

ANGIOSPERMAE: DICOTS (9 August 2005 Revision)

ACANTHACEAE (4) (* det. L. McDade)

Ref.: Leonard, E. C. 1951-58. Contr. U. S. Nat. Herb. 31: 1-781.

1. *Blechum pyramidatum* (Lam.) Urb.
Sec. for., 1300-1500 m; weed, fls. white: 27430*, 27870; Z 173. "Barrejorno"
2. *Hygrophila costata* Nees
Sec. for., clearings and swampy areas, 1200-1400 m; herb, fls. white: 31105; Z 175, 205.
3. *Justicia pectoralis* Jacq.
Sec. for., 1350 m; herb, fls. white with purplish spots: Z 172.
4. *Justicia secunda* Vahl
Sec. for., 1300-1500 m; scrambler with pink fls.: 27363, 27519, 28307*; Z 123.
5. *Justicia* sp. 1?
Sec. for., 1200-1300 m; herb 1 m, fls. white: 27796.
6. *Mendoncia* cf. *orbicularis* Turrill
Prim. & sec. for., 1250-1800 m; vine with white fls.: 27597, 27683, 27737, 27762; Z 143.

ACTINIDIACEAE (1) (* det. D. Soejarto)

Ref.: Soejarto, D. 1982. Fl. Ecuador 17: 1-48.

1. *Saurauia brachybotrys* Tucz.
El Pahuma, 1960 m; tree 6 m with white fls.: Nicolade 319.
2. *Saurauia herthae* Sleumer
Prim. for., 1850-1900 m; tree 5 m: F 1010.
3. *Saurauia lehmannii* Hieron.
Prim. & sec. for., Cerro Negro, 1925-2025 m; shrub 3-4 m with white fls.: 29209, 30461, 31189, [32826 from Auca, at 2250 m, may tentatively be placed here].
4. *Saurauia* cf. *prainiana* Buscal.
Sec. for., 1200-1700 m; common tree 6-8 m, fls. white: 27001, 27779, 32762. "Huevo frito", "Moco"
5. *Saurauia pseudostrigillosa* Buscal.
El Pahuma, 1960 m; tree 5-7 m with white fls.: Nicolade 353.

6. *Saurauia tomentosa* (Kunth) Spreng.

Sec. for., 1900-2450 m; shrub or tree 2-12 m x 24 cm DAP, fls. white: F 1042; Sparre 14861; Vargas 4074; Zak & Jaramillo 3211, 3217*, 3242. [Specimens have been determined as both var. *sprucei* (Sprague) Soejarto & var. *tomentosa*; perhaps conspecific with specimens determined as *S. cf. prainiana*.]

AMARANTHACEAE (5)

Ref.: Eliasson, U. 1987. Fl. Ecuador 28: 1-137.

1. *Alternanthera mexicana* (Schltdl.) Hieron.

Weedy areas, 1200-1400 m: 27195, 28111, 30335; Filskov 37030. "Escancel"

2. *Alternanthera porrigens* (Jacq.) Kuntze

Sec. for. & scrub, 1200-2500 m; scrambler, fls. pinkish: 27601, 28090, 28801, 32466; Z 230. [27601 & 28801 represent var. *porrigens*; 28090 & 32446 represent var. *piurensis* (Standl.) Eliasson.] "Moradilla"

3. *Amaranthus hybridus* L.

Open areas, Nanegalito, 1400 m: Filskov 37016 (det. U. Eliasson). "Ataco"

4. *Amaranthus viridis* L. ?

Recent clearing, Maquipucuna, 1400 m: Z 184.

5. *Chamissoa altissima* (Jacq.) Kunth

Sec. for., 1300-2000 m; shrub or scrambler, fls. white or reddish: 27146, 27237, 27568, 30309, 31614, 31670; F 1111; G 73229; T 201, 202.

6. *Cyathula achyranthoides* (Kunth) Moq.

Sec. for. & scrub, 1200-1500 m; common weed to 1.5 m: 27207, 27409, 28290; Z 68; Filskov 37122 (det. T. M. Pedersen). "San Gémula"

7. *Iresine diffusa* Humb. & Bonpl. ex Willd.

Sec. for. & scrub, extending into prim. for., 1200-2300 m; scrambler or vine to 15 m: 27063, 27736, 28139, 28286, 28757, 28759, 30214, 32447; Z 215; Cedeño 12. "Camarón", "Escancel"

ANNONACEAE (2) (* det. L. Westra; ** det. P. J. M. Maas et al.)

Refs.: Maas, P. J. M., E. A. Mennega, & L. Y. T. Westra. 1987. Annonaceae Newsletter 4: 1-135. Westra, L. Y. T. 1995. Bot. Jahrb. 117: 273-297. Chatrou, L. W., P. J. M. Maas, & C. P. Repetur. p. 97-122 in R. Valencia & H. Balslev, Estudios sobre Diversidad y Ecología de Plantas. 1997.

1. *Guatteria cf. tessmannii* R. E. Fr.

Sec. for., 1350-1415 m; tree 20-30 m, fls. greyish brown with yellow center, frs. purplish: 31042, 31318.

2. *Raimondia cherimolioides* (Triana & Planch.) R. E. Fr.

Prim. & sec. for., 1200-1800 m; common tree 5-20 m, fls. yellow: 27060*, 27917, 27932**, 28680**, 30000**, 30442**, 31115, 31159, 31326, 31554, 31691; C 13117*; Z 165. "Anonilla"

APIACEAE (6)

Ref.: Mathias, M. E., & L. Constance. 1976. Fl. Ecuador 5: 1-71.

1. *Arracacia* cf. *elata* H. Wolff

Disturbed scrub, Quebrada Chiquilpe, 2300 m; fls. yellow-green: 32450 [atypical in leaf segments narrowly incised, infls. entirely glabrous].

[*Daucus montanus* Spreng., has been collected at 00° 01' S 78° 35' W, 2750-2800 m: Øllgaard 98985, and may be expected in our area.]

2. *Eryngium foetidum* L.

Weed, sec. for., 1500-1600 m: 27814. "Culantrillo del monte"

[*Foeniculum vulgare* Mill., Nanegalito, 1400 m; cult.: Filskov 37025 (det. B. Øllgaard). "Enneldo"]

3. *Hydrocotyle bonplandii* A. Rich.

Prim. for., 21 km west of Calacalí, 2500 m: L 13670*.

4. *Hydrocotyle humboldtii* A. Rich.

Upper montane for., 2650-2750 m; scrambler, fls. green: 29486, 30552, 31520. "Orejuela"

5. *Hydrocotyle leucocephala* Cham. & Schltdl.

Banks in sec. for., 1300-1350 m; creeping herb, fls. greenish: 27432, 28183; Z 30. "Paraguita"

6. *Hydrocotyle pusilla* A. Rich.

Sec. for., 1300-1500 m; mat-forming, frs. orange: 30319, 31750.

7. *Neonelsonia acuminata* (Benth.) J. M. Coult. & Rose ex Drude

Sec. upper mont. for., 2700-2750 m; scrambling herb to 1.5 m, fls. greenish-yellow: K 31993.

8. *Sanicula liberta* Cham. & Schltdl.

Sec. for., 1200-2000 m; fls. greenish: 27205, 27650; C 12407; K 31797; Filskov 37123 (det. B. Øllgaard); Mantuano 20.

9. *Spananthe paniculata* Jacq.

Pastures, 1375-1400 m: Z 207, 224.

APOCYNACEAE (3)

Ref.: Woodson, R. E. 1933. *Ann. Missouri Bot. Gard.* 20: 605-790; 1936. *ibid.* 23: 153-206.

1. *Mandevilla callista* Woodson

Sec. for., 1200-1600 m; vine with white latex; corolla white with purple-rimmed lobes: 31098, 31319; T 602 (det. F. Morales).

2. *Mandevilla veraguasensis* (Seem.) Hemsl.

Sec. for., Sendero de las Palmitas, 1300 m; dull purplish fls. on trail: 32739.

3. *Mesechites trifidus* (Jacq.) Müll. Arg.

Sec. for., 1130-1250 m; vine with greenish-white or yellowish-white fls.: 31270, 31723; V 12270 (det. B. Hansen); Z 19, 198.

4. *Prestonia annularis* (L. f.) G. Don

Sec. for., west of Marianitas, 1150-1300 m; rare vine, fls. purplish: 28834 (det. R. Burnham).

AQUIFOLIACEAE (1)

Ref.: Edwin, G. 1965. *Mem. N. Y. Bot. Gard.* 12(3): 124-150.

1. *Ilex* sp. (aff. *I. nervosa* Triana ?)

Sec. for., 1550 m; treelet: G 73127.

ARALIACEAE (3) (* det. F. Borchsenius)

Ref.: Borchsenius, F. 1997. *Nordic J. Bot.* 17: 373-396. Ulloa U., C., & P. M. Jørgensen. 1993. *Arboles y arbustos de los Andes del Ecuador*: 64-66.

1. *Dendropanax macrophyllum* Cuatrec.

Sec. for., 1200-2000 m; tree 13-20 m, fls. greenish, frs. black: 27626, 28258, 32970 (det. D. G. Frodin); F 1009, 1076; V 12310; Nicolalde 384. "Malva"

2. *Dendropanax* sp. 1

Sec. for., 1550-1630 m; tree: G 69935, 73166.

3. *Oreopanax capitatus* (Jacq.) Dcne. & Planchon

El Pahuma, 1900 m; liana: C. Espinoza 45.

4. *Oreopanax confusus* Marchal

Prim. & sec. for., 1650-2100 m; liana or tree to 16 m: 29338*, 30257, 31775, 32772; C 5929*; F 1080, 1107, 1205, 1216, 1512; G 73210*; P 3602*; T 180*.

5. *Oreopanax* cf. *eriocephalus* Harms

Prim. & sec. for., 1300-1700 m; tree 10-20 m: 31708, 32950.

6. *Oreopanax floribundus* (Kunth) Decne. & Planch.

Loma Pahuamba, 1750 m; tree 5-15 m: F 1266, 1582; [28395, a sterile specimen from a sapling, may belong here].

7. *Oreopanax grandifolius* F. Borchsenius

Prim. & sec. for., 1200-1700 m; tree 5-10 m: C 39762; G 69934*; Q 54*; T 142*.
"Pumamaqui"

[*Oreopanax palamophyllus* Harms has been collected at 00° 02' S 78° 36' W, 2500 m: P 3626*.]

8. *Oreopanax* sp. 1

Upper mont. for., Cerro Montecristi, 2725 m: 29499.

9. *Schefflera dielsii* Harms

Sec. for. to prim./sec. for. transition, 1400-1650 m; vine-like shrub or small tree to 5 m: 31134, 32951; Z 85.

10. *Schefflera* cf. *ferruginea* (Willd. ex Roem. & Schult.) Harms

Prim. & sec. for., 1200-1800 m; common treelet 2-4 m: 27170, 27642, 28041, 28729, 28853, 29243, 30420; F 1598; G 69944, 73162; Nicolalde 380, 385.

11. *Schefflera lasiogyne* Harms

Prim. & sec. for., 1200-2000 m; shrub 4 m, fls. greenish-yellow: 31075; C 5915*, 13083*; F 1214, 1503*; N 11935*; Q 137*; T 169*, 203*; V 12253*, 12306*; Mantuano 28; [28956, a tree 15 m tall at 2050-2100 m, may belong here].

12. *Schefflera* cf. *sphaerocoma* (Benth.) Harms

Sec. for., 1600 m; tree 8 m, infls. c. 0.75 m, fls. whitish-yellow: 31765.

13. *Schefflera* cf. *whitefoordiae* M. J. Cannon & Cannon

Sec. for., 1200-1250 m; tree to 7 m: 28972; V 12294. [Perhaps not distinct from *S. sphaerocoma*.]

ASCLEPIADACEAE (7)

Ref.: Spellman, D. L. 1975. Ann. Missouri Bot. Gard. 62: 103-156.

1. *Asclepias curassavica* L.

Common weed, sec. for., 1200-1300 m; prim. for., 1900 m: 27307, 27658, 30127. "Viborana"

2. *Blepharodon nitidum* (Vell.) J. F. Macbr.?

1365 m; climber: Bremer 3354.

3. *Cynanchum* sp.

Prim. for., 2100 m; small vine, fls. yellow: P 3594.

4. *Fischeria columbiana* Schltr.

Sec. for., between Marianitas & Nanegal, 1200-1250 m; vine, fls. greenish-white: 28312. [Not in CVPE, ann. by Stevens as *F. scandens* (Vell.) Fourn.]

5. *Fischeria* sp. 1

Sec. for., 1560 m; vine with purplish fls., frs. woody: 31782.

6. *Gonolobus* sp. ? [genus doubtful]

Prim. for., 1925 m; vine, fls. white: 29222.

7. *Matelea* cf. *ecuadorensis* (Schltr.) Morillo

Sec. for., 1300-1700 m; vine, fls. green; frs. green, woody, 20 cm long: 27151, 31333. [According to CVPE, known only from the type.]

8. *Matelea lehmannii* (Schltr.) Morillo

Sec. for., 1220 m: Croat 38890 (det. G. Morillo).

9. *Oxypetalum cordifolium* (Vent.) Schltr.

Swampy area between El Carmen & Marianitas, 1150 m; vine in thickets, not common, fls. yellow: 29076.

