alt. 12 Jan 1975.

4738. *Spiranthes*

(only) Herb on steep earth banks among ruins. Fls. greenish-white.

4739. *Salpichrosa*

Subshrub 30 cm. growing in rock crevice among ruins. Fls. greenish-yellow.

Ollantaytambo. Alt. 9,200 ft.
17 Jan 1975.

4740. *AMES* (1)


Alt. 10,000 ft.

4741. *Lycopodium*

Herb in rock crevice

Alt. 9,000 ft.

4742. *Dioscorea*

Vine among rocks. Fls. greenish.
Alt. 9500 ft.
4743. Mutisia acuminata var. condolleana (Gardn.) Color.


Alt. 10500 ft.

4745. Boumarae
(2) Vine in thickets. Sepals deep red adaxially. Dull yellow adaxially. Petals yellow orange with red spur and costa adaxially. Adaxially yellow orange with red margin and dark brown spots.

Fruits apart
Alt. 11,500 ft. [ca. 1,444 for Cuzco.]

4746. *Salpiglossis diderrania* Jaubert

Vine climbing on tree trunk, 5 m. high. Calyx green with brownish lobes. Corolla yellow; pendant tubs.

4747. *Centropogon isabellinus* Wimm


4748. *Solenum*

4748. Shrub 3 m. tall. Corolla white.

4749. *Fuchsia denticulata* R. & P.

Shrub 1 m. tall on moist soil banks. Hypocotyl, sepals + petals red-orange.

Alt. 9760 ft.

4750. *Caleosmania zonatilla* Kränzlin


Alt. 10700 ft. (CHBK.) Endl.

4751. *Colignonia parviflora* Nyctag.

Shrub 1-2 m. tall along quebrada. 1 or more upper lvs. white. Fls. pink.

4752. *Tropaeolum* Helenium Roth.

Extensive herb. Vine on steep Cuyos open bench. Calyx, spur + 2 lower petals bright red-orange, upper 3 petals light yellow.
det. B. Sparre 1976.

Alt. 8300 ft. Above Alpamayo.

4753. *Cannea iridiflora* R. & P.

Herb 4 m. tall in clumps along roadsides, on benches and along quebradas. Calyx and ovary + bracts dark purple. Corolla purple, Staminode deep carmine red. Fls. yellow green with dark purple "spines."

s.e. Monta de Combu, Bit Gard.
Alt. 8100 ft. 17 Jan 75
4754. Canna leucocarpa Bouché=C. jaegeianus
Herb 3 m. tall on road bank.
BRACTS pale brownish green. Rachis
pale brown. Ovary green. CALYS
reddish green. CORolla pale orange.
STAMINODE reddish orange. FRS.
lt. green with red spines.

A lt. 5800 ft.
4755. Rhenalmia thyrsoides (R.t.P.) P.t.E.
Herb on steep hillside in
shade 3 m. tall. Rachis lt. green
bracts brown. Young fruit reddish
brown, becoming greenish brown.
Remains of calyx orange.

Alt. 5420 ft. Huayopata
4756. Erythroxylum coca
shrubs 1.5 m. tall in tea plan-
tation, interplanted with coffee,
fruit, trees etc. Lvs. bright green
above, dull; pale green beneath
with 2 distinct lines. FRS. orange to
red-orange.
4754. *Camellia sinensis*.
Extensively cult. shrub.
1 m. tall. Corolla white.
Frs. green.

Alt. 3500 ft. Maranura. Hacienda Mandor. (Isidro Sayre, Blanco) (photograph)

4758. *Erythroxylum coca*
Extensive coca plantations.
3 year old plants, recently pruned back to ground every 3 years.
Unpruned 1.5 m. tall, pruned 0.5 - 1 m. Young fruit, still green.

4759. *Jacobinia baccatum* L.
Subshrub 1.5 m. in coca field. Petals white. Frs. still green.
4760. Commia glauca
(C) (3)

Peru: Prov. La Convención, Dept. Cuzco, Quillabamba, 18 Jan 75.

Alt. 3400 ft.

4761. Solanum caricaefolium Rusby

Road to Valle de Santana Patrero.

4762. Pogonomyrus tubulosus (DC.) Seem.

Det Kew 1975.
Alt. 4800 ft.

**4763. Solanum**
BIRM (3) Roadside shrub 1-15 in. tall.
Corolla fleshy, white. Fts. green.

Alt. 4780 ft.

**4764. Solanum H. M. R. Horvitz Sw.**
USM (3) Roadside shrub 2 in. tall.
Lt. underside white, dark shiny green above. Fts. cream.
det. A. Child 1975

**4765. Juga**
(3)

USM NY GTH Tree with spreading crown.
Not planted but used to shade coffee. F. Filaments white.

Alt. 4800 ft.

**4766. Costus off. guaianensis Rusby**
U. (2)

Herb 2-3 in. tall on roadside thicket. Bracts red, exposed appendage Lt. green. Ovary white.
Calyx red. Corolla Pale cream-yell.
Stem smooth. 2d axially creamy yellow, 2d axially pink-orange.
Stamen 2d axially creamy yellow, 2d axially pink.
Alt. 5400 fr.

4769. *Erythroxylum raimondii* O. Schulz

"coca coca"

Shrub 1 m. to treelet 4-5 m. tall mostly with several trunks ca. 5 cm. diameter, representing stem sprouts from older trees.

Growing in open pasture with habitat of *Psidium* on hillside beside extensive coca plantation.

Stems reddish to greyish brown with light brown lenticels. Stipules persistent, pale yellowish green becoming brown.

Leaves dark green above, dull or somewhat shiny, pale green beneath midrib and nerves; beneath pale dull green, with slightly paler midrib and nerves; the venation appearing darker green, finely reticulate. No flowers or fruits.

Flowering in March. Many plants virus infected and/or with witches broom.

Leaves of this coca are used to adulterate commercial coca by adding 4.5 lbs of *E. raimondii* per arroba. Leaves said to "picar" the tongue.
Alt. 3600 ft.
4768. Erythroxylum reinandii "coca coca"
(3) Scattered shrub on steep banks, 1-2 m. tall. Sterile.

Alt. 4600 ft. 19 Jan 1975
4769. Erythroxylum coca Lam.
(2) "coca" partial Cult. shrub 1 m. tall in sun along roadside. FRs. red. Growing interplanted with cafe, coca, citrus.

4770. Erythroxylum coca Lam.
(2) Cult. shrub 1.5 m. tall growing shade under coffee. Sterile.

4771. Erythroxylum coca Lam.
(2) Cult. shrub 1.5 m. tall growing in shade of coffee. Sterile.

4772. Erythroxylum coca Lam.
(1) Cult. shrub along road in partial sun. FRs. pole green.
4773. Erythroxylum coca

Cult. shrub 1.5 m. tall. Sterile in shade.

Alt. 4400 ft. (1333 m).

4774. Erythroxylum coca

Cult. shrub in partial shade, 2 m. tall. Fr. bright red. In coffee plantation.

Alt. 4780 ft. (1448 m)

4775. Erythroxylum coca

Cult. shrub 1 m. tall planted in vertical rows of steep hillside, weeds prevalent. Recently picked. New leaves pale yellow-green (chlorotic?), turning brown in press overnight (cf. E. raimondii). Frs. abundant, small, pale yellow green.
4776. *Erythroxylum coca*

Shrub 1 m. tall in full sun on open hillside. Lvs. yellow-green. Frs. abundant, green then yellow-orange, then bright red. 

3600 ft. Alt.

4777. *Erythroxylum reimondii*

Shrub 2.5 m. tall along road near Cementerio de Quilla-bamba. Lvs. dull to somewhat shiny above, pale green beneath with dark green veinslets. No line. 

Cusco region scarcely distinguishable. Frs. light yellow-green with dark purple pigmentation; becoming red. Very frequent.
Peru: Cuzco: la Convención

4778. Bomarea


4779. Arrabidaea selloi (Spreng.) Sandw.

V. Vines in thicket. Corolla pink-violet.

det. A. Gentry 75

4780. Mesochites

APOCYNACEAE

V. Vines with milky sap. Frs. green-turning brown.

4781. Doranta sprucei Bríg.

NY SCA
dent shrub. Frs. pale violet. Frs. orange.
lima
pata
maruni
cafe
piña
coce
fuge spp.
bacana
coloeasia
frijol
m213
Cucurbita maxima
pigment)
yuca
Amona
maíz
Arracacha
ecuador
mamico
rocoto
ruda
calabaza
pot herb?
lupin
Anthenosoma sp.
lucuma?

Alt. 4200 ft.


4783. Podandrogyne

Capparon

(3) Shrub 2.5 m. tall in shade at edge of Quebrada. Fis. red-orange radish petioles red-purple.

4784. Physalis

U.S.M.

G.H. (3) Herb 1.5 m. in shade along Quebrada. Corolla pale yellow, dark brown near base.

4785. Inga

(3) Tree 5 m. with spreading crown. Cult. for shade? Filaments white.