ASTERACEAE (56) (* det. H. Robinson; ** det. J. Strother)

Refs.: Aristeguieta, L. 1964. Fl. Venezuela 10: 1-941. D'Arcy, W. G. (ed.). 1975. Ann. Missouri Bot. Gard. 62: 835-1322. Ulloa U., C., & P. M. Jørgensen. 1993. AAU Rep. 30: 70-102. Robinson, H., & V. A. Funk. 1997. Compositae of Ecuador, I: key to frequently collected genera. Mem. II Congreso Ecuatoriano Bot. 65-78.

1. *Achyrocline satureioides* (Lam.) DC.

Prim. for., steep slopes near Calacalí-Nanegalito Road, 18 km from Mitad del Mundo, 2040-2090 m, 00° 01' N 78° 34' W; ep.: Ankersen 139.

2. *Acmella alba* (L'Hér.) R. K. Jansen var. *ecuadorensis* R. K. Jansen

Weed in sec. for., fls. white, 1150-2000 m: 27415**, 27886**, 28826**, 32787; C 13023; Z 195; Delgado 39*; Filskov 37057. "Ba[*o*]toncillo"

3. *Adenostemma platyphyllum* Cass.

Sec. for., 1200-1500 m; weed with white fls.: 27377; Filskov 37114*. [Some Ecuador specimens have been determined as *A. lavenia* (L.) Kuntze, a species not confirmed for the neotropics.] "Tía Juana", "Mama Juana"

4. *Ageratina pichinchensis* (Kunth) R.M. King & H. Rob.

El Pahuma, 2000 m; shrub to 0.5 m: Delgado 24*.

5. *Ageratina rosei* H. Rob.

Sec. for., El Pahuma, 1500-1800 m; herbaceous weed, fls. white: Rubio 2083* (paratype). [Not in CVPE.]

6. *Ageratina websteri* H. Rob.
Sec. for., 1900-1925 m; herbaceous weed, fls. white: 31619* (known only from this type collection). [Not in CVPE.]
7. *Ageratum conyzoides* L.
Sec. for., 1300-1500 m: 27404; Z 50. "Pedrorera"
8. *Ambrosia arborescens* Mill.
Nanegalito, gardens and fields, 1400 m: Filskov 37043. "Marco"
9. *Ayapanopsis cuchabensis* (B. L. Rob.) R. M. King & H. Rob.
Sec. for., 1750-2250 m; shrubby herb to 2 m, corolla lavender to dark blue: 31933*, 32841, 32861.
10. *Baccharis jelskii* Hieron.
Sec. for., 1250-1700 m; shrub or vine, fls. white, fragrant: 27006, 29251*, 29342*, 31695.
11. *Baccharis latifolia* (Ruiz & Pav.) Pers.
Upper mont. for., 2000-2750 m; shrub 2-4 m, fls. whitish: 32451; H 29539*; L 13659; Rojas 406*. "Chilca"
12. *Baccharis nitida* (Ruiz & Pav.) Pers.
Sec. for., 1200-1250 m; shrub or tree to 6 m, fls. white: 27313; Z 46; Ward s.n.
13. *Baccharis pululahuensis* Hieron.
Sec. for., 1250-1750 m; scandent shrub, fls. white: 28332*, 30412*, 31652*, 31693, 31935*.
14. *Baccharis teindalensis* Kunth
Prim. for., 1800-2000 m; shrub 4 m: C 7190*.
15. *Baccharis trinervis* Pers.
Rip. for., 1350-1800 m; shrub 1.5-3 m, fls. white: 27587; C 13040; Z 2. [Maquipucuna specimens are atypical in their lanceolate rather than elliptic lvs.] "Chilca"
16. *Barnadesia parviflora* Spruce ex Benth. & Hook. f.
Sec. for., 1100-1960 m; spiny shrub or tree 3-10 m, fls. pink to rose-red: 29269*, 30228, 30514*; F 1520; Holm-Nielsen 24428 (det. E. Urtubey); Nicolalde 328*. "Espino de gato"
17. *Barnadesia spinosa* L. f.
Pasture, El Pahuma, 1500-1800 m; shrub 2 m, pink fls.: Rubio 2082.
18. *Bidens odorata* Cav.
El Pahuma, 2000 m: Delgado 26*.

19. *Bidens pilosa* L.
Sec. for., 1200-2400 m; common herbaceous weed: 27238, 27431, 30205; Z 220; Filskov 37067*. "Crespa morada", "Moriseco"
20. *Bidens squarrosa* Kunth
Prim. & sec. for., 1500-1700 m; climbing or creeping vine: 28033, 31759**, 32948. [The Strother det. may be incorrect; specimens in QCNE are annotated *B. riparia* Kunth by H. Robinson.]
21. *Bidens triplinervia* Kunth
Disturbed areas, 2000 m; herb, fls. yellow: 31864**.
22. *Centratherum punctatum* Cass.
Sec. for., between Marianitas & Nanegal, 1150 m; weed, fls. blue: 28821.
23. *Chaptalia nutans* (L.) Polak
Sec. for., 1250-1800 m; acaulescent herb, bracts purplish-tipped, fls. pink: 27384, 27426; C 14232*; Z 190.
24. *Chromolaena scabra* (L. f.) R. M. King & H. Rob.
Sec. for., 1700-1925 m; shrub 1.5-2 m, fls. pale lavender: 31583, 31936*, 32768.
25. *Clibadium alatum* H. Rob.
Sec. for., 1550 m; tree 6 m: 29256*.
26. *Clibadium eggersii* Hieron.
Sec. for., Cerro Santa Lucia, 1650 m; shrub 1.5 m, fls. white: 30352*.
27. *Clibadium laxum* S. F. Blake
Sec. for., 1250-2000 m; shrub or tree to 5 m, fls. whitish, frs. yellow & fleshy: 27314*, 28745*, 30608*, 31718*; G 73205*; N 9802*; Z 229.
28. *Clibadium surinamense* L.
Sec. for., 1500-2750 m; shrub, often scrambling, 1.5-2.5 m, fls. white: 30483*, 31951*, 32807, 32838; K 31967*.
29. *Clibadium sylvestre* (Aubl.) Baill.
Sec. for., Cerro Santa Lucia, 1500 m; shrub 3 m, fls. white: 28327*.
30. *Clibadium websteri* H. Rob.
Sec. for., Cerro Negro, 1750-2050 m; shrub with cane-like stems to 3 m: 30474*, 31930* (type).
31. *Conyza bonariensis* (L.) Cronquist
Clearings in sec. for., 1500-1600 m; herbaceous weed: 32117.

32. *Critonia morifolia* (Miller) R. M. King & H. Rob.
Sec. for. & scrub, 1300-1500 m; scrambling to 4 m, fls. whitish, fragrant: 31696*, 32356.
33. *Critoniopsis occidentalis* (Cuatrec.) H. Rob.
Prim. & sec. for., 1350-2000 m; tree 10-20 m, fls. purplish: 28689*, 30246*, 31314; Q 7*, 31*, 285*.
34. *Dendrophorbium lloense* (Hieron.) Jeffrey (= *Senecio lloensis* Hieron.)
Prim. & sec. for. to upper mont. for., 1400-2750 m; shrub 3-4 m, rays yellow: 30453, 30601*, 31950*, 32766; H 29548*.
35. *Elephantopus mollis* Kunth
Weed, fls. whitish, 1200-1400 m: 27087; Z 15; Filskov 37065 (det. B. Øllgaard).
36. *Eleutheranthera ruderalis* (Sw.) Sch. Bip.
Weed in sec. for., 1250 m; fls. yellow: Hunter s.n.
37. *Erato polymnioides* DC.
Sec. for. & scrub, 1200-2000 m; coarse weedy herb 1-2 m, fls. yellow: 27068, 27309, 27586, 28177, 32770; C 12416; Nicolalde 322*.
38. *Erechtites hieraciifolius* (L.) Raf. ex DC.
Common weed to 1 m, fls. yellow, 1400-1500 m: 27183, 27199; Z 186.
39. *Fleischmannia huigrensis* (B. L. Rob.) R. M. King & H. Rob.
Sec. for., 1200-2000 m; creeping shrub or vine with pale violet rays: Grimes & Todzia 2488; Delgado 37*; Filskov 37059*.
40. *Fleischmannia obscurifolia* (Hieron.) R. M. King & H. Rob.
Weed, fls. lavender, 1200-1900 m: 27086, 30122*; Z 51.
41. *Galinsoga quadriradiata* Ruiz & Pav.
Sec. for., 1150-2800 m; weed, rays pink or white, disk yellow: 27433, 28829*, 30108, 31507, 32785; Delgado 31*.
42. *Gnaphalium luteo-album* L. ?
Sec. for., 1500-1600 m; weed, 27567, 32777. [Determination doubtful.] "Hierba blanca", "Lechugilla"
43. *Gnaphalium purpureum* L. (= *Gamochaeta purpurea* (L.) Cabrera)
Sec. for., 1900-2000 m; weed: 30119; Mantuano 7* (as *Gamochaeta americana* (Mill.) Wedd.).
44. *Gynoxys hallii* Hieron.
Pastures, El Pahuma, 1500-1800 m; treelet to 5 m, fls. yellow: Rubio 2081.

45. *Hebeclinium killipii* (B. L. Rob.) R. M. King & H. Rob.
Prim. & sec. for., 1300-1875 m; shrub to 4 m, sometimes clambering, fls. whitish or purple: 27484*, 29084*, 29240*, 29365, 30341*.
46. *Hebeclinium obtusisquamosum* (Hieron.) R. M. King & H. Rob.
Prim. for., 1800 m; tree 6 m, fls. white: 28762*.
47. *Hebeclinium tetragonum* Benth.
Scrub on banks, 2000-2350 m; shrub to 2.5 m, fls. blue: 31539; K 32020.
48. *Heliopsis buphthalmoides* (Jacq.) Dunal
Sec. for., 1150-1700 m; herb with yellow fls.: 27378**, 27434**, 28118*, 28804*, 28831**, 32759; Filskov 37052*. [A number of collections have been determined as *H. oppositifolia* (Lam.) Diaz, an illegitimate name.]
49. *Heterocondylus vitalbae* (DC.) R. M. King & H. Rob.
Sec. for., 1200-1400 m; somewhat scandent to 3 m, fls. pinkish or lilac: 27069, 28343*, 32909; D 6080; Z 23.

[*Hieracium frigidum* Wedd., between Calacalí & Nanegalito, 2175 m: Croat 72876*, is just east of our boundary.]
50. *Hypochaeris chillensis* (Kunth) Hieron.
Roadsides, 2000-2300 m; fls. yellow: 31812, 32819.
51. *Hypochaeris radicata* L.
Trailsides, 2250 m; fls. yellow: 32831.
52. *Jaegeria hirta* (Lag.) Less.
Common weed, 1200-2750 m; fls. yellow: 27439, 30539*, 32786; Delgado 23*; Filskov 37079*.
53. *Jungia mitis* Benoist
Sec. for., 1950-2000 m; climbing vine, fls. white, fragrant: 32444.
54. *Liabum stipulatum* Rusby
Scrub on banks, 1500-2000 m; herb 0.5-1 m, fls. yellow: 31856, 31914, 32783.

[*Matricaria* sp., Nanegalito, gardens & fields, 1400 m: Filskov 37020 (det. B. Øllgaard). "Manzanilla"]
55. *Mikania banisteriae* DC.
Sec. for., 1200-1550 m; vine to 5 m, fls. white: 27005 (det. R. Noyes), 27639 (det. A. J. Bornstein); G 73131*.

56. *Mikania congesta* DC.
Sec. for., 1920 m; creeping vine, fls. white: 30125*.
57. *Mikania cordifolia* (L. f.) Willd.
Sec. for., 1250-1300 m; common weedy vine, fls. white: 27016; N 9792*; Z 18. "Guaco"
58. *Mikania leiostachya* Benth.
Prim. & sec. for., 1300-2000 m; vine with whitish fls.: 27286, 29340*, 30247, 30419, 31932.
59. *Mikania micrantha* Kunth
Sec. for., 1650-2200 m; liana, fls. white: 32388, 32776; Croat 72893*; Grimes 2490 (det. B. L. Turner); Zak & Jaramillo 3226*.
60. *Mikania sylvatica* Klatt
Prim. for., Cerro Negro, 1950-2000 m; clambering vine, fls. yellowish-white: 30470*.
61. *Mikania websteri* H. Rob. & W. C. Holmes
Prim. for., 2100-2150 m; vine with pink fls.: 28885* (type). [Not in CVPE.]
62. *Munnozia hastifolia* (Poepp.) H. Rob. & Bretell
Sec. for., 1200-1500 m; coarse herb to 1.5 m, fls. yellow: 27083, 29061, 31725, 31912.
63. *Munnozia liaboides* (Less.) H. Rob.
Sec. for., 1250 m; coarse herb, fls. yellow: 31713* [specimen collected with *M. pinnatipartita*, appearing intermediate between *M. hastifolia* & *M. pinnatipartita*].
64. *Munnozia pinnatipartita* (Hieron.) H. Rob. & Bretell
Sec. for., 1250-2000 m; coarse herb, fls. yellow: 27056*, 31714, 32425, 32800. [31726 appears intermediate between *M. hastifolia* & *M. pinnatipartita*.]
65. *Munnozia senecionidis* Benth.
Prim. & sec. for., 1600-2750 m; vine to 15 m, fls. yellow: 27832, 28704, 29461, 30459, 30490, 31126, 32840; H 29540*.
66. *Mutisia grandiflora* Bonpl.
Banks, 2350 m; vine with pendulous red fls.: K 32015.
67. *Neomirandea homogama* (Hieron.) H. Rob. & Bretell
Sec. for., 1600-1725 m; herb 1-2 m, fls. purplish or pinkish: 28349*, 31685*.
68. *Oligactis pichinchensis* (Hieron.) H. Rob. & Bretell
Prim. & upper mont. for., 2000-2750 m; vine with yellow fls.: 28944*, 30185; H 29529*.
69. *Pappobolus imbaburensis* (Hieron.) Panero
Sec. for., 2340 m: K 32017.

70. *Pentacalia floribunda* Cuatrec.
Sec. scrub, 2350 m; shrub to 2.5 m, lvs. purplish beneath, phyllaries purplish, fls. yellow: K 32016*.
71. *Pentacalia huilensis* (Cuatrec.) Cuatrec.
Prim. & sec. for., 1250-2275 m; woody vine, lvs. often purplish beneath, fls. white: 29152, 29339, 29440*, 32903, 32926; [G 73186 may also belong here].
72. *Pentacalia jelskii* (Hieron.) Cuatrec.
Prim. & sec. for., 1250-2250 m; vine with yellowish-white fls.: 27739*, 28943*. [Not in CVPE.]
73. *Pentacalia luteynorum* H. Rob. & Cuatrec. ?
Prim. & upper mont. for., 2250-2750 m; climber with yellow fls.: 29439*; H 29532*.
74. *Pentacalia riotintis* (Cuatrec.) Cuatrec. ?
Upper mont. for., 2700-2750 m; shrub to 3 m, fls. yellow: K 31973*. [Previously known only from the type, according to CVPE.]
75. *Piptocoma* cf. *discolor* (Kunth) Pruski
Sec. for., 1650 m; tree 4 m: 29262 [specimen barren, species identity needing confirmation].
76. *Polyanthina nemorosa* (Klatt) R. M. King & H. Rob.
Sec. for., 1150-2100 m; weedy herb 1-2 m, fls. white or pale blue: 27091, 27311*, 28833, 29196*, 29354, 30468*, 31332, 32967; Z 214.
77. *Pseudelephantopus spicatus* (Juss. ex Aubl.) J. B. Rohr
Sec. for., 1300-1350 m; weed with pinkish fls.: 27417; Z 35. "Chicoria"
78. *Pseudelephantopus spiralis* (Less.) Cronquist
Sec. for., 1200-1400 m; weed with pinkish fls.: 29068; Filskov 37078*.
79. *Pseudogynoxys sonchoides* (Kunth) Cuatrec.
Sec. for., 1250 m; decumbent, fls. orange: 29033*.
80. *Schistocarpha eupatorioides* (Fenzl) Kuntze
Sec. for., 1200-1250 m; herb to 1.5 m, fls. yellow: 27085.
81. *Sigesbeckia jorullensis* Kunth
Sec. for., clearings, 1200-1800 m; herb with yellow fls.: 30221, 31883; Z 206; Filskov 37126*.
82. *Smallanthus riparius* (Kunth) H. Rob.
Sec. for., 1150-1250 m; herb to 2 m, fls. yellow: 28297*, 28802*. "Polaco"

[*Sonchus oleraceus* L., from roadsides between Calacalí & Nanegalito, 2250 m: Croat 72859, is 2' east of our boundary.]

83. *Stevia* cf. *andina* B. L. Rob.

Prim. for., Auca, 2250 m; herb 0.5 m, fls. white: 32824.

84. *Stevia elatior* Kunth

Mossy banks, 2000-2250 m; herb 0.3-0.5 m, fls. white: 31857.

85. *Tagetes multiflora* Kunth

Banks, 2300 m; annual herb, fls. yellow: K 31962. "Tzintso"

86. *Tagetes terniflora* Kunth

Nanegalito, gardens & fields, 1400 m: Filskov 37038*. "Asnayuyo" "Hierba de Gallinaso"

87. *Taraxacum officinale* Weber ex F. H. Wigg.

Roadsides, 2000 m; fls. yellow: 31863; Cedeño 40. "Diente de león"

88. *Tessaria integrifolia* Ruiz & Pav.

Sec. for., 1200-1250 m; common shrub c. 3 m, fls. white: 28293, 28973, 31090.

89. *Tilesia baccata* (L.) Pruski (= *Wulffia baccata* L.)

Sec. for., 1150-1350 m; shrub or scrambler, fls. yellow: 27065, 28815.

90. *Verbesina arborea* Kunth

Prim. for., 1200-1700 m; tree 15-20 m x 30 cm: 31780; T 145*.

91. *Verbesina nudipes* Blake

Sec. scrub & woodland, Quebrada Chiquilpe, 2200-2350 m; bushy shrub or tree 3-4 m, fls. white: 32452, 32453; K 32018. [Not in CVPE.]

92. *Vernonanthura patens* (Kunth) H. Rob.

Sec. for., 1200-1250 m; common shrub c. 3 m, fls. white: 27072; Z 1, 91.

93. *Vernonia* sp.

Sec. for., 1550 m; tree: G 73190.

94. *Viguiera quitensis* (Benth.) S. F. Blake

Lower & upper mont. scrub, 2000-2350 m; shrub to 2 m, fls. yellow: 31861*; K 32017*; Delgado 73*.

BALANOPHORACEAE (3)

Ref.: Hansen, B. 1983. Fl. Ecuador 19: 1-16.

1. *Helosis cayennensis* (Sw.) Spreng.

Sec. for., 1175-1350 m; plants fleshy, pink to red: 27389, 27929, 27969, 28812, 32383.

2. *Langsdorffia hypogaea* Mart.

Prim. for., 1900-2000 m; involucre reddish-brown: 31639, 31746; F 1195.

3. *Scybalium depressum* (Hook. f.) Eichler

Prim. for., 2250-2500 m; stems & scales red, fls. yellow: 29153, 29457, 30586.

BALSAMINACEAE (1)

1. *Impatiens walleriana* Hook. f.

Spreading on roadsides & trails, 1200-2000 m: 28355; Delgado 54. "Mirame linda"

BEGONIACEAE (1) (* det. L. B. Smith; ** det. S. F. Smith)

Refs.: Smith, L. B., & D. C. Wasshausen. 1986. Fl. Ecuador 25: 1-65. Smith, L. B., et al. 1986. Smithsonian Contr. Bot. 60: 1-584.

1. *Begonia bracteosa* A. DC. ?

Sec. for., 1800 m; vine: C 13006. [Not in CVPE; determination doubtful.]

2. *Begonia exalata* C. DC.

Prim. for., 21 km west of Calacalí, 2500 m; herb, 1-2 m; fls. red & white: L 13670*.

3. *Begonia foliosa* Kunth

Prim. & sec. for., esp. trails & banks, 1200-2200 m: 27254, 27592, 27786, 27912, 28278, 29310, 30194, 30424; T 190; Delgado 19; Flynn 4123; Hurtado 1417 (det. M. Bjerrum); Molau & Eriksen 3048. "Llorona"

4. *Begonia* cf. *geminiflora* L. B. Sm. & Wassh.

Prim. & sec. for., 1450-1500 m; ep. vine: 31894. [Cited only from the type in CVPE; agrees with *B. dodsonii* in some respects, but the large-winged fruit & long pedicel suggests greater resemblance with *B. geminiflora*.]

5. *Begonia glabra* Aubl.

Sec. for., 1300-1400 m; fls. white: 29289, 29335. "Hoja de sapo"

6. *Begonia longirostris* Benth.

Prim., sec. & upper mont. for., often gregarious on wet banks, 1300-2600 m; terr., fls. red: 27259, 27282, 27735, 28044, 28935, 29145, 29245, 30109 (det. M. Bjerrum), 30385, 30460, 30572, 31594, 31830, 32810; F 1028; Delgado 9; Espinoza 15; Harling & Andersson 11608; Holm-Nielsen 16149*, 24449*; Suin 347.

7. *Begonia maurandiae* A. DC. ?

Sec. for., 1750 m; ep. vine: 30057**.

8. *Begonia parviflora* Poepp. & Endl.

Sec. for., 1250-1900 m; common, treelike, 2-5 m, fls. white: 27003, 27465, 28259, 28260, 29047, 30358, 31948; C 39725; G 73179; N 9780; Z 100.

9. *Begonia pululahuana* C. DC.

Prim. for., 1900-2000 m; ep., fls. pink & yellow: 30225**, 32406.

10. *Begonia secunda* L. B. Sm. & Wassh.

Prim. for., 1750-1900 m; ep. vine, fls. red: 27326, 28850, 31624. [Cited only from the type in CVPE; difficult to distinguish from *B. maurandiae*.]

11. *Begonia sodiroi* C. DC.

Prim., sec., & upper mont. for., 1300-2750 m; ep. vine, fls. pink: 29104, 31525, 31841.

12. *Begonia tiliifolia* C. DC.

Prim. for., 1525-2050 m; fls. white: 27138*, 28218, 28690, 29200, 30149, 31340, 32437; C 7964 (det. M. Bjerrum); Mantuano 23.

13. *Begonia truncicola* Sodiro ex C. DC.

Prim. for., 2100-2275 m; vine, fls. red: 28886, 29161**, 29446**, 30045.

[*Begonia ynesiae* L.B. Sm. & Wassh., Alaspongo, between Nono & Gualea, 3124 m: Mexía 7706 (type).]

14. *Begonia* sp. 1

Prim. & sec. for., 1500-2175 m; ep. vine, fls. pink: 27957.

15. *Begonia* sp. 2

Sec. for., 1550 m; terr., fls. white: G 73248.

BETULACEAE (1)

Ref.: Furlow, J. J. 1979. *Rhodora* 81: 1-121, 151-248.

1. *Alnus acuminata* Kunth ssp. *acuminata*

Woods along streams, collected at 1200-1300 m but observed above 2000 m; tree to 10 m: 30446; C 6863. "Aliso"

BIGNONIACEAE (6) (* det. A. Gentry)

Ref.: Gentry, A. H. 1977. *Fl. Ecuador* 7: 1-173.

1. *Arrabidaea chica* (Bonpl.) B. Verl.

Sec. for., 1300-1350 m; liana in canopy, fls. lilac: 31034; N 9781*. "Corivasca"

2. *Delostoma integrifolium* D. Don

Sec. for., 1350-2200 m; tree 5-20 m, fls. purple-violet: 29111, 31186, 31853; F 1058, 1483; Croat 72864*; Rubio 2417. "Yaloman"

3. *Pithecoctenium crucigerum* (L.) A. H. Gentry

Sec. for., 1350 m; liana, fls. yellow: 31082. "Cucharilla"

4. *Schlegelia monachinoi* Moldenke
Sec. for., El Carmen to Marianitas, 1200-1250 m; tree 6 m, corolla white with purplish limb: 27300*.
5. *Schlegelia sulphurea* Diels ?
Sec. for., liana, fls. white, 1300-1400 m: 27518.
6. *Tourrettia lappacea* (L'Hér.) Willd.
Rip. for., 1900-2000 m; climber, fls. red: 30227, 31590, 32435.
7. *Tynanthus schumannianus* (Kuntze) A. H. Gentry
Sec. for., 1630 m; tree, fls. white: G 69902*. [Not in CVPE, cf. *T. polyanthus* (Bureau) Sandwith.]

BIXACEAE (1)

1. *Bixa orellana* L.
Cult. shrub or tree to 5 m, occ. in sec. for., c. 1200-1400 m: 31174; Filskov 37008. "Achiote"

BOMBACACEAE (5) (* det. W. Alverson)

Ref.: Alverson, W. S. 1989. *Taxon* 38: 377-388.

1. *Ceiba* aff. *salmonia* (Ulbr.) Bakh.
Sec. for., 1200-1550 m; tree to 30 m, trunk spiny: 29090, 31165, 31265. [Not in CVPE.]
2. *Matisia castano* H. Karst. & Triana
Sec. for., 1500-1700 m; tree 7 m: Q 117*.
3. *Matisia* cf. *malacocalyx* (Robyns & S. Nilsson) Alverson
Prim. & sec. for., 1550-1800 m; tree 8-15 m, fls. whitish: 28211, 29372, 31146; C 39751; F 1521, 1529; G 69939, 73122, 73193; Q 116; T 194.
4. *Matisia* cf. *soegengii* Cuatrec.
Rip. for. along Río Umachaca, 1250 m; tree 25 m: 31711 [specimen barren, requiring verification].
5. *Matisia* sp. 1
Sec. for., Hacienda El Carmen, 1250 m; tree 18 m x 20 cm, fls. white: 31645.
6. *Ochroma pyramidale* (Cav. ex Lam.) Urb.
Sec. for., 1300-1600 m; tree 20-25 m: 31654, 32960. "Balsa"
7. *Pachira patinoi* (Dugand & Robyns) Fern. Alonso
Sec. for., 1500-1700 m; tree 12 m: G 73132; Q 101.

8. *Spirotheca* sp.

Sec. for., 1200-1700 m; tree, spiny trunk: G 73183*; T 197*.

BORAGINACEAE (4) (* det. J. S. Miller)

Refs.: Miller, J. S. 1988. Ann. Missouri Bot. Gard. 75: 456-521; 2000. Novon 10:48-52.

1. *Cordia cylindrostachya* (Ruiz & Pav.) Roem. & Schult.

Sec. for., 1250-2400 m; shrub 2-7 m, fls. white: 32803; N 9785*; Q 335*; Zak & Jaramillo 3236*.

2. *Cordia cymosa* (J. D. Sm.) Standl.

Sec. for., 1300-1550 m; tree 7 m, frs. greenish-grey: 31022; [G 73160 probably belongs here].