4786. Capsicum baccatum L.

E.C.N. (1) Shrub 1.0 m. Fis. deep yellow along trail on hillsides.

det Barbara Pickering 1975
4788. Citrus

\( \text{Econ} (\text{2}) \)

'Citrus dulcis'.

Cult. Tree 4 m. tall. Petals white. Frs. green, yellow at maturity. Flesh pale greenish white.

4788. Capsicum baccatum L.

\( \text{Econ} (\text{1}) \)

Herb along trail. Corolla pale cream-white with yellow spots within at the lobes. Frs. yellow-green, very pungent.

4789. Dichorisandra

\( \text{USM} (\text{3}) \)

Scandent herb, or vine, hanging from red bank. Calyx pale blue. Corolla deep blue-violet. Frs. yellow green on lower half; deep wine red on upper.

4790. Citrus

\( \text{Econ} (\text{2}) \)

'Mandarin'.

Cult. Tree 3 m. tall. Frs. white fragrant. Fr. green, flesh orange.
Alt. 5800 ft. "Sennamnia sylvatica"


4792. [Orchid. Tubercled orchid among grasses or steep hillside. Calyx pink. Petals white basally, pale pink toward tip. Lip white, middle deep maroon.]


4795. Clavija cf. pungens (Willd.) Radlik. [Herb 2 m. at edge of forest remnant. Fls. orange.]
4796. Diaporisandra
(3) Herb 1-1.5 m. tall in cut-over forest remnant. Calyx pale green. Corolla lt. to deep blue-violet.

4797. Ames
(1) Terrestrial orchid in deep shade in forest or steep hillside. Fls. light green throughout.

4798. Peperomia
(1) Succulent Epiphytic herb on treetrunk. Stem red. Spikes yellow-green.

4799. Diastema sp.
(2) Herb in moist forest margin on hillside. Corolla scarlet.

4800. Cypso
(3) Epiphytic fern on treetrunk.

4801. Buermannia
(1) Fleshy Saproxylic in humus. Stem red. Leaf + flowers white.
4802. *Elephantopus*  
Cespitose fern in forest on steep hillside.

4803. *Cirsium*  
Herb in moist hillside forest. Fls. creamy white.

4804. *Centropogon*  
Herb to 0.5 m. in chacara, recently cut. Corolla deep carmine pink.

4805. *Piper*  
Shrub 2-2.5 m. in woods on steep hillside.

4806. *Solanum*  
Herb 0.5 m. tall in cut over forest. Petals greenish, reflexed. Stem ends dull yellow. Fls. wrinkled, blackish-green.

4807. *Lycianthes*  
Shrub 1-1.5 m. Corolla brownish-purple.
Isabella: Let's continue. Please go back to the research on the European Union and its impact on the United Kingdom. You mentioned something about the growth of the EU's economy and the influence on the UK's trade relationships. Can you expand on that? What are the key economic indicators that demonstrate the EU's growth? And how does this affect the UK's trade balance?
20 Jan 1975 var. estrellanus E. Wimm.

Cty. 4814 Crotalaria gaybambae E. Wimm. Campanulariaceae
twin trailing from tree tops
along trail. Corolla bright carmine,
pinch. det C. Niezgoda 1976
HLC 5/26/82

Alt. 4,800 ft.

4815. Erythroxylum coca Lam.

"chicha coca"b
Cult. Shrub 1 m. in open hillsides.
Lvs. dark green above, pale green beneath.
Fls. green.

4816. Erythroxylum coca Lam.

"chicha coca"
Seedlings among weeds near coca plantations. Lvs. yellowish.

4817. Erythroxylum coca Lam.

Cult. Shrub 1 m. in partial shade in coffee plantings. Lvs. dark green
above, pale green beneath. Fls.
green.

4818. Erythroxylum coca Lam.

Cult. Shrub 1 m. tall in plantation
along trail. Lvs. bright yellowish
green, pale beneath. Fls. creamy-yellow.
Alt. 5300 ft.  21 Jan 1975

4819. Erythroxylum Coca Lam.

"Coca"

/  / Sthrid 1 m. cult. in partial shade under coffee + Inga.
Fls. Cream. Fks. olive green.

Alt. 4500 ft. - 1365 all

4820. Erythroxylum Coca Lam.

Cult. Shrub 1 m. on steep open hillside. Steids. with Inga's bloom.

3600 ft.

4821. Erythroxylum Coca Lam.

Seed to Chinch (4774) Hetero genus plantations.

Puke ganders coca interplanted with yuca, cafe,  cornets, achitos, frijol, many shaded by Inga.

Rows of coca alternating with rows of cafe. rows c. 1 m. apart, horizontal on hillside; coca plant ca. 0.5 m. apart in row. Others plant: yuca, many frijol, mixed in more or less randomly. Coca planted with several (2-3) plant per "hill". When 3 years old, cut back 5
about 3 inches from ground. No pruning of upper branches.

4821a. Shrub 1.5 m. tall. Frs. ovoid, deep yellow.

4821b. Shrub 1 m. Frs. globose-ovoid, bright red, shiny, when mature.

4821c. Shrub with spreading branches, 1 m. US small, dark green above, pale green beneath. Fruits long ellipticoid, light green.

4821d. Shrub 1.0 m. tall, branches spreading; Lvs. dark, light green above (young), pale green beneath. Frs. fusiform/a. light green.

4821e. Shrub 1.5 m. Frs. olive green, to dull yellow to orange. Lvs. dark green, shiny, firm, membranaceous, rubber to touch.
Weeds in and around coca fields, 3600 ft.

4822. *Eleusine indica* (L.) Gaertn. Gramineae
   
   Econ (1)
   
   Spike, 1 ft. green. 
   
   det. CW Greene 1975

4823. *Walstraum coronandelianum*
   
   Econ (1)
   
   Herb. Fls. yellow-orange. (L.) Gaertn. 
   
   det. CW Greene 1975

4824. *Euphorbia heterophylla* L.
   
   Econ (1)
   
   Herb with white to grey, orange t
   
   gloend-br. green. Petiole red. 
   
   Fls. dull yellow. det. CW Greene 1975

   
   USM (2) (continent 1-1.5m. strongly aromatic. 
   
   Econ F1. lavender pink. det. CW Greene

4826. *Giff. (1) ferns on barren hillsides under coffee.

   
   Econ (1) Herb on roadside. Lvs. dark 
   
   green-purple above, dull grey-
   
   green. 1975 purple beneath. Fls. dull pink. 
   
   det. CW Greene

4828. *Coryza bonariensis* (L.) Composit
   
   Econ (1) Herb, capitula cream and yellow. 
   
   det. CW Greene 1975

Plowman
1 Jan 75

**4829. Prophyllum ruderale (freq. Cass.) Composit.**
Eco (1) Herb. involucres green to purple
Ffs. purplish. det C.W. Greene 1975

**4830. Desmodium**
(1) Stiffy herb. Ffs. green.

**4831. Solanum nodiflorum Jacq.**
Eco USM (3) Herb under coffee-shade. Corolla white. Ffs. dull green turning black.
det C.W. Greene

**4832. Eriochloa punctata (L.) Desr. Gramineae**
(1) Herb on hillside. det C.W. Greene

**4833. Amaranthus hyridus L.**
(1) Stems red. Bracts lt. green.
det C.W. Greene

**4834. Euphorbia hirta L.**
(1) erect herb. Stems + infl. dull red.
det C.W. Greene

**4835. Cyperus cayennensis (Lam.) Britton Sedge**
BTT (2) on Cult. hillside, shade.
det C.W. Greene

**4836. Cenchrous viridis Spreng.**
(1) Roadside. Ffs. light green with red spines.
det C.W. Greene 1975
483. *Trichachne sacchariflora* Graham

*ECON* (1) Herb on cult. hillsides

*TRH* 483. *Runga*

483x, *Runga*

(1) Herb in coffee plantation.

Caly x yellow green, Corolla + filament white.

4839. *Lantana armata* Schau.

*NY* (2)

Herb 1 m. Corollas deep pink in center of head, yellow orange at periphery.

*GH* det Moldenke 1975.

4840. *Lantana maximum* Hayek

*NY* (2)

Herb 1 m. Bracts green, Corollas lavender pink.

*GH* det Moldenke 1975.

4841. *Lantana carinata* armata Schau

*NY* (2)

Herb 1.5 m. Corolla tube deep red orange, limb red-orange to yellow orange.

*GH* det Moldenke 1975.
4842. Lentua canescens H.B.K.
(1) Shrub 2 m. Fls. white.
Thickets.
det. Moldenke 1975

4843. Talinum paniculatum (Jaq.) Gaertn.
(1) Fleshy herb on roadside. Fls.
yellow.

4844. Erythroxylum raimondii O. E. Schulz
(3)
Tree 5 m. tall on edge of
cliff in full sun. Lvs. dark green
Shiny above, pale green beneath.
Subcoriaceous, no lines. FRS:
call yellow green to red orange.
Quillabamba. Garden of Hotel Conacri.