3. *Cordia hebeclada* I. M. Johnst.

Sec. for., 1300 m; tree 20 m: N 9787.

4. *Cordia mexiana* I. M. Johnst.

Sec. for., 1500-1700 m; tree 10 m, frs. red: Q 296*.

5. *Cordia* aff. *spinescens* L.

Sec. for., 1250-1950 m; shrub or tree 3-6 m, fls. whitish or yellowish-green: 28105, 28180, 31617, 31949, 32764, 33592; Z 32, 193. [Our plants are atypical, with large entire lvs. & long spikes not adnate to the petiole.]

6. *Cynoglossum amabile* Stapf & J. R. Drumm.

Sec. for. & clearings, 1900-2000 m; fls. blue: 28084, 30112. "No me olvides"

7. *Heliotropium indicum* L.

Sec. for., clearings, 1850-1900 m; herb to 1 m, fls. lavender: 31629. "Rabo de alacrán"

8. *Heliotropium rufipilum* (Benth.) I. M. Johnst.

Sec. for., 1200-1800 m; 0.5-1.5 m, fls. white: 27074, 27637, 28146, 32745; C 12433*.

9. *Tournefortia fuliginosa* Kunth

Rip. & sec. for., 1600-2300 m; arborescent shrub 3-7 m, fls. white, with foetid odor: 31852, 31934, 32781; F 1268; Valenzuela 778, 791. "Escorpión"

10. *Tournefortia gigantifolia* Killip ex J. S. Mill.

Sec. for., 1300-1875 m; shrub with mostly unbranched stems c. 2-4 m, fls. creamy white or greenish, sometimes purplish-tinged, with foetid odor: 29100, 30359, 31667, 31758, 31945. [Not in CVPE.]

11. *Tournefortia glabra* L.

Sec. for., 1300-1400 m; shrub 1.5 m, fls. greenish: 29313, 29986, 30311.

12. *Tournefortia microcalyx* (Ruiz & Pav.) I. M. Johnst.
Sec. for., 1200-1650 m; liana, fls. white with cloying odor: 31328, 31660; T 149*.
13. *Tournefortia ovalifolia* Rusby ?
Sec. for., 1400-1425 m; liana, frs. yellow: 31266. [Not in CVPE.]
14. *Tournefortia ramosissima* K. Krause
Disturbed scrub, 1200-2300 m; shrub 2-2.5 m, fls. white: 31096, 32354.
15. *Tournefortia scabrida* Kunth
Sec. for., 1900-2200 m; shrub 3 m, fls. green, frs. white: Zak & Jaramillo 3228*.
16. *Tournefortia* sp. 1
Sec. rip. for., 1250 m; tree 15 m: 29058.

BRASSICACEAE (1)

1. *Cardamine ovata* Benth.
Rip. for., clearings, 2000-2100 m; fls. white: 32422, 32852.

[*Brassica* sp., Nanegalito, 1400 m, gardens and fields, yellow fls.: Filskov 37026.]

BRUNELLIACEAE (1)

- Ref.: Cuatrecasas, J. 1970. Fl. Neotrop. Monogr. 2: 1-189; 1985. suppl.: 28-103.
1. *Brunellia acostae* Cuatrec.
Loma Pahuamba, 2300 m; tree 7 m: F 1345.
2. *Brunellia comocladifolia* Humb. & Bonpl.
Prim. & sec. for., 1300-2000 m; tree 5-15 m: 28391, 28755, 30258; N 9789; T 143; Z 235.
"Cedrillo"

BUDDLEIACEAE (1)

- Refs.: Norman, E. M. 1982. Fl. Ecuador 16: 1-24; 2000. Fl. Neotrop. Monogr. 81:1-225.
1. *Buddleia americana* L.
Sec. for., 1250-1700 m; shrub 1-2.5 m, fls. yellow: 27002, 32742. "Salvia"

CAMPANULACEAE (4) (* det. T. Lammers)

- Ref.: Jeppesen, S. 1981. Fl. Ecuador 14: 1-170.
1. *Burmeistera crispiloba* Zahlbr.
Prim. & sec. for., 1200-2750 m; scandent shrub 2-4 m, fls. green or purplish: 27058, 27096, 27772, 27837, 28243, 28325, 28945, 28947, 29157, 29352, 29443, 30017, 30455, 30545, 33602; F 1021; G 69945; T 157. [Variable; some specimens with longer peduncles (e.g., 28945, 29443) may represent *B. sodiroana* Zahlbr.]

2. *Burmeistera glabrata* (Kunth) Benth. & Hook. ex B. D. Jacks.
Upper mont. for., 2700-2750 m; shrub to 2 m, fls. greenish-yellow: K 31991.
3. *Burmeistera multiflora* Zahlbr.
Prim. & sec. for., 1200-2300 m; shrub 1-3 m, fls. greenish or purplish: 27234, 27548, 27670, 27833, 28073, 28323, 29187, 29382, 30041, 30133, 30340, 30464, 31607, 32848; F 1017; N 8649*; Nanegal, Karsten s.n. (type).
4. *Burmeistera resupinata* Zahlbr. var. *heilbornii* E. Wimm.
Prim. for., 1500-1700 m; ep. or terr., fls. green to purplish-brown: N 9800*; between Alaspungo and Gualea: Heilborn 712 (type).
5. *Burmeistera sodiroana* Zahlbr.
Prim. for., 1200-2000 m; scandent shrub, 2 m; calyx green, corolla dark red: N 8654*; Holm-Nielsen 24419 (det J. Luteyn); Mantuano 30 (det. N. Muchhala).
6. *Burmeistera succulenta* H. Karst. & Triana
Upper mont. for., 2650-2700 m; shrub 0.5-2.5 m, stems rather succulent, fls. greenish or purplish: 31515; K 31995.
7. *Centropogon aequitorialis* E. Wimm.
Prim. & sec. for., 1900-2750 m; herb or subshrub, calyx green, corolla pinkish: 27955, 30113, 30154, 30485, 30541, 31527, 31542; Cedeño 27; Montenegro 216*.
8. *Centropogon calycinus* Benth.
Prim. & upper mont. for., 2000-2700 m; shrub to 1.5 m, fls. magenta: C 5946 (det. J. Luteyn); K 32004.
9. *Centropogon glabrifilis* (E. Wimm.) Jeppesen
Prim. for., 21 km west of Calacalí, 2500 m; subshrub ca. 1 m, fls. orange-red: L 13660.
9. *Centropogon nigricans* Zahlbr.
Prim., sec., & upper mont. for., 1300-2500 m; shrub 1.5-3 m, fls. greenish: 27673, 28233, 28328, 29208, 30486, 30578; Alvarado 410*; Cedeño 9.
10. *Centropogon preslii* E. Wimm.
Upper mont. for., 2250-2750 m; scarcely woody shrub to 1 m, corolla red with yellow lobes: 31526, 32835; H 29533*.
11. *Centropogon solanifolius* Benth.
Prim. & sec. for., 1200-2175 m; shrub 1-1.5 m, fls. scarlet: 27124, 27745, 28047, 28134, 28191, 29216, 29407, 30085, 30206, 30463; F 1067; G 73253; N 8647*; T 196; Holm-Nielsen 24431 (det J. Luteyn); Mantuano 31.

12. *Centropogon subandinus* Zahlbr.

Sec. for. & upper mont. for., 1950-2500 m; shrub c. 2 m, fls. erect, corolla magenta; frs. deflexed: 32387; F 1298; L 13634 (det. S. Jeppesen).

13. *Hippobroma longiflora* (L.) G. Don

Roadsides, 1250 m; herb with white fls.: 31085. "Jazmincillo"

14. *Lobelia xalapensis* Kunth

Sec. for., 1250-1300 m; herb with white or pale lavender fls.: 27656.

CAPPARIDACEAE (2)

1. *Cleome anomala* Kunth

Sec. for., 2700 m; shrub 2 m, fls. yellow: K 32006.

2. *Podandroyne* sp. (ined.)

Prim. & sec. for., 1250-2050 m; shrub 1-3 m, fls. yellow or orange: 28330, 28691, 28707, 30118, 30217, 31028, 31184, 31559, 31570, 32958.

3. *Podandroyne brevipedunculata* Cochrane

El Pahuma, 1960 m; shrub to 3 m, "flores tomate intenso": Nicolalde 350.

4. "*Podandroyne flammea*" Cochrane (ined.)

El Pahuma, and vicinity, 1800-2000 m; shrub to 1.8 m; fls. orange: Delgado 15; Holm-Nielsen 16150 (both det. T. Cochrane). [May be the same as #2.]

CAPRIFOLIACEAE (2) (* det. H. Vargas)

Ref.: Ulloa, C., & P. M. Jørgensen. 1993. AAU Rep. 30: 116-118.

1. *Sambucus peruviana* Kunth

Sec. for., 1250-1500 m; shrub 2-3 m, sometimes cult., fls. white: 27473, 27715, 28773; Filskov 37006, 37040 (last two det. P. M. Jørgensen). "Sauco", "Tilo"

2. *Viburnum hallii* (Oerst.) Killip & A. C. Sm.

Prim. for., 2200-2250 m; tree 15 m: 28904*.

3. *Viburnum pichinchense* Benth.

Prim. & upper mont. for., 2200-2750 m; shrub or tree 4-20 m, fls. white, fragrant: 28926 (det. S. Leon), 29441*, 30524*, 30604*, 32818; H 29527; K 31997*.

CARICACEAE (1)

Refs.: Badillo, V. M. 1983. Fl. Ecuador 20: 27-48; 2000. Ernstia 10:74-79.

1. *Carica longiflora* V. M. Badillo (= *Vasconcellea longiflora* (V. M. Badillo) V. M. Badillo)

Prim. for., 1900-2050 m; shrub to 4 m with green fls.: 29166, 31239, 31600. [Not in CVPE.]

2. *Carica microcarpa* Jacq. (= *Vasconcellea microcarpa* (Jacq.) A. DC.)
ssp. *baccata* (Heilborn) V. M. Badillo
Prim. for., 1650-2000 m; shrub 1-6 m, fls. green, frs. orange: 30388, 30611, 31132; Q 297; T 155 (last two det. V. M. Badillo). "Col de monte"
3. *Carica pubescens* Lenné & Koch (= *Vasconcellea cundinamarcensis* V. M. Badillo)
Sec. for., 1600-2100 m; shrub or small tree 2-5 m; frs. angled, inflated, orange: 31215, 32441, 32779; C 13074 (det V. van den Eynden). "Babaco"

CARYOPHYLLACEAE (4)

1. *Arenaria lanuginosa* (Michx.) Rohrb.
Sec. for., banks, 1150-1600 m; weak-stemmed herb, fls. white: 27628, 28824, 31698, 32794.
2. *Cerastium* sp.
Banks of Río Pichán, 1900 m; stems spreading, petals white: 32397.
3. *Drymaria cordata* (L.) Willd. ex Schult.
Sec. for., banks, 1150-2100 m; sprawling herb, fls. white: 27385, 27407, 28825, 32404.
"Alverjilla"
4. *Drymaria ovata* Willd. ex Schult.
Sec. for., 2000-2100 m; stems flaccid, fls. white: 31534; Delgado 18.
5. *Stellaria cuspidata* Willd. ex Schldtl.
Upper mont. for., 2750-2800 m; scrambling herb, fls. white: 31532.
6. *Stellaria ovata* Willd. ex Schldtl.
Sec. for., 1200-1675 m; fls. white: 29040, 30357, 33641?; Filskov 37077 (det. J. Madsen, confirmed by P. Sklenar).
7. *Stellaria prostrata* Baldwin ex Elliot
Mossy banks in sec. for., 2000 m; scrambling herb, fls. white: 31855; Delgado 74. [Not in CVPE, perhaps *S. debilis* d'Urv.]

CECROPIACEAE (2) (* det. C. C. Berg)

Ref.: Berg, C. C. 1978. Taxon 27: 39-44.

1. *Cecropia angustifolia* Trécul
El Pahuma and vicinity, 1700-1960 m; tree to 20 m x 20 cm, fls. cream: Holm-Nielsen 24409*; Nicolalde 325*.
2. *Cecropia gabrielis* Cuatrec.
Prim. for., 1500-1960 m; tree to 30 m: 32949; G 69901*, 73169*; Q 65*; Nicolalde 331*.

3. *Cecropia maxima* Snethl.

Loma Pahuamba, 1750 m; tree 12 m, barren: F 1564*.

4. *Cecropia monostachya* C. C. Berg

Sec. for., 1200-1500 m; common tree 5-12 m, spikes solitary: 27296*, 27635*, 27689*, 32925; Z 119. [Although listed in CVPE as a synonym of *Cecropia gabrielis*, the lower elevational plants appear distinct at Maquipucuna.] "Guarumo"

5. *Cecropia* aff. *radlkoferiana* A. G. Richt.

Sec. for., 1300-1400 m; tree 10 m, not common: 28167*. [Not in CVPE.]

6. *Cecropia reticulata* Cuatrec.

5-10 km above Nanegalito, on road from Nono to Pacto, 00° 00' N 78° 40' W, 1700 m; tree 20 m, lvs. with red veins beneath: Holm-Nielsen 24410*.

7. *Pourouma minor* Benoist ?

Sec. for., 1250 m: 29908 [specimen barren & determination dubious].

CELASTRACEAE (2)

1. *Maytenus macrocarpa* (Ruiz & Pav.) Briq.

Prim. for., 1900-2250 m; tree 5-6 m, fls. green: 30093, 30232.

2. *Perottetia multiflora* Lundell

Sec. for., 1550 m; arborescent shrub 8 m: 29254.

CHENOPODIACEAE (1)

1. *Chenopodium ambrosioides* L.

Roadside and field weed, 1400-2000 m: 31231; Filskov 37028(?). "Bocino", "Paico"

CHLORANTHACEAE (1) (* det. C. Todzia)

Ref.: Todzia, C. 1990. Fl. Ecuador 40: 1-31.

1. *Hedyosmum cuatrecasanum* Occhioni

Sec. for., 1400-2450 m; tree 12-20 m: C 39724; F 1318; Q 46*; Nicolalde 365*. "Tarqui"

2. *Hedyosmum goudotianum* Solms var. *goudotianum*

Prim. for., 2200-2250 m; tree to 6 m: 28930*.

3. *Hedyosmum racemosum* (Ruiz & Pav.) Don

Sec. for., 1000-2000 m; tree 4-15 m: 27010*, 28353, 28929, 29311*, 32936; C 12417*; V 12260*, 12312*.

4. *Hedyosmum sprucei* Solms

Loma Pahuamba, 1750 m; tree 15m, odor of menthol: F 1524.

5. *Hedyosmum uniflorum* Todzia

Sec. for., 1200-1700 m; tree 15 m: 28684*; Q 125*; T 182*, 591*. "Guayusa"

CHRYSOBALANACEAE (1)

Ref.: Prance, G. T. 1972. Fl. Neotrop. 9: 1-410.

1. *Licania* cf. *durifolia* Cuatrec.

Sec. for., 1550-1700 m; tree 5 m: 31701; G 73247.

2. *Licania grandibracteata* Prance

Prim. for., 1500-1700 m; tree 15 m: Q 33 (det. G. Prance).

CLETHRACEAE (1) (* det. G. Gustafson)

Ref.: Gustafson, C. 1992. Fl. Ecuador 45: 1-26.

1. *Clethra obovata* (Ruiz & Pav.) Don

Prim. & upper mont. for., 2000-2300 m; tree 8-20 m: 29449, 30518; F 1441, 1462. "Bermejo"

2. *Clethra revoluta* (Ruiz & Pav.) Spreng.

Upper mont. for., 2450-2750 m; tree 8-15 m: 30592*; F 1363; Nicolalde 366*.

CLUSIACEAE (7) (* det. J. Pipoly; ** det. B. Hammel)

Ref.: D'Arcy, W. G. 1980. Ann. Missouri Bot. Gard. 67: 969-1043.

[Clusiaceae are abundant in Maquipucuna forests, but probably less adequately understood than any other woody family. Most of the determinations cited here are highly provisional.]

1. *Caraipa* sp. ?

Sec. for., between Cerro Negro & Río Alambi, 1335 m; tree 20 m x 70 cm with plank buttresses: 31312. [Genus not in CVPE.]

2. *Chrysochlamys colombiana* (Cuatrec.) Cuatrec.

Prim. & rip. for., 1900-2300 m; tree 10-30 m, fls. white: 30262, 32009, 32817; Vargas 4061.

3. *Chrysochlamys* cf. *dependens* Planch. & Triana

Prim. & sec. for., 1250-1950 m; arborescent shrub or tree to 20 m, without evident latex, fls. white or pink, frs. reddish: 27169, 27990, 28174, 29099, 30344, 31131, 31553, 32352, 32938, 32952; F 1092, 1095, 1533; Z 84, 134. "Cascarillon"

4. *Clusia alata* Triana & Planch.

Prim. & sec. for., 1250-2275 m; tree 5-18 m, lvs. coppery beneath, frs. reddish: 29371, 31586, 31702, 31710, 32821; C 39742; Vargas 4084, 4087 (hemiep.); El Pahuma, 2650 m; tree to 25-30 m: Nicolalde 371 (aff.). "Duco", "Matapalo"

5. *Clusia crenata* Cuatrec.
 Sec. & rip. for., 1200-2275 m; tree 6-25 m, latex yellow; petals white, purple within: 28542*, 31845, 32760; F 1004, 1015, 1048, 1183; C 5923**, P 3587**, V 12295*; Vargas 4088; Zak & Jaramillo 3241**. "Matapalo"
6. *Clusia lineata* (Benth.) Planch. & Triana
 Sec. for., 1200-1960 m; arborescent shrub or tree 5-12 m, latex cream, fls. white or pink: 27022, 27974, 30354, 31735; Z 34, 137; Nicolalde 355.
7. *Clusia longistyla* Cuatr.
 Prim. for., 1900-2250 m; tree 5-12 m: 28341*, 28905*, 29175*, 29419*.
8. *Clusia loranthacea* Planch. & Triana
 Sec. for., 1200 m; tree 8 m, latex yellow; fls. pink: V 12272*.
9. *Clusia multiflora* Kunth
 Loma Pahuamba, 1900-1950 m: F 1051.
10. *Clusia polystigma* Little
 Prim. for., 1750 m; tree 10 m: 27804*.
11. *Clusia sphaerocarpa* Planch. & Triana
 Sec. for., Loma Cachillacta, 1550-1600 m; arborescent shrub 4-5 m: 30431; El Pahuma, 1800 m; tree 20-25 m: Nicolalde 382.
12. *Clusia thurifera* Planch. & Triana
 Sec. for., 1500-1700 m; liana: Q 59*.
13. *Clusia* sp. 1
 Prim. for., 1650-1750 m; tree 5-10 m: 27565*, 29348*.
14. *Garcinia madruno* (Kunth) Hammel ?
 Sec. for., 1650 m; tree 7 m: 29358.
15. *Hypericum silenoides* Juss.
 Sec. for., 1200-2650 m; common weed, petals yellow: 27846; K 31964, 32014; Filskov 37086 (det. N. Robson).
16. *Tovomita weddelliana* Planch. & Triana ?
 Prim. & sec. for., 1550-1700 m; tree to 15 m, stilt roots: C 39730; G 73182.
17. *Vismia baccifera* (L.) Triana & Planch.
 Sec. & trans. for., 1200-1650 m; shrub or tree to 12 m, lvs. coppery beneath, fls. greenish: 27700, 31669; Z 169.

18. *Vismia* sp. 1

Sec. for., 1225 m; shrub 4 m, fls. greenish: 31097. "Mancha roba"

COBAEACEAE (1)

1. *Cobaea trianae* Hemsl.

Sec. for., 1800-2500 m; prostrate or climbing vine, corolla yellowish-green with purple veins: 30096, 30516; V 12336 (det. A. Prather).

CONVOLVULACEAE (2)

Ref.: Austin, D. F. 1982. Fl. Ecuador 15: 1-98.

1. *Ipomoea alba* L.

Sec. for., 1150-1250 m; vine with white fls.: 28157, 28314, 28798.

2. *Ipomoea batatas* (L.) Lam.

Sec. for. & fields, 1200-2000 m; vine spreading from cult., fls. white to pink: 27538, 28311; Delgado 36. "Camote"

3. *Maripa* cf. *nicaraguensis* Hemsl.

Sec. for., 1250 m; flowers fallen on trail; corolla white: 31010.

CORIARIACEAE (1)

Ref.: Skog, L. 1987. Fl. Ecuador 30: 1-7.

1. *Coriaria ruscifolia* L. ssp. *microphylla* (Poir.) L. E. Skog

Upper mont. for., above Río Pichán, 2500 m; spreading shrub 1-1.6 m, fls. greenish to purplish: 28088; Rubio 2415(?); El Pahuma 2000 m: Delgado 60(?). "Piñán", "Shansi"

CORNACEAE (1) (* det. Z. Murrell)

Ref.: Steyermark, J. A., & R. Liesner. 1987. Ann. Missouri Bot. Gard. 74: 429-430.

1. *Cornus peruviana* J. F. Macbr.

Upper mont. for., 1900-2750 m; tree 10-25 m, fls. whitish: 30593, 31578; F 1003, 1197, 1328; K 31969; P 3610*; Nicolalde 367; Zak & Jaramillo 3251* . "Palo de rosa"

CRASSULACEAE (3)

Ref.: Freire Fierro, A. 2004. Fl. Ecuador 73: 3-16.

1. *Bryophyllum pinnatum* (Lam.) Oken

Banks, 1400-2000 m; lvs. succulent, fls. reddish: 32937; K 98-122.

2. *Crassula venezuelensis* (Steyerm.) M. Bywater

Roadside ditches near Quebrada Santa Rosa, 2000 m; common submerged herb: 31638. [Site found destroyed in 1997.]

3. *Echeveria quitensis* (Kunth) Lindl.
Banks, 2300 m; lvs. succulent: K 31959.

CUCURBITACEAE (11) (* det. D. Kearns)

Ref.: Jeffrey, C. 1984. Fl. Suriname 5(1): 457-518.

1. *Apodanthera biflora* Cogn. ?
Sec. for., 1850-2100 m; vine with green frs.: 30226, 30497, 31946. [Elevation anomalously high compared to that listed in CVPE.]
2. *Cayaponia* sp.
Sec. for., 1700-2000 m; vine with light green to whitish fls., green frs.: 28023*; Holm-Nielsen 24443 (det. M. Nee). "Melón de monte"
3. *Cyclanthera pedata* (L.) Schrad.
Sec. for., 1200-1300 m; vine with yellow fls., green frs.: 27928, 28294. "Cochocho"
4. *Gurania macrophylla* Cogn.
Sec. for., 1250-1675 m; liana with orange fls.: 27325*, 27632*, 31139, 31546, 31952; K 31798. "Zapallito"
5. *Gurania pedata* Sprague
Sec. for., 1250-1400 m; vine with orange fls.: 28784*; Z 114.
6. *Lagenaria siceraria* (Molina) Standl.
Disturbed areas, 1200-1350 m; vine with white fls.: 28678, 29383, 31020. "Calabaza"
7. *Melothria longituba* C. Jeffrey
Sec. for., 1900-1950 m; vine with green or yellow fls.: 30105*, 31579.
8. *Melothria pendula* L.
Sec. for., 1150-1300 m; vine with yellow fls.: 28052, 28144, 28261, 28827, 31722; Z 39, 200.
9. *Posadaea sphaerocarpa* Cogn.
Sec. for., 1250 m; vine with green frs.: 28549*, 31724.
10. *Psiguria* cf. *triphylla* (Miq.) C. Jeffrey
Prim. & sec. for., 1300-1750 m; vine with orange fls.: 27397*, 29039*, 30059. [Leaves all simple.]
11. *Rytidostylis carthaginensis* (Jacq.) Kuntze
Prim. & sec. for., 1200-2000 m; vine with green fls., green explosive frs.: 27077, 27196*, 27857, 28245*, 29263, 30333, 30390, 31135, 31627; Z 209.
12. *Rytidostylis glabra* (Cogn.) Kuntze
Sec. for., 1300-1400 m; vine with green frs.: 27970*. [Not in CVPE.]

13. *Rytidostylis trianaei* (Cogn.) Kuntze

Prim. for.?, 1900-2200 m; fls. yellow-green, frs. green: Zak & Jaramillo 3240 (det. C. Jeffrey).

14. *Sicydium diffusum* Cogn.

Prim. for.; vine with green fls.: Q 299.

15. *Sicyos* cf. *kunthii* Cogn.

Sec. for., 1150-1300 m; vine with greenish fls.: 28315*, 28799, 31544, 31707; Z 182. "Cohombro"

16. *Sicyos* cf. *warmingii* Cogn.

Sec. for., 1900-2000 m; climbing vine: 30520*. [Not in CVPE.]

CUNONIACEAE (1)

Ref.: Harling, G. 1999. Fl. Ecuador 61: 1-74.

1. *Weinmannia auriculifera* Hieron.

El Pahuma, 1960 m; tree 5-6 m: Nicolalde 357 (det. J. Bradford).

2. *Weinmannia* cf. *latifolia* C. Presl

Prim. & sec. for., 1550-2400 m; shrub or tree to 20 (30) m, lvs. simple; fls. yellowish-white: 27834, 29167, 29369, 29378, 31072, 32801; F 1100; G 69928, 73184; P 3608; Q 21, 83. [Very common in our area, although not listed for Pichincha in CVPE. Our specimens match *W. latifolia* in having strigose pubescence on the midrib on both leaf faces, although petioles are only slightly pubescent. The Gentry specimen 73184 was determined by Harling (1998) as *W. balbisiana* Kunth, and Palacios 3608 as *W. macrophylla* Kunth, and Quelal 21, 83 were determined by David Neill (1999) as *W. macrophylla*. Apparently the distinctions between *W. balbisiana*, *W. latifolia*, and *W. macrophylla* need to be reevaluated on the western slopes of the Ecuadorean Andes.] "Matacha"

3. *Weinmannia lentiscifolia* C. Presl

Prim. & sec. for., 1500-2750 m; shrub 1-15 m; lvs. pinnate, rachis winged; fls. whitish: 30314, 30523; K 31971. [Our specimens agree with *W. lentiscifolia* in their larger lvs. mostly 10-13 cm long, with strigose rachis, and with fruiting pedicels to 4 mm long. F 1460 was determined as *W. pinnata* L., a species with smaller lvs. and shorter pedicels.]

DICHAPETALACEAE (2) (* det. R. Liesner)

Ref.: Prance, G. T. 1972. Fl. Neotrop. 10: 1-84.

1. *Dichapetalum* cf. *nervatum* Cuatrec.

Sec. for., 1400-1500 m; tree 5-10 m, frs. red: 27826*, 31177.