4845. Calathea pavonii Koch.
(2) Herb. Lvs. green above, pale
green below with very faint red rib

Javier Sernaque - photo of kids
Correg Central
Quillabamba
Peru: Dept. Cuzco, Prov. Le Convencion, near Emequela on road to Sahuayacu.
24 Jan 75, 3100 ft. alt.

4846. Euphorhoxylon ulei O. E. Schulz

Shrub with spreading branches from base 2-3 m. high, arching over on steep hillsides, secondary thickets. Lvs. light yellowish green to green above, dull; pale beneath with 2 light lines sometimes apparent. Fls. Creamy white. Young fr. green. Fruits fleshy, soft, dark wine red at maturity, persistent. Fleshy part wears away leaving whitish stone.

(Elleanthus in 4947, not 4847)

4847. Euphorhoxylon reimundii O. E. Schulz

Tree 8 m. tall on steep slope with trunk 15 cm DBH. Bark a thick, grayish brown, roughish with deep longitudinal cracks. Leaves submerses, dull, green above with yellowish veins, pale green below, no linear. Pedicel ht. green, calyx, yellowish green. Fruits deepened, readily abscising. Lvs. turn brown soon after picking. (= 13775.1 cult)
Clavijaperuviana Stahl sp. nov. Isotype
2900 ft. Det. B. Stahl 1989

Cytisus (A) Unbranched shrub 0.5 - 1 m. Pedals yellow orange, center cream. Frs. bright orange and red-orange. Det. C. Niezgoda 1976.

4849. Ephedra retusa O.F. Schultz
Shrub 1.5 to 2 m. Lvs. Dark green.
In 2nd forest. Sterile. In shade.

4850. Monopyle reflexa (Rusby) Vichhle. Green, white. Det. Vichhle 75

4851. Peperomia
Crowding epiphytic herb, spikelet pale green - medium green, young stems rusty-colored.

Sahuayacu. 3850 ft. Rio Chalpimayo.

4852. Brunfelsia mire Monachino

Clusia (18)
Unbranched shrub to 0.5 m. tall.
In disturbed forest-coffee plantation.
Lfs. rubbery, subcoriaceous, dark green 2 tone, dull; pale green beneath. Sfr.
Terminal; calyx dull yellow to pale purple.
Corolla tube pale violet. Lins, deep
violet above, pale violet beneath.
Young fruit green.
Bank thin, shedding in flakes.

4853. \textit{Pepergusonia} (3)
Fleshy herb on ground. Stem + petiole red. Lvs. underside tinged pink. Spikes red.

4854. \textit{Desmodium axillare} (Sw.) DC (2)

4855. \textit{Stenostephanus thyrsoides} Aech.
Lindau
Herb 1m. Rachis + calyx dark red-purple. Corolla carneous red.
det. D. Warnham 1975

4856. \textit{Ruellia puri} (Nees) Jackson (1)
Herb in forest 0.5m. Corolla pale lavender-pink.
GH 4857. Solanum
Curyd (2)  Herb. vims. Corolla white.
BIRDY  Fns. pale green.

4858. Solanum
GH (2)  Herb 0.5 m. Fns. white. Fr.
light green.

GH 4859. Brunallia
Curyd (3)  Herb in shade in cafetal. Corolla
BIRDY  blue violet.

Campelia

GH 4860. Flotanterra
Curyd (2)  Herb 1 m. Lvs. green above, purple
beneath. Fns. white. Fns. purple blash.

GH 4861. Sansevalleomyota
Curyd (A 4)  Herb 1 m. in cafetal. Corolla-
MO white. Fns. yellow.
BIRDY

GH 4862. Sansevelonia peruviana (Nees) Rusby
Curyd (4)  Herb 2.5 - 3.5 m. Bracte red-orange.
US. Corolla yellow.

det. D. Wartherman 1975
4863. Cassia macrophylla Kunth
Shrub 2 m. in forest. Flowers pale yelow-orange. det. R. Barneby 1975

4864. Desmodium

4865. Crepidotus (3)

4866. Pilea

4867. Regiplana umbraculiformis Moldenh

4868. Diastema sp.

4869. Episcia

Det. J. Sieber 75.
F 4 fur 3
Ovary green.  Figs. white.  
det B. Niegosda 1976.

4870. Peperomia  
F (1)  
Fleshy herb on moist rocks.  Lvs.
dark green above, very pale beneath.
Spike pale green.

4871. Basiflora  
K (2)  
Vine along trail in forest.  Figs.
6-merous, white with carmine red
septa, red toward base.

Bouchea fluminensis (Vell.) Macbride  
4872. Mexico  
NY (2)  
Herb 5.5 m tall along trail in
forest.  Figs.  light blue violet.

4873. Peperomia  
F (1)  
Fleshy herb on tree limb.  Spike
pale green.

Asterosigma parvoni Schott  
4874. Peru  
Fur 1m.  Tall.  Reddish dark
brown with tan markings.  Red
mouth.
dark purple.  Spathe reddish brown.
Figs.  Creamy white with red dots.
Tillandsia platyphylla Mez Bromeliad

Oxalis spiralis R. & P. ex G. Don
(2) Fleshy stemmed herb on banks along trail. Stem red, lvs. green. Fls. pale yellow-orange. det. A. Courteig

Repensæ

hyacintus
(3) seed herb 1 m. Frs. dull yellow.

Episcieæ
Catacornea
(1) seed Epiphytic herb. Stem, petiole + midrib red. Calyx + fruit cream.

Miconia cretacea Gleason det Wurdack 1975
(2) Shrub 3 m. Lvs. green above, white beneath. Rachi + ovary tan, yellow petals + filaments white.
4882. Micromia cf. multiflora Cogn. 
(1) Shrub 3 m. Stem, petiole & leaf underside light rusty brown (tauny). 
Lvs. green above. Ovary pink. Petal white. Stevens red-violet.

4883. Ursos? 
(3) Treelet 4 m. Frs. bright orange. 

4884. Atheruim eminens Schott 
(2) Terrestrial herb on steep hillside. 
Forest. Spadix erect, brownish purple. 

4885. P quandana - sp. 
(6) det. Soderstrom 1975 
Grain, Bambus. 
F. Fl. Cal. 
Rheumatocarp herb in shady forest along trail. Spikes green. Anthers yellow orange.

4886. Maranta aff. disarricata Rose. 
(2) Herb 1-7 m. Along trail in forest. Fls. violet. 
det. HK 1978.
G4 4887: Cucurbit.
(1) "Vine in thickets in S. Oval + calyx red. Corolla light pink.

G4 4888: (*) chrysoleuca Koern.
(2) Herb. on hillside. Bracts light green. No flowers yet.

det. HK 1978

E4 4889: Verbena litoralis H. B. K.
(1) Herb. 6 in. F15. blue - violet.

Use: dried ground leaf used for wounds.

26 Jan 1975
Alt. 3100 ft.

P4 4890: Erythroxylum coca Lam.
Seed. Sanders (5) / Shrub cult. 2.5 m. tall. F15. red.

US 4891: Chahuamas. 2300 ft.
(2) *Vine in thickets along roadside in Chahuamas. Corolla pure white.

det. A. Gentry '75

4600 ft. Quinoa yarita near Coka

Triparium weberbaueri: Loc. 4892.
Herb; vine in thickets along roadside. Sepals + petals light yellow. Upper petals larger with small red dots near base; upper 8 petals cream, dotted purple, with yellow filia.

Cuzco

Trichopilia

4893: Ord. U. l(3)

Herb on rock or steep bench along road; Sepals + petals light yellow green; lip white with yellow spot in center; column white.

24 Jan 75

Pisac. Inca Ruins. 1150 ft.

Sclerocarya glandulosa (Hook.) Murr: Solan.

Subshrub on stone wall. Corolla tube yellow green; lip yellow; FR. green. det. S. Keel 1984.

BIRM = K

USM = (3) USM

Ephedra

Shrub 1.5 m. Cones yellow.

Basell.

Ephedra

Basella albo-l.

Succulent vine. Corolla yellow green; lobes red tipped.

4898. Russelia grayi (Gray) Hazms. (2) Vine in thickets. Flowers yellow green at base, tube, sepals and petals deep pink. Fr. green. seemnii G. Ktze.

4899. Clematis alterniflora Ram. (2) Vine in thickets. Perianth yellow.


4901. Oxalis

Between Huancarani and Mica. K. 46.
Alt. 11,600 ft. Cpea. roadsides. 3 Feb. 75.

4902. Viola (3) Weed in potato field. Benny f
wings white with purple stripes, 
benny with yellow spot near base. 2 heel petals, violet.

4903. Sonchus sp. Comp.
(1) Weed in potato field. Rays yellow.
Stem thick with milky juice.

4904. Oxalis petrophila R. Knuth Oxid.
Herb on rock wall along stream.
Calyx red to greenish. Corolla yellow.

4905. Epilobium Onagr.
(3) Herb among grasses along stream.
Hypanthium & calyx dark red-purple.
Corolla pink.

4906. Orthosplanthus chumboraensis Dridec.
(2) Herb among grasses. Ovary dark red. Perianth pink.
4907. **Castilleja**

Prostrate semi-aquatic herb in marshy place along road. Bract pale yellow green, red-orange in upper half.