2. *Stephanopodium angulatum* (Little) Prance

Sec. for., 1500-2450 m; tree 50 cm dbh, 30 m, fls. cream: F 1082, 1105, 1327; G 73173; Q 74*, 84*, 96 (det. G. Prance).

EBENACEAE (1)

Ref: Wallnöfer, Ann. Naturhist. Mus. Wein 101B: 565-592. 1999

1. *Diospyros tero* B. Walln.

Sec. for., trail to Cerro Sosa, 1500 m; tree 15 m: 32964.

[Elaeocarpaceae may be represented by *Sloanea multiflora* Karsten, collected between Nono & Mindo, 1300 m: Dodson et al. 15196.]

ERICACEAE (9) (* det. J. Luteyn)

Refs.: Luteyn, J. L. 1985. Publ. Mus. Ecuat. Ci. Nat., n.s. 4: 5-8; 1991. Nordic J. Bot. 11: 623-627; 1996. Fl. Ecuador 54: 1-404. Smith, A. C. 1932. Contr. U. S. Nat. Herb. 28: 311-511.

1. *Cavendishia bracteata* (Ruiz & Pav. ex St. Hil.) Hoerold

Sec. for. & scrub, 1800-2200 m; shrub 1-4 m, bracts & fls. red, corolla with white tip: 28091, 32753; L 13663; Cedeño 14; C. Espinoza 42; Nicolalde 321*; Rojas 408; Rubio 2079*, 2421*.

2. *Cavendishia grandifolia* Hoerold

Prim. & sec. for., 1250-1975 m; ep. shrub with pendulous branches to 3 m, greenish or pinkish fls.: 27495*, 28703*, 28779*, 31044, 31659; Øllgaard 1045*.

3. *Cavendishia tarapotana* (Meissner) Benth. & Hook. f. var. *gilgiana* (Hoerold) Luteyn

Sec. for., banks, 1200-1550 m; shrub 1-2.5 m, bracts red, corolla white with pink or red tip: 27315*, 27828*, 30291*, 31118. "Zagalita"

4. *Disterigma acuminatum* (Kunth) Nied.

Prim. & upper mont. for., 1700-2730 m; terr. or ep., bush or scrambling shrub 0.5-1.5 m, fls. white or pink at base: 29134*, 29458*, 30432*; H 29523*, 29547*. "Hualicón de árbol"

[*Disterigma cryptocalyx* A. C. Sm., on shrubby slopes, between Nono and Nanegal, at 2300 m: Asplund 17289, is probably just south of our area.]

5. *Disterigma pentandrum* S. F. Blake

El Pahuma, 1900-2000 m; ep., fleshy, purple-tipped lvs., sepals white & petals red: C. Espinoza 50; Suin 455.

6. *Disterigma rimbachii* (A. C. Sm.) Luteyn

Sec. for., Loma Pahuamba, 2100 m; subshrub to 0.5 m, fls. pink, frs. purplish: 30082*; K 98-130; Nono-Nanegal Rd., Rio Alambi, km 43-45, 2500 m: Sparre 19353*.

7. *Gaultheria foliolosa* Benth.

Upper mont. for., Cerro Montecristi, 2730 m; subshrub, fls. white: H 29518*.

8. *Gaultheria insipida* Benth.

Upper mont. for., Cerro Montecristi, 2750-2800 m; subshrub, fls. magenta: 31504.

9. *Macleania bullata* Yeo

Prim. & upper mont. for., 1700-2400 m; shrub to 1.5 m with red or orange fls.: 29386*, 29470*, 30163*, 30438*, 31255, 32823; F 1513*; Luteyn 6538; Mantuano 32; [Øllgaard 100624*].

10. *Macleania coccoloboides* A. C. Sm.

Rip. for., 2000-2550 m; shrub 1 m, corolla pale lavender with green or purple rim: 31256*, 31543; Croat 50224*. "Hualicón"

10A. *Macleania coccoloboides* A. C. Sm. x *Macleania ericae* Sleumer

Cliffsides, 1800-2100 m; shrub to 2.5 m: 30081*; Luteyn & Silva 14790.

11. *Macleania cordifolia* Benth.

Prim. & sec. for., 1800-1900 m; ep. shrub, corolla pink or red with green tip: 27454*, 27747*. "Hualicón"

12. *Macleania ericae* Sleumer

Sec. for., 1200-1800 m; ep. or terr., to 2 m, corolla red with green tip, frs. translucent white: 27367*, 27709*, 28963*, 30285*, 30328*, 30418*, 31026, 31893, 33609; Boeke 2341*; Luteyn 6536; Luteyn & Silva 14789 (neotype); [Øllgaard 100625*].

[*Macleania loeseneriana* Hoerold was described from the "Nanegal Valley": Sodiro 92/2c, (lectotype NY); this species occurs at higher elevations than most of Maquipucuna, but might be found on Cerro Montecristi.]

13. *Macleania macrantha* Benth.

Upper mont. for., Cerro Montecristi, 2150-2800 m; shrub to 2 m, sometimes ep., fls. pendent, corolla red with green tip: 29484*, 29491*, 29500*, 29512*, 30526*, 30557*, 31503; C 7188*; F 1293*; Croat 50225.

14. *Macleania recumbens* A. C. Sm.

Prim. for. & trans. to sec. for., 1300-2250 m; terr. or ep. shrub to 2 m, corolla red with green lobes: 27583*, 29127*, 29344A*, 29420*, 29430*, 29442*, 31048. [25783 & 31048, at lower elevations, 1300-1465 m, have more oblong lvs. and resemble *M. ericae* in some respects.]

15. *Macleania rotundifolia* Sodiro & Hoerold

Sec. for., near road from Nanegalito to Pacto, km 8, 00° 04' N 78° 41' W, 1600 m; ep., corolla dark red with green tip: Holm-Nielsen 24468B.

16. *Pernettya prostrata* (Cav.) DC.

Upper mont. for., Cerro Montecristi, 2700-2750 m; shrub to 1 m, fls. white: K 32005. "Taglli"

17. *Psammisia aberrans* A. C. Sm.

Sec. for., 1550-1800 m; shrub 2 m, sometimes climbing, corolla dark red with green lobes, frs. pink: 29344*; C 39740; G 73125*, 73180*; Luteyn & Silva 14788*; Luteyn & Lebrón-Luteyn 6535.

18. *Psammisia debilis* Sleumer var. *debilis*

Prim. for., 2000-2700 m; climber or epiphyte, calyx red or orange, corolla white below, red to greenish above: 30151*; K 31982.

18A. *Psammisia debilis* var. *ecuadorensis* Luteyn

Sec. for., 1900-2400 m: Luteyn & Tirira 13329(?), 13335.

19. *Psammisia ecuadorensis* Hoerold

Sec. for., 1350-1900 m or more; ep., corolla red, hypanthium greenish in fr.: 29400, 30282*, 30292*; Luteyn & Tirira 13329.

20. *Psammisia graebneriana* Hoerold

Nanegal: Sodiro 92/3B, Mar 1900 (syntype).

21. *Psammisia sodiroi* Hoerold var. *sodiroi*

Prim., sec., & upper mont. for., 1600-2800 m; shrub 2 m, corolla red or purplish with green tip: 27127*, 29242*, 29425*, 29475*, 29510*, 30374*, 30415*, 30543*, 31060*, 31099*, 31197*, 31506, 32791, 32829; F 1410; H 29546*; Cedeño 13; Harling & Andersson 11624; Holm-Nielsen 24468A; Luteyn & Tirira 13331(?) ; Sparre 16770*, 17038*; Sodiro 92/4b (type). "Hualicón"

22. *Psammisia ulbrichiana* Hoerold

Prim., sec., & upper mont. for., 1300-2700 m; common ep. shrub to 3 m, corolla red at base, white distally: 27103*, 27290*, 27489*, 27809*, 28322*, 28708*, 28722*, 29045*, 29143*, 29298*, 29489*, 30156*, 30283*, 30531*, 31911, 32365; C 39755; G 69923*, 73130*; Q 115*; T 168*; Holm-Nielsen 24459*; Luteyn 15145; Sparre 17025*; Suin 436.

23. *Sphyrospermum buxifolium* Poepp.

Prim. & sec. for., 1200-2075 m; ep. or terr., often scandent, fls. whitish or pinkish: 27312*, 27455*, 27678, 27953, 28040*, 28067*, 28231*, 29210, 31561, 33600; Boeke 2339*.

24. *Sphyrospermum cordifolium* Benth.

Prim. & sec. for., 1200-2175 m; terr. shrub 0.5 m, fls. & berries white: 30466*, 31337(?); D 6121; T 164*; Croat 72880*; Filskov 37112*(ep.).

25. *Sphyrospermum grandifolium* (Hoerold) A. C. Sm.

Upper mont. for., 2280-2800 m; ep., fls. red: 29148*, 29492*, 31519.

26. *Sphyrospermum sodiroi* (Hoerold) A. C. Sm.

Prim. for., 1900-2200 m; ep.: Harling & Andersson 11612*; Molau & Eriksen 3043*; Suin 342, 365.

27. *Sphyrospermum* sp. nov., ined.

Prim. for., 1925 m; ep.: 29192*.

28. *Themistoclesia dependens* (Benth.) A. C. Sm.

Upper mont. for., Cerro Montecristi, 2375-2800 m; ep. or vine, fls. red, on long pendulous branches: 29463*, 30559*, 31501, 31505; H 29517*; K 31975; Luteyn & Tirira 13334*(?) .

29. *Thibaudia floribunda* Kunth

Upper mont. for., Cerro Montecristi, 2600-2750 m; shrub or tree to 8 m, fls. pink: 29483*, 30529*, 30551*; H 29522*. "Hualicón de árbol"

30. *Thibaudia martiniana* A. C. Sm.

Sec. for., 1800-2100 m; shrub 1-2.5 m, calyx red, corolla white: 28001*, 30498*.

ESCALLONIACEAE (1)

Refs.: Sleumer, H. 1968. Verh. Konigl. Ned. Akad. Wetensch., Afd. Natuurk., II. 58: 1-146. Romoleroux, K. & A. Freire Fierro. 2004. Fl. Ecuador 73: 68-82.

1. *Escallonia myrtilloides* L. f. var. *patens* (Ruiz & Pav.) Sleumer

Upper mont. for., Cerro Montecristi, 2725 m; subshrub, fls. white: H 29556.

2. *Escallonia paniculata* (Ruiz & Pav.) Roem. & Schult.

Sec. for., 1675-2200 m; tree 3-11 m, fls. white: 30452, 31953; F 1463.

EUPHORBIACEAE (11) (* det. G. L. Webster; ** det. B. Smith)

Ref.: Webster, G. L., & M. Huft. 1988. Ann. Missouri Bot. Gard. 75: 1087-1144. Secco, R. S. 2004. Fl. Neotrop. Mongr. 93: 1-194 (*Alchornea*).

1. *Acalypha andina* Müll. Arg.

Rip. & sec. for., 2000-2350 m; shrub 1.5-2 m: 31850; K 32021.

2. *Acalypha dictyoneura* Müll. Arg.

Prim. & sec. for., 1600-2050 m; shrub 1.5-5 m, somewhat scandent: 30475, 31628, 31665, 31939. [A probable synonym is *A. stellipila* Pax & K. Hoffm., described from just outside our area (Gualea), and referred to a different section because of the production of terminal ? spikes.]

3. *Acalypha diversifolia* Jacq.

Sec. for., 1200-1750 m; common weedy shrub 2-4 m: 27186, 27189, 28121; C 6868; F 1252, 1518; V 12326; Z 95, 208; Filskov 37031 (det. J. M Cardiel); Holm-Nielsen 24440 (det. J. M Cardiel); Nicolalde 323, 345. "Pigua", "Moquillo"

4. *Acalypha macrostachya* Jacq.

El Pahuma, 2000 m; shrub 2 m: Delgado 20.

5. *Acalypha platyphylla* Müll. Arg.

Prim. & sec. for., 1250-2030 m; common shrub 0.8-4 m: 27265, 27280, 27664, 27741, 27935, 27985, 28339, 28738, 28797, 29087, 30053, 30195, 30235, 30269, 31043, 31944, 32371; C 5919; F 1027*, 1029*, 1088*; V 12330; Delgado 7; Mantuano 11; Nicolalde 342; Rojas 394.

6. *Alchornea bogotensis* Pax & K. Hoffm.

Sec. for., 1900-2200 m; tree 8-25 m: P 3576; Zak & Jaramillo 3230 (both det. R. Secco).

7. *Alchornea sodiroi* Pax & K. Hoffm.

Rip. woods, 1300 m; bushy shrub or tree 4-5 m: 30445 [the distinctive lvs. (tomentose beneath) closely match the description of Pax & K. Hoffmann, based on a Sodiro specimen from the Nanegal Valley]; El Pahuma, 1930-2275 m; 15-20 m x 31.5-35 cm DAP, frs. red: F 1050, 1077; Vargas 4090. [Secco considers this species to be a synonym of *Alchornea glandulosa* Poepp. ssp. *glandulosa*.]

8. *Alchornea triplinervia* (Spreng.) Müll. Arg.

Sec. for., 1500-2060 m; shrub or tree 5-15 m: 31207; Q 11.

[A remarkable lacuna in our Euphorbiaceae is the complete absence of collections documenting any species of *Chamaesyce*. There is one record of *Chamaesyce jamesonii* (Boiss.) G. L. Webster from the Reserva Geobotanica Pululahua at 3100 m, 78°30' W: Cerón & Montesdeoca 7662. Although this is not close to our eastern boundary, it is possible this species may be found within the limits of the Maquipucuna area.]

9. *Croton coriaceus* Kunth

Rip. for., Quebrada Santa Rosa, 1900-2000 m; tree 5 m, with clear sap: 32407**.

10. *Croton "floccosus"* B. A. Smith

Prim. & sec. for., 1250-2200 m; tree 12-20 m, with reddish sap: 32385**, 32816**; Q 135; T 188**; B. A. Smith 306, 307; Zak & Jaramillo 3213 (?). "Sangre de drago"

11. *Croton pavonis* Müll. Arg.

Sec. for., 1200-1500 m; shrub or tree 3-8 m, with clear sap: 27012, 28143, 29071; V 12259.

[*Euphorbia cotinifolia* L., "Barrabas", is commonly cult. along hedgerows.]

12. *Euphorbia laurifolia* Lam.

Hedgerows, 1400-1700 m; tree or shrub to 4 m, cyathia green: 32773. [Native to Ecuador but plants cultivated where observed in our area.] "Lechero"

13. *Hyeronima fendleri* Briq.

Sec. for., 1300-1550 m; tree 7-30 m, fls. yellow-white, frs. reddish: 30407, 31036, 31113, 31879; [G 69931 & G 73224 from Cerra de Sosa probably represent the same species]. "Motilón"

14. *Hyeronima macrocarpa* Müll. Arg.

Sec. for., 1800-2250 m; tree 7-25 m, frs. red: 31209, 32832; C 7187 (det. R. Liesner); F 1034*, 1055*; Vargas 4052, 4063, 4066. "Motilón"

15. *Hyeronima scabrida* (Tul.) Müll. Arg.

Sec. for., 1750 m; tree 20 m: 30022.

16. *Manihot esculenta* Crantz
Roadsides, 1150-1200 m; escaped from cult.: 28832. "Yuca"
17. *Margaritaria nobilis* L. f.
Sec. for., Armenia to Loma San José, 1900-2200 m; tree 4 m: Zak & Jaramillo 3218. "Pepita de puerco"
18. *Phyllanthus anisolobus* Müll. Arg.
Sec. for., 1250-1325 m; treelet or shrub 2-3.5 m, fls. greenish-white: 31648, 31881, 32904, 32940. "Barbasco"
19. *Phyllanthus niruri* L.
Sec. for., 1150-1800 m; annual herb: 27011, 28822, 32792; C 12431; Z 52.
20. *Phyllanthus* cf. *symphoricarpoides* Kunth
Prim. & sec. for., 2200-2450 m; scandent shrub: 32834; F 1365(?).
21. *Phyllanthus sponiifolius* Müll. Arg.
Sec. for., 1250-1800 m; clambering shrub to 3 m: 27121, 27128, 27738, 27776, 27812, 27883, 27927, 28743, 29279, 29977, 32375; C 12418, 13008, 39733; T 191.
22. *Ricinus communis* L.
Sec. for. & scrub, disturbed areas, 1200 m: 28676. "Higuerilla"
23. *Sapium glandulosum* (L.) Morong (s. lat.)
Prim. & sec. for., 1350-1750 m; tree to 10 m, latex white: 29248, 31178; C 39739; F 1505; Z 83. [Our specimens agree with *Sapium pavonianum* (Müll. Arg.) Huber, as interpreted by Pax & K. Hoffmann; however, that species is treated as a synonym in Kruijt's extremely broad circumscription (Biblioth. Bot. 146, 1996), which is tentatively adopted here.]
24. *Sapium laurifolium* (A. Rich.) Griseb.
Loma Pahuamba, 1750 m; tree 7 m: F 1531*.
25. *Sapium stylare* Müll. Arg.
Prim. & sec. for., 1350-2300 m; tree 12-18 m, latex white: 30234; C 5930 (det. R. Liesner); F 1419; Z 152. [It is possible that the local tree represents *S. verum* Hemsl., but the distinctions between these two species remain to be elucidated]. "Cauchillo"
26. *Tetrorchidium andinum* Müll. Arg.
Prim. & sec. for., 1250-2000 m; tree or shrub 4-15 m: 28236, 29101, 31005, 31206, 32934; C 5921, 12436; F 1537*; G 73230; N 9796; Q 28, 30, 92, 112; V 12252; Z 98, 221.

FABACEAE (20) (* det. D. Neill; ** det. T. Pennington)

Ref.: Macbride, J. F. 1943. Publ. Field Mus. Nat. Hist., Bot. 13(3): 3-507.

1. *Calliandra pittieri* Standl. var. *pittieri*

Sec. for., 1125-1600 m; tree 7-10 m, filaments red at tips: 28356*, 28398, 31278 (det. R. Barneby), 32796.

2. *Cojoba arborea* (L.) Britton & Rose (= *Pithecellobium arboreum* (L.) Urb.)

Loma Pahuamba, 1750-1800 m; tree 17-20 m: F 1274*; Nicolalde 376*.

3. *Crotalaria nitens* Kunth

Sec. for. & roadsides, 1200-1250 m; weedy herb to 1 m, fls. yellow: 27305, 32943.

4. *Crotalaria sagittalis* L.

Sec. for. & roadsides, 1200-1500 m; weedy herb with yellow fls.: 28399, 29034.

5. *Dalea coerulea* (L. f.) Schinz & Thell.

Upper mont. scrub, above Río Pichán, 2500 m; shrub 1 m, fls. purplish: 28089. "Izo"

6. *Desmodium adscendens* (Sw.) DC.

Sec. for., 1200-1400 m; common herb with white fls.: 27589, 27699; Z 21; Filskov 37061 (det. M. Blasco). "30 reales", "Hierba del dedo"

7. *Desmodium axillare* (Sw.) DC.

Sec. for., 1200-1400 m; herb with purplish fls.: 27303; Filskov 37085 (det. M. Blasco). "Pega-pega"

8. *Desmodium campyloclados* Hemsl.

Sec. for., 1200-2000 m; vine with white to violet fls.: 27365, 28675, 31647, 32932; L 14037 (det. M. Blasco).

9. *Desmodium incanum* DC.

Sec. for., 1300-2150 m; vine with pink fls.: 27435, 27566; Z 65.

10. *Desmodium intortum* (Mill.) Urb.

Clearings, 1100-2000 m; sprawling herb, fls. pinkish-purple turning blue-green: 31273, 32966; Delgado 59; Nicolalde 388.

11. *Desmodium purpusii* Brandegee

Sec. for., between Marianitas & Nanegal, 1150 m; vine with white fls.: 28817 (det. N. Zaruma).

12. *Desmodium uncinatum* (Jacq.) DC.

Sec. for., 1450 m; clambering vine, fls. bluish: 32965.

13. *Dussia lehmannii* Harms

Prim. for., 1500-2450 m; tree 9-10 m: F 1320; G 73181; Q 100. [Records require confirmation, as all specimens are barren.]

14. *Erythrina edulis* Triana ex Micheli

Prim. for., 1500-1950 m; tree 5-7 m, fls. green, frs. elongated: 32947; F 1110*; Q 294; Rubio 2070 (det. W. Palacios). [Appearing very similar to *E. megistophylla*, but lvs. smaller & frs. very different; Q 294 was determined as *E. schimpfii* Diels, but that is a lower-elevational species with foliage similar to *E. megistophylla*, and larger fls.] "Poroton"

15. *Erythrina megistophylla* Diels

Sec. for., 1200-1650 m; common tree 4-10 m, fls. orange to red or greenish, frs. spherical, indehiscent: 27059, 27261, 27516, 27661, 28306*, 28805*, 30284; G 69937*, 73225*; P 12841; V 12302; Z 149; S. Espinoza 724. "Porotón"

16. *Erythrina* cf. *smithiana* Krukoff

Sec. for., between Marianitas & Nanegal, 1200-1250 m; tree grown as living fence post, fls. red: 28296, 28686. "Caraca"

17. *Inga densiflora* Benth.

Sec. for., 1200-1250 m; common tree to 15 m, fls. white: 27372, 28274**, 28352**, Z 41, 197. "Guabo"

18. *Inga nobilis* Willd. ssp. *quaternata* (Poepp.) T. D. Penn.

Prim. & sec. for., 1250-1550 m; tree, fls. white: 29059; G 73172; Z 126, 218. "Cachi"

19. *Inga oerstediana* Benth. ex Seem.

Sec. for., 1800-1950 m; tree 10 m, fls. white: 31940; F 1069, 1075**, 1106**.

20. *Inga punctata* Willd.

Rip. for., Río Umachaca, 1250 m; tree 10: 31747*.

21. *Inga* sp. 1

Sec. for., 1250 m; tree 12 m, fls. white: 31748.

22. *Medicago polymorpha* L.

Roadsides, 2000 m; prostrate weedy herb, fls. yellow: 31813. "Alfajilla"

23. *Melilotus indica* (L.) All.

Roadsides, 2000 m; erect weedy herb, fls. yellow: 31862. "Trébol"

24. *Mimosa albida* Humb. & Bonpl. ex Willd. var. *willdenowii* (Poir.) Rudd

Sec. for., 1250-1300 m; common scandent shrub, fls. pink: 27698; Z 67. "Uña de gato"

25. *Mucuna* cf. *elliptica* (Ruiz & Pav.) DC.

Sec. for., 1200-1500 m; vine with white fls.: 27095, 27621, 28317.

26. *Otholobium munyense* (J. F. Macbr.) J. W. Grimes
Upper. mont. scrub, 2500-2700 m; subshrub with purplish fls.: 28086; K 32003. "Trinitaria",
"Trinitaria negra"
27. *Pachyrhizus tuberosus* (Lam.) Spreng.
Sec. for., 1250 m; vine with blue fls.: 28737, 31002. [Probably escaped from cultivation.]
"Jicama"
28. *Phaseolus coccineus* L.
Sec. for., 1200-2150 m; vine with red fls.: 30117, 31225; Croat 72900, 82710*; Delgado 44;
Hurtado 1442. "Fréjol rojo"
29. *Phaseolus polyanthus* Greenm.
Sec. for., 1200-1920 m; vine with white or pink fls.: 27843, 28329 (det. A. Delgado S.),
30120; N 9793; Croat 82711*; Hurtado 1435.
30. *Pueraria phaseoloides* (Roxb.) Benth.
Sec. for., Cerro Negro, 1700-1800 m; vine with purple fls.: 28045, 30462*, 31954.
31. *Senna bacillaris* (L. f.) H. S. Irwin & Barneby (= *Cassia bacillaris* L. f.)
Sec. for., 1250 m; shrub 3 m, fls. creamy yellow: 31084, 31766; Z 106.
32. *Senna occidentalis* (L.) Link (= *Cassia occidentalis* L.)
Sec. thickets, 1200-1225 m; herb 0.5 m, fls. yellow: 31095. "Aya porotillo"
33. *Spartium junceum* L.
Roadsides, c. 2000 m; shrub to 1.5 m, fls. yellow: K 32010. "Retama"
34. *Trifolium repens* L.
Roadsides, 2000 m; fls. white: 31224 (det. M. Vincent). "Trébol blanco"
35. *Vigna unguiculata* (L.) Walp. ?
Sec. for. & scrub, 1200-1250 m; clambering vine with white fls., prob. escaped from cult.:
28284.
36. *Vigna cf. vexillata* (L.) A. Rich.
Sec. for., El Carmen to Est. Piscicola, 1150-1200 m; vine with yellow fls.: 28300, 28800,
29074.

FLACOURTIACEAE (3) (* det. R. Liesner)

Ref.: Sleumer, H. O. 1980. Fl. Neotrop. Mongr. 22: 1-499.

1. *Banara guianensis* Aubl.
Sec. for., 1200-1500 m; arborescent shrub or tree 3-8 m, fls. whitish or yellow, fragrant:
27057, 27067, 27251, 28342, 28975; C 12434; V 12255 (det. C. Grandez); Z 99. "Guapilte"

2. *Casearia* cf. *aculeata* Jacq.
Sec. for., 1550 m; tree: F 1000; G 73233.
3. *Casearia cajambrensis* Cuatrec.
Prim. & sec. for., 1200-1900 m; tree 7-20 m: G 73158*; Q 93*, 292*; T 179*, 199*. [Not in CVPE.]
4. *Casearia pitumba* Sleumer
Prim. for., Cerro Sosa & Loma Pahuamba, 1700-1950 m; tree to 7 m: C 39765; F 1112.
5. *Casearia* aff. *prunifolia* Kunth
Upper mont. for., Cerro Montecristi, 2700-2800 m; tree 5-7 m, frs. yellowish & edible: 30596, 31518. [*C. mexiae*, described from just outside our limits to the west, differs in distinctly crenate lvs.]
6. *Casearia quinduensis* Tul.
Prim. for.?, 1900-2200 m; shrub 3 m: Zak & Jaramillo 3235*.
7. *Casearia sylvestris* Sw. ?
Sec. vegetation, 1200-1500 m; tree 5-6 m: V 12248*, 12250*.
8. *Xylosma benthamii* (Tul.) Triana & Planch.
Sec. for., 1300-1500 m; shrub 1-2 m, frs. white or orange: 27988, 29985.
9. *Xylosma* sp. 1
Sec. for., 1650 m; tree 4 m: 29341.

GENTIANACEAE (3) (* det. J. S. Pringle; ** det. J. R. Grant)

Ref.: Ewan, J. Contr. 1948. U. S. Nat. Herb. 29: 209-249. Pringle, J. S. 1995. Fl. Ecuador 53: 1-131.