*Castilleja pellandii* (Pax) G. Don

4908. **Cajophora?** pachylepis Urb. & Gilg.

Vine in thickets & hedgerows with urticating hairs. Petals red-orange.

*Castilleja?* pachylepis Urb. & Gilg.

Near Pencantambo on road to Pittabanta. Alt. 9500 ft. Acala Ainanacu.

4909. **Fuchsia**


4910. **Cuscuta**

Parasitic vine on *Scota* broom. Stems purplish. Pls. cream.


4914. *Agrophila mortonii* Moldenke Verbenaceae, Treelet 4-5 m. Fls. creamy white, Fts. green.

4915. *Terrest. fern with horizontal rhizome. Lvs. 2.5-5 m. long, petiol 1 m., with 17 prs. of pinnae.


4917. *Pentaphora* V. Fls. in thicket, Corolla tube 1.5 cm, Sepals dark red, petals pink, Petals pink.
4918. Asclepias

U. (b) Vinia in thicket. Corolla pale greenish yellow with brown spot at base on abaxial side. Ex open.

4919. Serjania

USM (2) Vinia in thicket. Fis. Creamy yellow.

4920. Azolla

USM (3) Floating aquatic in drainage ditch along road.

4921. Elodea

USM (3) Rooted aquatic in drainage ditch along road.

Above Peruacantombo on road to Bittacapan. 9000 ft. Open thicket.

Not recorded.

4922. Rameana


Proboscis: Benoist

4924. Salpichroa cf. hispida (Meyen) Hiers

4925. Catharanthus

4926. Calceolaria

4927. Calceolaria
Scandent herb forming thicket. Calyx green. Corolla lemon yellow.
CY 40
Alt. 5,249 ft. Road from Pilloquita to Santa Isabel. Cloud forest. 4 Feb 1926

Lugano Bomarea distichophylla (R.P)

49.26. F 4 US G 4


49.29. Cyphomandra

USM F 5
C 4 B 1 K 2 M 4

Treelet along road in thicket. 3 m tall. Frs. pendant, yellow orange.Seed: PTRG

49.30. Lamemouixia

USM G 4

Seed (3) Herb ½ m. on open hillsides. Corolla pink.

49.31. Saurania leeseneriana Busc. det. D. D. Seijarto 1982


49.32. Ilex

Seed (4) Tree 6 m. Fls. creamy white. FR. black at maturity.

49.33. Gunnerea bolivari

Seed (3) Herb on hillsides. Pedicell, stigma. Inflo dark red.
4934. Helosis cayennensis (sw.) spr. Belaphone
Root parasite in thick humus.
Peduncle + infl. red.
det B. Hansen 1976.

4935. (2) Terrstrical fern in wet
Fern
shady hillside forest.

4936. Asplenium?

4937. Parakeholeria sp.
Selby (2)
Altho 1 m. in wet shady forest.
Calyx pale green. Corolla red, yellow
within with dark red spots on back.
det H. Wiehler 75

4938. Becleria pallidiflora Fritsch
Genus
Here to 2 m. Calyx lt. green.
Corolla orange. det Wiehler 1975

4939. Elephantopteris
Fern on steep rockface.

4940. Pityrogramma
Fern on cliff in wet forest above
Quebrada. Waxy white underneath.
4941. Asplenium
(3) Fern on roadbank.

4942. Anthurium
(4) Fern, herb in wet forest.

4943. Epidendrum
(2) Orchid on steep open roadbank.

4944. Epidendrum
(1) Orchid on steep open roadbank.

4945. Epidendrum
(2) Orchid on steep open hillside.

4946. Epidendrum
(1) Orchid on steep open hillside.
If.

AMES 1947. Elleanthus

Orchid on steep open hillside.
Bracts magenta pink. Fls. pink
near base are inf.; white 20mm.

4948. Begonia

Succulent herb on wet roadside.
Droopy pale green turning red.
Petiole obliquely deep pink,
20 to 40mm pale pink.

4949. Crotalaria nitens H.B.K.

Herb 0.5 m. on roadside.
Calyx pale brown. Corolla pale
yellow; bearing red axially.
det. C. Mejgoda 1976.

4950. Grecisia

Vein in thicket along road in sun.
Pedicel pale green. Petiole orange.

4951. Eupatorium

West 1.0 m. on roadside.
Fls. pale blue-violet.

4952 Coneeolveba guianensis Aubl.  Euphorb.
Tree 8 m. on hillside.
Fls. green, with red blL
Stigma was red.  det. D. Simpson 1976.

4953 Desmodium molliculum (HBK.) DC.  wet roadbank. Vivian herb
Calyx red. Corolla purple.  blue.

4954 Erechites valerionifolia (Wolf) DC /Lectoneae
uniseta  Herb on Roadside.  Fls. Leep
pink.  det. E. Zardini 1977

4955 Anthurin

4956 Munnozia gigantea (Rusby) Rusby

4957 P. Psammisia eff. coerectata  Ereneae

Cusco

F

GH

US

GH

GH

GH
upper 1/3 unless white.

4958. Physalis

Solanaceae
2

Elkhorn (m. or roadside. Calyx green. Corolla lt. yellow with 5

dark brown spots at base. Calyx in fruit yellow-green. Flower dull orange.

4959. Lycopodium

Lycopod. (3) Vining herb prostrate on open

hillside.

4960. Virginia
gum

Guttif.
(3)

Tree 8 m. Leaves, ribbed, rusty beneath. Calyx lt. green. Corolla cream.
Filaments white. Ovary orange. Styles white.

4961. Sislex

Liliace.
(4)

Herb. Vine 8 m. Tall. Ripe fruits
dark orange. seed PTBG

4962. Peperomia

Piperace.
(2)

 Succulent epiphytic herb in wet

forest. Spike yellow-green.

4962-A

Discomata

NY

Thuja: yellow.

in quebrada. On wooded forest.
4963. \textit{Piper} \textit{Ft1fe3}  

Gtt Cusco \( \text{Piper} \)

4964. \textit{Piper} \textit{Gtt}

Cusco \( \text{Piper} \)

4965. \textit{Siphonolobium} \textit{Campanul}

Gtt Cusco \( \text{Piper} \)

4966. \textit{Begonia parviflora} \textit{P. \& E.} \textit{Gtt}

4967. \textit{Psychotria} sp. \textit{aff. P. albertsmithii} \textit{Gtt}

4968. \textit{Psychotria} sp. \textit{aff. P. albertsmithii} \textit{Gtt}

4969. \textit{Campylotropis} \textit{Pipr}

4970. \textit{Campylotropis} \textit{Pipr
4969. Croton
Tree 20 m. tall, trunk 30 cm. Renewal pale green. Young reddish.

4970. Anthurium amoenum Kunth. ex Schott 
Terr. herb in wet forest. Spathe top the light green.
det. Dau Nicolson f. 6.

4971. Nephelea cupeidata (Kze.) Trym 
Tree fern with trunk 5 m.
tall. Leaves 2-3 m. Purna 30. 
det. R. Stolz 1980.

4972. Pilea
Shrub 1.5 m. Inf. greenish yellow.

4973. Polyodium remutum Desv. 
Pou on rotten log in wet forest.

4974. Miconia sp. Sect. Cremonium 
Shrub 1.5 m. Young ovary purplish, maturing bluish white, 
det. Wurdack 1975.

4975. Siparuma
Shrub 3 m. Fls. yellowish.
Fls. yellow red.

Gr. 4977. *Gsonowa cf. jussieuana* Mart. Palm with stem 2 m. in wet forest along quebrada. Petal greenish red at maturity. Stamen white. det. H. E. Moore.


<table>
<thead>
<tr>
<th>Date</th>
<th>Species</th>
<th>Location</th>
<th>Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Feb 1975</td>
<td><em>Campionul</em></td>
<td>(1)</td>
<td>Herbs - 1 m. on open roadbanks. Calyx dark purplish green. Corolla red-orange.</td>
</tr>
</tbody>
</table>
1986. Parakohleria sp.  
**Ght** (1) Herb 1 m. on steep cliff in wet forest. Corolla yellow.

1984. Santropogon yungasensis  
**Ght** (1) Herb 1 m. on wet roadbed. Pedicel, orange. Calyx green. Corolla red orange at base, grading yellow orange towards tip.

Fern
1988. Cytathea  
**Usm** (6) Tree fern with trunk 3 m. Leaf 2 m. with 3 fronds.

DBN 1989. Cryptoplectus riceanus  
**Ght** (3) Herb 1 m. Lvs. dark green above, red purple below. Calyx bright red. Fns. purplish.

1990. Pityrogramma ebenea var. aurata  
**Usm** (3) Fern on mud banks along Quebrabá. Lvs. white underneath.

Det. D. B. Lellinger 1989
5 Feb 75

4991. *Stromanthe* sp.?  [Merant.]


4992. *Thymelaeac.*

Treelet 3 m. Fls. yellowish. Frs. orange. Lab. dark green above, whitish beneath.

4993. *Raphania thysoidea* (R+P) P. + E.  [Zingib.]


4994. *Ussurias*  [Araliac.]

Treelet 2-3 m. Frs. Cream-white.

4995. *Meriania hexamera* Sprague  [Att. 3800 ft.]

4996. *Costus guanaiensis* Rusby


Road Pilcopata-Patara (towards Pucarámba), near Pilcopata, slightly disturbed 1° forest.


(3) Herb in forest. 1-1.5 m. USG

Cusco green above, with velvety sheen, br. red-purple beneath. Inflo. pedicels & fig. it. yellow-green. DET: C. NIEßGODA 1976
999. **Palicourea subspicata** Huber  **Rubiaceae**

(2) **Illegible** shrub 1-1.5 m. in forest. Peduncle dark brownish green. Racem. and pedicels red. **Calyx** red. **Fruit** dark green.

**Calyx** yellow. Det. D. Simpson 1976

5000. **Brunfelsia** mine **Montechino**  **Solanaceae**

(3) Sub shrub 1 m. tall in wet shady forest. Lvs. dark dull green above, pale yellowish green beneath. **Calyx** deep violet with white eye, fading to pale violet. **Calyx** cream. Only one seen.

5001. **Leandra secunda** (Don) Cogn.  **Melastomataceae**

(3) Herb in forest understory.

**Calyx** light green. **Fruit** white. **Fruit** dark purple-black.

5002. **Lycianthus glandulosus** (R.P.B.) Bitter  **Sapotaceae**

(3) Vines in thicket in low swampy forest. **Fruit** bright red-orange.


5003. **Dichorisandra**  **Cornelianaceae**

(3) Herb. Vines in 2nd forest. **Calyx** white. **Fruit** green

5003-A. **Galatea veitchiana** Hook.  **Guttiferae**

(3) Herb 1-1.5 m. tall. Sterile. Lvs. char-

**aff.** **Pseudoveitchian Hook.**

5003-A. **Galatea veitchiana** Hook.  **Guttiferae**

(3) Herb 1-1.5 m. tall. Sterile. Lvs. char-

**aff.** **Pseudoveitchian Hook.**
Myrosma cannifolia L.F.
det HK 1976.

500 ft. Grass in forest. Bracteate light green. FIs. creamy white.
Calyx dull green.

Piper augustum Rudge vel sp. aff.
500 ft. Herb 1 m. along trail in forest. Peduncle red. Spike cream.

500 ft. Solanum
(1) Corolla creamy yellow. Herb 1 m.
tall in forest.

Piper tectoniifolium Kunth. Piper
500 ft. Shrub 2.5 m. 2 long trail in Cusco forest. Spike cream, greenish in fruit. det. R. Coley 23 1982.

500 ft. Bauhinia globra Jacq. Sena Wunderlin
(3) Tree 6 m. tall on roadside.
Calyx light green. Petals white.
Frts. yellowish green. det. N. Viegas 5/77.
5010. Cryptochlaea unispiculata Soderstrom

Herb in forest understorey.

Dr. T. Soderstrom 1881

5011. Costus aceranus (Locs) Maas Zingib.


5012. Iriartea sp. (8)

Tree 20 m. tall in forest.

Sheath 2 m. Lvs. 5 m. long. Infl. axis pale green. Frs. light green, maturity black.


Herb 2 m. tall in forest along trail.

Centropogon Cornutus (L.) Druce

Subshrub 2.5 m tall along track in forest. Calyx light green. Corolla light carmine pink.

Gram. - Bombusoid

Pariana

Herb in forest floor. Culms purple.

Clothaea sp. (A) peruviaina

Herb 1-1.5 m tall. Bracts pale green with cream margin. Bracteoles hyaline pink. Calyx white. Corolla white abaxially, white with purple stripes adaxially; stamina pale yellow. Lvs. mid-green above, pale gray green beneath; stiff

Monotagma laxum (P. E.) Schumann

DET. M. HAGBERG 1999 - Marent.

Herb 2 m tall in forest. Lvs. papery; faceses, shiny dark green above, lighter green shiny beneath. Peduncles green. Bracts yellow green. Calyx hyaline pink. Corolla tube white; lobes pale green. Staminodes + stamens pale yellow pink.
Near Pilcopata on road to Villa Carmen. 30 ft.

5018. Piper longistylosum C. DC. Subshrub 1 m. Spikes greenish.

Drymonia erythroloma (Lurb.) Wichterl. Det. Wichterl. 75

5019. Vr. in thicket along road. Branches dark red. Calyx dark crimson red. Corolla waxy yellow, with red tint on lower 2 bls on inside. Fr. dark red.

5020. Piper Shrub 2 m. along road in forest.

5021. Centropogon gemosepatus Zoll. Componeae

5022. **Eclitoria sp.** (not matched at F) Leguminos.

5023. **Miconia nervosa (Sw.) Triana** Heliotrop.,

GH


5024. **Piper**

GH

(2) Treelet 5 m. Spikes erect, light brown.

5025. **Pariana**

US

(1) Herb in thicket along track. Calyx reddish at base. Spike light green, (same as 5038)

5026. **Calathea sp.**

GH


5027. **Costus aff. guanaiensis** Rusby

U

**Monotagma plurispicatum** (Koern.) K. Schum.
Det. M. Hagberg 1990

**5028.** Stemmathe

Herb 2 m. tall in forest margin along trail. Lvs. dark green above, pale gray green beneath, dull both sides. Bracts pale yellow-green. F1s: calyx hyaline. Corolla pale purplish brown. Labella creamy white. Stamina purple-brown.

**5029.** Costus off. guanaiensis

Rusby

Zingib.

**5030.** Stromathe confusa Schum.


**5031.** Rullinia

**5032.** Anthurium

Areco.
5033. *Micronia aurea* (Don) Naud.  

*(3)* Tree 6 m. tall in forest margin along road. Outer white, Calyx pale pink, tipped green. Corolla white. Stamens magenta pink. 

*Marenz.*


*(3)* Herb 1 m. tall on forest margin. Bracts 15-20 green. Calyx hyaline white. Corolla white below, brownish purple. Stamens white below, limb yellow. Det HK

5035. *Calathea cf. peruviana* Koern.  

*(3)* Herb 0.5 m. tall on forest margin. Leaf dark green above, sometimes with pale grey-green markings beneath pale grey-green. Bracts 15-20 green. Bracteoles very pale green. Calyx pale yellow-green. Corolla pale green. Stamens yellow. Det HK 1978
Feb 75

Pileopata
5036. Brunfelsia mira Monachino Solanaceae

(3) Unbranched shrub 1 m. tall.
Lvs. rubbery, coriaceous, dark green above, dull, yellow green beneath.
Bracts lanceolate, yellow-green.
Pedicel & calyx cream with subtle purplish hue. Calyx lobes convex.
Lobes extend partially or all the way to base of calyx tube. 8-ribbed.
Calyx tube very pale violet, nearly white. Corolla tube very pale violet beneath, pale violet above.
with white spot at center, 8 mm. diameter.

Villa Carmen

pescapraeifolia Britt.

F/5034, Byttneria

Cusco (3)

5038. Bariana
us (1)
Vine in forest floor. Spike green.

5039. Pentagonia

(2) Unbranched shrub 1-2 m. Stipule red. Calyx red. Corolla yellow.
5040. *Ficus*
Large tree 15 m. Frs. yellowish green with dark red longitudinal stripes.

5041. *Miconia persicarimae folio cogn.*
Shrub 2 m. m roths. long stems. FIs. pure white. *chrysoleuca* Wunderlich 1975.

5042. *Calathea aff. spadifera*
Herb in forest 3 m long stalks. Lvs. dark green above, pal green beneath. Bracts green. Calyx x white. Corolla tube white. Lobes pale yellow. Staminodes yellow.

5043. *Neutiloctyx sp. nov.*
Herb 0.5 m. Lvs. dark green rugose. Bracts + calyx pale green. Corolla creamy white throughout. det H. Wunderlich.

5044. *Calathea cf. capitata (P. & E.) Koern.*
Herb 2 m. Lvs. dark green above, red-purple beneath. Bracts green. FIs. pale yellow.
5045. Dicentra longipes Engl.


5046. Renuelmia pallida Maas


At maturity: fruit black. And red-orange. Seeds brown-black with golden yellow funiculus.
ssp. thysoidea

5047. Renauldiuea thysoidea (R. & P.) P. E.

2. Herb 4 ft. tall, on steep hillside. Bracts dark red to bbrn. Perianth pink. Piper

inf. Bracts red-orange. Bractlets

cream below, ferric -orange- to- red, Pedial pink. Ovary white.

Calyx cream, pink near base, yellow- orange- toward- apex. Corolla tube pink in lower half.

deep yellow toward apex. 12 cm. leaf.

stem. Deep yellow. Young fruit pink, calyx pale orange.

E. feijoa Berg

5048. Eugenia aff. E. cuspidifolia DC. +

MYRT

CIT. 5048

Mich

(2) Shrub 1.5 m. in 2' forest. Fe. cauliflorous on stem.

Light green. Det. R. Mdlquagh 56

Zingib.

subsp. gutierrezii (O. Kunz.) Maas

5049. Dimorocostus strobilaceus O. Kunz.

(2) Herb in wet place along road.

3-4 ft. tall. Bracts light yellow.

green. Calyx pale green. Ovary

pale green. Calyx yellow-green.

Corolla cream. Lobe yellow cream.
LX. (2) Adaxially, tight yellow adaxially with golden yellow hairs. Stem cream, apical appendage pale yellow.

5055. **Leandra dichotoma (Don) Cogn.** Melastom. USM. (3) Shrubs in swampy forest along road. Lvs. dark green above, pale green beneath. Pedicels, stem traces + ovaries with red hair. Petals + filaments white. det Wundach 1975.

5051. **Guania**
(1) Vine in 2nd forest or hillside. Hypanthium + sepals bright red orange. Petals yellow. Anthers cream.

New Bicos pata on road to Shintuya.

5052. **Callesia gigas Gagn.** Marcet.
(5) H. Herb on roadside in forest margin. 2 m. tall. Lvs. yellowish green above, pale greenish green. Pedicels light green. Bracts tight green, yellowish orange toward base, pink at margin. Bracteoles carmine pink, yellowish toward...

9 Febrero 15, south of Shiguya
on road to Salavación. Alt. ca. 600 m.

Flooded low forest along road.

5053, Piper

5054, A. Cestus sp. nov.

Herb 1 m. tall with 4 stalks. Leaves dark green above, dark red purple, hairs whiteish on both sides. B occasl firm, light green when exposed, red basally. Appendage light green, occasionally tinged red abaxially. Calyx light red, lobes light green. Petals pale creamy white. Abellum tube creamy yellow, tube white, striped with red, at the central yellow stripe abaxially. Stamens appendage red but with abaxially yellow stripe below tip.


Loc: S 31° 11', Hart, Selby, U. Chic., Lyon

= 13044

Floated low forest along road.
11. Herb 0.5 m. in swampy forest. Lvs. bluish green above, somewhat shiny, red-purple beneath.

5054. Costus sp. nov. (3)

Herb 1.5 m. tall. Stems dark purple. Lvs. dark to black green, shine with light brown hair. Shiny beneath, dark wine red. Bracts light yellowish green, red toward base. Ovary white. Calyx red. Seed black.

Loc: 5 AL Hart, Solley, U. Chic, Lyon = 13044
5055. *Solanum*

Aliso (2)

GTH

Shrub 1 m. tall. Lvs. subcor-ecous. Fls. cream with dark green reticulate pattern above.

Cutlass Forest or steep hillside along quemado.

5056. *Broussaisia mirre Monachino*

Herb 1 m. in forest. sterile.

Econ

5057.

Lymo (2)

Cyperace.

Rosette herb 1.5 m. tall. Spikes brown.

5058. *Pariëna sp.*

US

Gram. Bankrund

Hair on forest floor.

det. Soderstrom 1975


Flacourt.

Thrub 2.5 m. in understory.

Equlix lt. green. Fls. yellowish.


5060. *Calathes aff. microcarpa*

Herb in forest. Lvs. incurved. 

Microcarpa

5061. *Besleria sp. nov.*

General

SEL

Herb to 1 m. Rachis green. Pedicel yellow orange. Calyx orange. Corolla orange.

DET Wieder
5062. *Gonura* f. *brongniartii* Mart. (b) Small palm, trunk 1 ft. tall.

Cuzco

BH

GH

L

5063. *Caladium* Arec.

GH (1) Herb, arumlescent, peduncle spathe green, young fr. green

White.

5064. *Bullinia* Saginades.

Cuzco (2) Vig. in thickets. Fruit red.

5065. Seed (1) Treelet 3 m. in understory FRs yellow. Also camp. white. Seeds white embedded in clear gelatinous matrix.


Herb or forest floor. 205. dark green above & pale green below around mid fr. base.

Lt. gre. Fls. white.

(3) U.

Lw HK ↓ F

GH
5067. Strychnos **tomonensis** Sprague & Sandy
- shrub 2.5 m. Fl. buds lt. green, Fr. dark green, det B.A. Kruckoff 1977.

5068. Gaura
- (1) Vine in thicket, Hypanthin orange.

5069. *Psychotria trivalis* Rusby
- Rubric.
- Treelet 5 m. with spreading branches. Fls. lemon yellow.
  - det D. Simpson 1976.

5070. *Clerodendron procumbens* gleason
- Melast.
- Subshrub 0.5-1 m. tall. Fls.
  - (1) dark green above, pale yellow green beneath. Rachis br. magenta pink.
  - Frs. pale blue. det Wurdack 1975.

5071. *Paedaphora* RIPARIA HAST. EX MART.
- Bessyf.
- (3) Woody vine in 2' forest. Bract, calyx + corolla creamy white tinged with pink. Corona banded white with dark green spot.

5072. *Paullinia alata*
- Sepulch.
- (3) Woody vine in thicket. Fls. cauliflorous, creamy white. Frs. still green.
5073. *Mundania glabra* (Poepp. & Endl.) Nees

5074. *Lysimachia*
Glt USM
BIR MK
Glt
US
Glt

5075. *Cdemijs heterophylla* (Desf.) Melat.
Glt C.

Glt (1) Climbing Epiphytic Herb. Spathe creamy white. (Paratype)

5077. *Eupatorium*
USM
Glt

5078. *Ipomoea phyllomega* Corsebelen
5079. **Fern**
   (2) Fern. Fern in 20° growth.

5080. **Clidemia dentata D. Don**
   (3) Shrub to 1 m. in secondary forest. Fls. white. Frs. blue blot.

5081. **Anemone?**

5082. **Clidemia cordata Cogn.**
   (3) Shrub 1 m. Ovary 4 calyx. Light yellow green. det Wundack 1975

5083. **Ischnosiphon**
   (3) Vv. at edge of forest. 4 m. long. Fls. dark brown. Bracts dull yellow.

5084. **Pariâna sp.**
   (3) Herb in forest. sterile. det Ödström 1975

5085. **Olyra sp. nov.**
   (2) Herb in forest. Upper dark green. Sp. helot. creamy white.
det Wundneck 1975

5087. Tococa caquetana Sprague  Melast.  
(1) Shrub 1.5 m. Rachis Red. Petals f. filament yellow. 
det Wundneck 1975

9 Feb 75. Dept Madre de Dios: Prov. 
Mem: Road from Shintuyia to Salavacion. 
Alt. 2 f. ca. 600 m.

5086. Cleome spinosa  Copper.  

5089. Gonzalagurumia  Rub.  
(2) Shrub 2 m. in forest margin. Corolla tube deep pink. Limb pale pink.

5090. Calathea cf. nodosa Rusby  Marant.  
(2) Herb 2 m. tall on open disturbed roadbank. Bracts red; Lvs. yellow green above
5091. *Miconia tomentosa* (Rich.) Don

Seed: Small tree in low forest margin, 5 m. Unripe fruit red, ripe fruit purple black. det Wundach 1975

5092. *Peperomia*


Road between to Pilcopata. Alt. 650 m.

5093. *Encephalosphaera lasiandra* Mildbr. = *Acanth*

Herb 2.5 m. in forest margin along road. Bracts rose-pink.


5094. *Ctenanthe*?  

Herb 3 m. tall on forest margin in dark green above, pale green beneath. Bracts light green. No fls.
Ficus pelta: Villa Carmen. 9 Feb. 75

5095. Prunus 'Faramea maynensis Spruce ex Rusby

Shrub 1.5 m. in thicket in 1st. margin. Leaves pedicel and ovary white. Corolla 1.5 blue. Pedicel viridian, dark blue. Fr. still green. det. D. Simpson 1976.

5096. Passiflora guazumafolia Presl


5097. Lychnanthes

Scandent vine in thicket. Corolla pale violet; calyx purple in fruit. Fr. pale green.

5098. Endlicheria dysodonther (R. P. Mez. Laurae)

Tree 3-4 m. Pedicel + calyx

5099. *Guatavia*
*Size?*
Leath.

5100. *Cercropia tessmannii*
Tree at forest margin, 10 m. tall. Light green.

5101. *Begonia altaperuviana*
Fleshy herb 1 m. Perianth + ovary bright red-orange.

5102. *Centropogon*
Herb to 1 m. Corolla pink.
(Poeppig) Bentth. ex Wolf.

5103. *Diastema maculatum* det Uichlein. Generell
Herb on wet banks in shade
Leaves dull olivé green above, purple beneath. Calyx brown to green. Corolla tube dull pink to purplish, dark purple dotted within. Lens white or pale violet, with white inner margin. Yellow stripe within tube at lip.

5104. *Cusco*

5105. *Scl. ph*

5106. *Fru*

5107. *Sel*

5108. *Ph*

5109. *Cusco*

5110. *Scl.*

5111. *Fru*

5112. *Sel*

5113. *Ph*
Herb 0.5 m. Pedicel orange.  
Calyx deep-orange. Corolla yellow-orange. det. D. Wasshausen 76

5.105. *Stenomperadenia* amomifolium (Repp.) Schott  
(1) Herb on steep wet bank.  
Spathe brown. Spadix green.  
det M. Madison 1977

5.106. *Floscopa*  
(1) Herb 0.5 m. Inflo pale yellow  
1st green.

5.107. *Cistus*  
(1) Herb 2.5 m. along stream in clearing. Fils yellow green.

5.108. *Pilea*  
(1) Herb 1 m. Inflo pale green.

5.109. *Justicia polygonaoides* H.B.K.  
Herb 1.0 m. along stream.  
Fls. creamy-white. Leaf with double row of spots.  
det. Wasshausen 1975
511. **Cayaponia**
   Cucurb.

5111. **Calathea**
   Herb 2 m. tall. Lvs. yellowish green above, pale grey green beneath. Bracts large.
   Bracts less pale yellow green, hyaline. Calyx hyaline green. Corolla tube cream, lobes pale golden yellow red-brown toward tip.

5112. **Chrysochlamys membranacea**
   Tree & w. fall. Fls. creamy yellow.

5113. **Abelandra peruviana**
   Herb 2 m. in deep shade. Bracts light green. Corolla face pubescent.
   det. Westhäuser 1975.

5114. **Blechnum asplenoides**
   Fern in steep, wet roadbank.
Monotagma sp. nov.


3900 ft alt.

Caltha lutea var. engleriana Kränzl.


5117. Cestrum
Seed. Shrub 3 m. tall in sem. along road. Corolla greenish yellow. Fr. black.


Herb in wet roadbank. Corolla tube white, limb violet.

5119. Cattleya

Herb in wet roadbank. Spathhe white. Spadix cream.
512. Sobralia violacea
U (4) Cusco
Orchid on high road bank in sun. Sepals + petals white. Lip white with golden spot near tip.

5121. Desmodium
Cusco (2)
Prostrate herb on road cut. Fls. pinch.

5122. Miconia thaeanaus (Bonpl.) Cogn. Helast.
US (3)
Small tree in open roadside, hillside. Fls. White. det Wurdack 1975

alt. 6700 ft.
= Conna jeegeriana Urb.

5123. Conna leucocarpa Bouée wet
U (4)
Road Ponceantoabo to Pilcopata, Near Abra Acanacu. Alt. 11,400 ft

5124. Siphonandra elliptica (R. & P.) Klotzsch
Thrun 1 m. tall on moist hillside. Corolla waxy, red, lobes cream.


5125. Siphocampylus veteranus E. Wimm. Campnol
Herb 2 m. tall on her neolithic. Fls. papillate, green with yellow
dark red on dorsal side.
Laert C. Niezgoda

5126. Siphocampylus elfriedii E. Wimm. Campnol
Herb 1.5 m. on roadside.
Corolla calyx green. Corolla rose pink, lobes green.
Laert C. Niezgoda 1976
Yunguyo: Lake Titicaca.
18 Feb 75 Alt. 3,815 m.

5127. Lupinus mutabilis
Cult. herb. 1m. tall. Fls. deep blue-violet, banner purple at middle with yellow spot near base.

5128. Oxalis tuberosa Molina
Cult herb. Stems succulent, pale green. Fls. yellow. Tubers white.

5129. Oxalis tuberosa Molina
Cult herb. Stems succulent red. Tubers cream with pink coloration.

5130. Avena
"Avena" oats.
Cult. grass.

5131. Hordeum
"Cebolla"
Cult. grass.

5132. Chenopodium quinoa
"Quinoa"
Cult. herb 1m. tall. Fls. green to reddish.
**Calycera pulvinata Remy**

det. L. Constans & H. Mathis

5133. **Euphorbia**

** Succ. Rosette herb in sand on lake shore. Fls. White.**

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**Bolivia: Dept. La Paz. Prov. Manco Kapac. Above Copacabana. 18 Feb 1975.**

5134. **Cantua**

**Shrub 4 m. tall on qu.**

Roadside. Calyx dark purple.

Corolla deep carmine. "cantuta"

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**GH** 5135. **Solanum**

**Shrub 1 m. on roadside.**

Fls. purple.

---

**Peru: Dept. Puno. Prov. Melgar. Abra de la Reyna. 4300 m. alt.**

18 Feb 1975.

5136. **Cajophora cirsiifolia Prest.**

Coronata Hook. et Arn. 

**Upright herb among rocks. Fls. red-orange.**

det Kew 1975.

5137. *Dunalia* spiny shrub 1 m. tall in dry, barren, heavily eroded soil. Fls. deep blue-violet det. A. Honegger 1976

Bolivia: Depto. La Paz. Prov. Nor Yungas. Between La Cumbre and Unduavi. 27 Feb 1975

5138. *Salpichroa glandulosa* (Hook.) Miers ssp. glandulosa


Below Unduavi. Alt. 10500 ft.


5140. *Roebushenia* erect shrub 3 m. Fls. blech.

det. Honziker 1994
Bolivia: Dept. La Paz, Prov. Nor Yungas, Road Unduavi to Sacramento. Alt. 10,000 ft. 22 Feb. 1975.

5141. Desfontainia spinosa R. & P.
Deciduous shrub on steep hillsides, 2 m.
- Calyx brown. Corolla tube light red, lobes pale yellow.
- Centropogon

5142. Centropogon brittonianus Zahlbr.
- Herb 2 m. Tall on road cut.
- Sepals purple. Calyx lobes olive green. Corolla tube yellowish brown, Carmine red above. Fr. 5.
- Alt. 9,200 ft.

5143. Spiranthes
- Herb. Among ferns + mosses on wet road bank. Inf. greenish.

5144. Utricularia alpina Jacq.
- Herb on steep wet cliffs 2 m.
pale yellow gibbous spot.

Alt. 7500 feet.


5146. Hedyosmuin racemosum (R. & P.) Salms-Laubach (2) Treelet 5 m. on open hillside.

5147. Peperomia
(2) распрост. Stems pale green. Spikes pale green.

5148. Miconia sp.
(3) Treelet 5 m. on open hillside.

5149. Miconia s. cordata Triana. (4) Tree 6 m. on steep open hillside. U. s. green brown, rust, 6 mm. beneath. Petals pale yellow. Stamen yellow.
Alt. 6200 ft.  *Solanum lutealbum* var. aff. det A. Child 1975

5150. *Cyphomandra* (s.a.)

(4) seed Sanders Sheds 2 m. tall on open hillside. Fr. 1½. Orange.


(3) shrub 1.5 m. on open road - back. Petals & filaments very pale yellow. Anthem golden.


5153. *Mandevilla*

(3) shrub 0.8 m. on rocky outcrop along road. Corolla white, yellow at throat.

5154. *Clausia*

(3) shrub 5 m. tall. Young infl. yellowish. Frs. pale green.

5155. *Miconia ternatifolia* Triana Melast.

(3) shrub 3 m. Young Frs. green. det Wurdack 1976.
Alt. 6000 ft.

5156. *Miconia cyanocarpa* Naud. var. *parvifolia* Lindl. Melast. (3) Shrub 1.5 m. on wooded hillside.
Fls. white, det. Wundack 1975

5157. *Desmodium* Creeping sub erect bent Calyx red. Corolla violet.

5158. *Miconia cordata* Triana Melast. (3) Large shrub with spreading branches. Twigs rusty brown.
Fls. pale yellow, det. Wundack 1975

Fls. deep yellow.

Alt. 5000 ft. Near Corozó.

(= *Galactia speciosa* (D.C.) Schum)

5161. *Collaea speciosa* D.C. (3) roadside shrubs 1.5 m. Corolla scarlet. Calyx 1 ft. brown.
Between Yoloso and El Choro.

Alt. 3500 ft.


US

Shrub 2.5 m. Leaves light green. Buds red. det D. Simpson 1976

5163. Microxia minutiflora (Bolm.) DC. Heliot.

US

Shrub to treelet 3-5 m.


Alt. 3600 ft.

5164. Pogonopus tubulosus (DC.) Schum.

US

Scattered shrub 4-5 m. Hanging from cliffs. Bracts scarlet. Corolla dark wine red. det D. Simpson 1976.

5165. Renealmia racemosa

US

Herb on steep bank in thicket.

2-5 m tall. Stifl. Based.

Leaves + bracts olive green. Fr. dark red, fresh calt remains orange.
Between Puerto Leon and Caranavi.
Alt- 2500 ft. Along Rio Coraico.
23 Feb 75.

5167. Doryopteris
spore(3) Fern on steep hillsides along stream.

5167. Begonia
usm(3)
Semi-shiny herb on steep hillsides along stream. Lvs. dark green above, reddish below. Peduncle red. Fls. cream to pink.

5168. Cinchona calisaya Wedd. var. josephiana Wedd.
usm(4) Stiff 1.5 m. shrub on dry rocky outcrop. Fls. cream, fragrant at evening. det. D. Simpson 1976.

5169. Miconia sessilifolia Naud.
usm(3) Stiff 2-3 m. shrub on dry red banks. Lvs. dark green above, tawny beneath. Pedelos yellow, filaments red, anthers yellow. det Wurdack 1975.
5170. *Euphorbium crassifolium* St. Hil.

(1) Rhizome to 3 m. tall on dry
rock outcrop. Trunk 3 cm. near
bark. Lvs. dull dark green to
yellowish-green above; pale
green beneath with distinct
veindt. Aril; red, regions indistinct
no line. H. dark lt. brown
Fr.: red, few. Lvs. papyraceous

Rubia: Dept. La Paz. Prov. Taracaja?
Road from Canaravi to Qunuay.
Beyond Alcoche. Alt. 1800 ft.
23 Feb 75

5171. *Brunfelsia mire Monachino*

(1) Shrub 2 ft. to 1.5 m. tall on
live steep forested hillside along
quebrada, in partial shade. Lvs.
dull, dark green above; lt. yellowish-
green beneath, rubbery. Calyx
pale green, tubular-campanulate
not plicate. Corolla tube very pale
violet, limb pale violet beneath
1. violet alone with white spot at
mouth.

5174. Pariana bicolor Tutin
Grass on steep forested hillside
along quebrada. Bracts pink.
Spike light green, stem new yellow.
det. T. Soderstrom

5176. Paphosmia
(1) Perennial herb on steep hillside along que-
brada. Stems reddish. Spike yellow.

5175. Noisettia orchidiflora (Rudge) Gagné
det. R. Plouman 1979

5177. Diastema latiflorum Rusby
(1) Semi-fleshy herb on steep shady
hillside along quebrada. Fls. pale
violet. det. Wahlen 75

5177. Erythrophleum brasiliense
(1) Shrub 1-1.5 m. Unbranched on
forest ed hillside along quebrada.
Calyx bright red. Corolla pale white

Nee 2 0 0 0 1

Sodertorn
Between Coroico & Ayapata. Alt. 6500 ft.

5/28. *Helenium* 

AMES (2)

Herb among grasses at edge of roadbank. Bracts + rochi. 

It. green. Calyx ± spun pale green. 
Rebus + lip white.

---

Alt. 5800 ft. (1760 m).

5179. *Erythroxylum Coca* 

(1)

Cult. shrub to 1 m. tall in weedy 2-acre field on east-facing slope.

Rows perpendicular to slope. 

Plants in various stages of picking.

Coripata. 1760 m. alt.

5180. *Ctenanthe f. Kummeriana* Maranta 

GH (1)

Cult. herb in hotel garden. 

Lvs. green above with grey stripes parallel to lst. nerves. purple beneath. 
Bracts greenish to brownish with dark red margins. 
Fls. cream yellow.
Near Coripata on road to Puente Villa (A lt. 5800 ft. (1760 m))

5181. *Erythroxylum coca*  
(4)(5) Shrubs to 1m. tall cultivated in hillside field. IVs. yellowish green above, pale green beneath, with pales areolae. Frs. olive green, turning red at maturity.

5182. *Ipomoea nil* (L.) Roth.  
(2) Roadside vine in thicket. Corolla deep magenta, white basally.  

BRILL: Dept. La Paz. Prov. Sud Yungas.  
Road from Puente Villa to Unduvi.  
A lt. 6800 ft.


(3) Herb on roadside to 1m.  
Corolla deep magenta pink.  
det. H. Wieder 75.

(2) Vines in thicket along road. Calyx pale green. Corolla pale blue. Corona in 2 series:  
white purple at base, banded blue + white apically.
5186. Ipomoea peckoltii Meissner

Vine in thicket. Corolla cream
towards base, deep, pink especially.

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<tr>
<th>Alt. 8400 ft.</th>
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<tbody>
<tr>
<td>5187.</td>
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<tr>
<td>Herbs on steep hillside. Fls. greenish yellow throughout.</td>
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<th>Alt. 5188.</th>
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<td>(2)</td>
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<tr>
<td>Herbs 1 m. on steep hillside.</td>
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<tr>
<td>Ovary + sepals dark red. Petals + column greenish + yellow.</td>
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<th>Alt. 8700 ft.</th>
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<td>√ 5189. Cauna liliiflora</td>
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<tr>
<td>Herb 4 m. tall on steep</td>
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<tr>
<td>wet hillside. Capsules lt. brown.</td>
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<td>Seeds black.</td>
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| Seeds: Kress, MAAS, PTBG. |

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<th>Alt. 9700 ft.</th>
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<td>5190.</td>
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<tr>
<td>Herbs on rocks on steep road.</td>
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<tr>
<td>bank. Fls. lemon yellow</td>
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<tr>
<td>throughout.</td>
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</table>
BOLIVIA: Dept. La Paz, Prov. Nor Yungas.
Alt. 11,100 feet. Between La Cumbre and Unduavi. 24 Feb 1975
Canarioides Urb. & Gilg

- 5191. **Cajophora burzævi** Urb. & Gilg.
  Vine in thicket. Fls. red-orange.
  det. M. Paston 1984

SARACHA PUNCTATA R.M.P.

- 5192. **Poecilochroma**
  det. Hunziker 1994
  Shrub 1.5 m. tall on open
  roadsides. Corolla pendant
  brownish purple with dull yellow
  veins, yellowish toward lobes.
  Berry black.

Alt. 14000 ft. Between La Paz + La Cumbre

- 5193. **Cajophora horrida** (Briton) Urb. & Gilg
  Herb, not climbing among
  rocks on barren hillsides. Fls.
  Lt. red-orange. Hairs urticating.

5194. Trichocereus bridgesii (Sam-Dyck) Britton

ECON Branching columnar cactus to 1.5 m. tall. No flowers.

rz. h. Field Mus.

Weil

San Pedro type.

5195. Eulychnia sp.

(1) Shrub 2 m. tall. Fls. rose-pink. Hypanthium green.


5196. Crescenta odorata Ruiz & Pavon

ASY

GTH

(3) Parasitic vine on Combosidae. Fls. & Frs. cream.

det. T. Bellz 1986

5197. Trichocereus bridgesii (Sam-Dyck) Britton

Cult. Shrub 1 m. tall in Cactaris Municipal. Fls. creamy white. Fr. green, flesh white, seeds black.

Huntington Bot. Gard. Naima Seedlings: W. Bennett UCh, Ratchiff

UCh: Ratchiff

Seed: De Tredici, Ratchiff, C. Schon SEL
3 MAR 1975.

5198. Loborosa sp.
Rosette herb on archaeological site in open, disturbed sites.
Fls. green to yellowish orange.

PERU: Dept. Puno. Prov. Chucuito, Zepita. 3815 m

5199. Chenopodium quinoa Willd.
Cult. herb to 1 m. tall.
Fl. magenta.

5200. Chenopodium cujocune "Canihua"
Cult. herb along roadside in field. Stems reddish. Lower leaves yellowish reddish.


5201. Loborosa
Rosette herbs on open hillside along road. Fls. pale grey-blue.
Peru: Dept. Arequipa

$202. Habana

Lvs. Succulent.
Coca leaves

5203. E. coca

1 pound leaves from "Yucay" (la Convención) bought at Andahuaylas, Peru. 10 Jan 75.
Price: 50 soles/16.

5204. E. coca

1 pound leaves from "Kcostipata Valley" bought at Pilkopata, Prov. Pucará, Cuzco. Price: 30 soles/16. 10 Feb 75.

5205. E. coca

7 pound lvs. bought in Cuzco market: from Quillabamba. 1 Feb 1975. 50 Soles/16.

5206. E. coca

1 pound leaves bought in Cuzco market: from Quillabamba. "Cuzco Verde" 15 Feb 75. 40 Soles/16. 10 coca 1 sol/bell.
5206. E. coca

1 lb. leaves bought in street side market in La Paz.
Source: Coripata.
Price: 20 pesos / lb. 28 Feb 75.

5208. E. coca

1 lb. leaves bought in street side market in La Paz.
Source: Coripata.
Price: 24 pesos / lb. 28 Feb 75.

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5209. Erythroxylum novogranatense
(3)
Shrub 1.5 m. Tall. Same as 4624. Fls. Creamy white. Fruits still green.

5210. Erythroxylum ulei
(3)
Shrub 1.5 m. Cult: Sterile.
5211. Erythroxylum ulei O. E. Schulz

(1)

Shrub 1 m. tall cultivated at greenhouse, La Molina, Universidad Nacional Agraria, Lima, Peru.

Collected by Edgardo Machado, at Crisnejos, Dist. Uchiza, Dept. San Martín, Peru.
Tu amiga de siempre.
que siempre te recordará.
¡Muchas Felicidades!
¡No me olvides!

Pollinators: *Brunfelsia australis* (Lima)

1. *Quinto cannae* (Herrick Schöffer), 1869. (Hesperidae).

2. *Ornidia obesa* (Fabricius). (Syrphidae)