1. *Centaurium erythraea* Raf.
Clearings in sec. scrub, Quebrada Chiquilpe, 2300 m; herb, fls. pink: 32449.
2. *Irlbachia alata* (Aubl.) Maas
Sec. for. & banks, 1200-1500 m; herb to 1.5 m, fls. yellow-green: 27073, 28267. "Lengua de gato"
3. *Macrocarpaea gattaca* J. R. Grant
Prim. for., 2100-2200 m; to 5 m: 28902** (paratype).
4. *Macrocarpaea sodiroana* Gilg
Sec. for., 1200-1650 m ; to 3 m, fls. greenish-yellow: 27733*, 29065**, 29339**, 31122, 31346**, 31550**; Harling & Andersson 11575*; G 69921; T 154**.

GERANIACEAE (1)

1. *Geranium laxicaule* R. Knuth

El Pahuma, 2000 m; herb 0.4 m, fr. black: Delgado 53.

[*Pelargonium* sp., Nanegalito, 1400 m; cult.: Filskov 37027. "Geranio"]

GESNERIACEAE (9) (* det. L. E. Skog; ** det. J. L. Clark & L. E. Skog; Mendoza colls. det. L. P. Kvist & L. E. Skog)

Refs.: Wiehler, H. 1982. *Selbyana* 6: 1-219. Skog, L. E. 1982. *Selbyana* 7(1): 94-99; 1987. *Opera Bot.* 92: 225-233. Skog, L. E. & L. P. Kvist. 2000. *Syst. Bot. Monogr.* 59: 1-118 [*Gasteranthus*].

1. *Alloplectus dodsonii* Wiehler

Prim. for., 2100-2150 m; shrub to 1 m, bracts red, corolla pale yellow: 29172*.

2. *Alloplectus* aff. *grandicalyx* J. L. Clark & L. E. Skog

El Pahuma, 2000 m; fls. red with white tones: Mantuano 24**.

3. *Alloplectus herthae* Mansf.

Prim., sec., & upper mont. for., 1200-2600 m; clambering shrub, sometimes ep., fls. yellow or orange: 27130, 27546*, 27864, 28048, 28326*, 29384*, 30018, 30381*, 30570*; T 195*; Cedeño 5**; Croat 82769; C. Espinoza 36; Filskov 37071 (det. L. P. Kvist); Mendoza 506; Suin 423*. (Many specimens were determined as *Alloplectus bolivianus* (Britton) Wiehler.)

4. *Alloplectus oblongicalyx* J. L. Clark & L. E. Skog

Prim. for., 1900-2000 m; shrub 1.5 m, calyx reddish: 30250**; Clark 7654; MacBryde 100 (all paratypes). [Not in CVPE.]

5. *Alloplectus panamensis* C. V. Morton

El Pahuma, 2000 m; shrubs 3 m, calyx purple, corolla red: Rojas 393**.

6. *Alloplectus purpureus* L. P. Kvist & L. E. Skog

Sec. for., 1200-1700 m; ep. shrub, calyx green, corolla yellow: 27021*, 27137, 27490, 27503*, 27904*, 27976*, 28685*, 28775*, 29309, 30264*, 30427*; V 12261*; Mendoza 507. "Hierba negro"

7. *Alloplectus sprucei* (Kuntze) Wiehler

Prim. for., Loma Pahuamba, 2460 m; shrub 0.5 m, corolla yellow: F 1349.

8. *Alloplectus tenuis* Benth.

Prim. & sec. for., 1300-2000 m; terr. or ep., calyx yellow, corolla red, fr. yellow: 28724*, 29168*, 29241*, 31596, 32369; F 1030; T 184*; Delgado 47*; Nicolalde 349*.

9. *Alloplectus tetragonoides* Mansf.
Prim. & sec. for., 1500-2500 m; ep. or terr. shrub to 1.5 m, calyx green or red to purplish, corolla orange to red: 27324*, 28939*, 29158*, 29189*, 29412*, 30107*, 30479*, 30577*, 31605, 32408, 32814.
10. *Alloplectus* aff. *tetragonus* (Hanst.) Hanst.
Rip. for., Reserva Pahuama, 1900 m; ep., calyx maroon, corolla scarlet: 31597*.
11. *Alloplectus teuscheri* (Raymond) Wiehler
Prim. & sec. for., 1200-2300 m; shrub, usually ep. & scandent, to 2 (4) m, calyx reddish or purplish, corolla yellow or orange: 27680*, 27810*, 27836*, 28024*, 28814*, 28883*, 28936, 29199*, 29215*, 29426*, 30103*, 30145*, 30183, 31241*, 31245*, 31591*, 31822*, 31825*, 31827*, 31833*; C 5951*; P 3581*; Delgado 50; Mantuano 26**.
12. *Besleria angustiflora* Fritsch
Prim. & sec. for., 1500-2750 m; shrub or tree to 10 m, fls. orange: 27172*, 27570*, 28892*, 28910*, 29171*, 29459*, 30500*, 30547*, 32808; H 29543*; Cedeño 17**; C. Espinoza 16 (ep.).
13. *Besleria solanoides* Kunth
Prim. & sec. for., 1500-2150 m; shrub or tree to 8 m, fls. orange: 28692*, 28202, 30058*, 31656; C 39753; F 1291; N 9804; G 73129*, 73153*; Mendoza 508.
14. *Besleria* cf. *tambensis* C. V. Morton
Sec. upper mont. for., 2700-2750 m; shrub to 1.7 m, fls. orange: K 31994*. [Not in CVPE.]
15. *Capanea affinis* Fritsch
Prim. for., 1200-2600 m; fls. violet: T 151*; Cedeño 29**; C. Espinoza 17 (det G. Toasa).
16. *Columnea angustata* (Wiehler) L. E. Skog
Loma Pahuamba, 1950-2000 m; herb to 0.4 m, corolla deep pink: F 1193.
17. *Columnea byrsina* (Wiehler) L. P. Kvist & L. E. Skog
Sec. for., 1500-2000 m; ep. or terr., corolla orange-pink to purple: 27962*, 31571*, 32379.
18. *Columnea ciliata* (Wiehler) L. P. Kvist & L. E. Skog
Prim. & sec. for., 1250-2100 m; ep. shrub, sometimes scandent, fls. red or purple: 27140*, 27470, 27478*, 27789, 28178, 28776*, 28895*, 28938*, 29160*, 30364, 31116, 32928; Q 336*; T 193*; Mendoza 505, 512.
19. *Columnea crassicaulis* (Wiehler) L. P. Kvist & L. E. Skog
Sec. for., 1300 m; ep., fls. yellow: V 12307*.
20. *Columnea eburnea* (Wiehler) L. P. Kvist & L. E. Skog
Prim. & sec. for., 1200-1750 m; ep. or terr., lvs. red beneath at tip, bracts yellow or greenish, corolla white: 27841*, 28277*, 29126*, 33581; G 73207*; Mendoza 502, 509.

21. *Columnnea katzensteinii* (Wiehler) L. E. Skog & L. P. Kvist
Prim. for., 2000 m; ep., fls. red: 30162**.
22. *Columnnea kuczyniakii* Raymond
Prim. & sec. for., 1300-2050 m; terr, ep. or clambering shrub, lvs reddish to purplish beneath, fls. pendent, calyx green, corolla yellow: 30379**, 31140**, 31198**, C 5932**, G 73202**, P 3619**, Clark 7074; Delgado 58**.
23. *Columnnea mastersonii* (Wiehler) L. E. Skog & L. P. Kvist
Sec. for., 1250-1650 m; ep., lvs. red at tip, bracts whitish or pale yellow, corolla white: 27035*, 31063*, 31123*, 31347*.
24. *Columnnea medicinalis* (Wiehler) L. E. Skog & L. P. Kvist (incl. *C. densibracteata* L. P. Kvist & L. E. Skog)
Prim. & sec. for., 1250-2100 m; ep., bracts reddish at base, corolla yellow with red lobes: 29193*, 29244*, 30131*, 31684; F 1246; P 3609*; Suin 362**.
25. *Columnnea ovatifolia* L. P. Kvist & L. E. Skog
Prim. for., 2000-2500 m; ep., fls. pink or red: 30162*, 30583*.
26. *Columnnea picta* H. Karst.
Sec. for., 1200-2000 m; ep., leaf tip red beneath, bracts yellow with purple spots, corolla yellow: 27070*, 27247, 27255, 27399, 27791, 27808, 27852*, 28053*, 28225*, 28696?, 29064*, 29195*, 29234, 29555, 30055*, 30327*, 30402*; C 5917*; F 1019; N 8659*; Q 129*; Filskov 37053 (det. L. P. Kvist); Mendoza 503; Rojas 399**, Suin 363**. "Punta de lanza"
27. *Columnnea rileyi* (Wiehl.) J. F. Sm.
Sec. for. 1500-1600 m; ep., calyx green, corolla red with 2 yellow lobes: Clark 7077.
28. *Columnnea strigosa* Benth.
Prim. for., 1500-2500 m; ep. or clambering shrub, fls. pendent, calyx green, corolla orange: 28878*, 28918, 29128, 29183, 29198, 29438, 29451, 30582, 31191*; F 1018*, 1384*; P 3607; T 601*; Valenzuela 779**, 785**.
29. *Columnnea tandapiana* (Wiehler) L. E. Skog & L. P. Kvist
Sec. for. remnants, Nanegal, 1300-1600 m; ep., calyx green, corolla yellow: V 12298*; Clark 7076.
30. *Diastema affine* Fritsch
Banks, sec. for., 1300-1500 m; terr., fls. white: 27379*, 27766, 27871*, 32974.
31. *Diastema incisum* Benth.
"In umbrosis frigidis declivitatibus occidentalis Andium Quitensium versus Nanegal.": Hartweg 1265 (type).

32. *Diastema racemiferum* Benth.
Banks, sec. for., 1300-1475 m; terr., fls. white with purple spots: 27176, 30386, 32972.
33. *Drymonia brochidodroma* Wiehler
Prim. & sec. for., 1250-2000 m; terr., subshrub 0.5 m, bracts green, corolla white, frs. red: 27194*, 27332, 27674*, 28201*, 28713*, 28768*, 28863, 31556*, 31743*. "Labios de puta"
34. *Drymonia ecuadorensis* Wiehler
El Pahuma, 1900 m; ep., fls. yellow: C. Espinoza 47.
35. *Drymonia macrophylla* (Oerst.) H. E. Moore
Sec. for., 1300 m; ep.: 31172*.
36. *Drymonia urceolata* Wiehler
Prim. for., 2100 m; shrub, bracts green or reddish: 29155*.
37. *Gasteranthus lateralis* (C. V. Morton) Wiehler
Prim. & sec. for., 1700-2300 m; herb 0.3-1 m, calyx green, corolla orange: 27134*, 27274*, 30038*, 30147, 30197, 31573, 31589*, 32847; F 1406; Delgado 11**; Hurtado 1416.
[Specimens from higher elevations within the listed range were commonly determined as *Gasteranthus* aff. *pansamalanus* (J. D. Sm.) Wiehler.]
38. *Gasteranthus oncogastrus* (Hanst.) Wiehler
Prim. & sec. for., 1200-1750 m; herb or subshrub to 1 m with orange or brick red fls.: 27141, 27794*, 28782*, 30331*. "Campanita"
39. *Gasteranthus pansamalanus* (Donn. Sm.) Wiehler
Sec. for., 2000-2500 m; terr., herb to 0.5 m, calyx white, corolla red-orange: 32847; F 1406*; Delgado 49**; Suin 496**. "Campanita"
40. *Gasteranthus quitensis* Benth.
Prim. & sec. for., 1200-2150 m; herb with red fls.: 27125, 27236, 27792*, 27896*, 28138*, 29236*, 29237*, 30139*, 30265*, 32973; C 12403*; F 1016; G 73195*; N 8656*; V 12285*; Delgado 4**; Dodson 15748*; Filskov 37090 (det. L. P. Kvist); Suin 351**. "Zapotito rojo"
"Escapin de niño"
41. *Gasteranthus* sp. 1
Sec. for., Cerro Negro, 2000-2100 m; herb, fls. red: 30480*, 30493*.
42. *Heppiella ulmifolia* (Kunth) Hanst.
Prim. & sec. for., 1250-2725 m; herb or shrub, sometimes scandent, fls. red: 27366*, 28348, 29497, 30421*, 30555*, 31810; Holm-Nielsen 24447 (det. L. P. Kvist); Mendoza 504. "Oquilla"
43. *Kohleria spicata* (Kunth) Oerst.
Mossy banks, El Carmen to Marianitas, 1200-1250 m; corolla red: 27078, 27627A*; C 6867*; El Pahuma, 2000 m; Delgado 70**. "Oreja de conejo"

44. *Kohleria villosa* (Fritsch) Wiehler var. *anisophylla* (Fritsch) L. P. Kvist & L. E. Skog
Prim. & sec. for., 1250-2250 m; corolla red: 28881*, 29069*, 29142*; Mendoza 510.

44A. *Kohleria villosa* (Fritsch) Wiehler var. *villosa*

Sec. for., 1200-1650 m; herb or vine, corolla pinkish to red: 27193*, 27627*, 27882*,
27893*, 29080*, 30037*; Mendoza 501.

GUNNERACEAE (1) (* det. L. E. Mora-Oseja)

Ref.: Mora-Osejo, L. E. 1984. Flora de Colombia 3: 1-178.

1. *Gunnera aequatoriensis* L. E. Mora

Dry slopes, Nono-Nanegal, 2000 m: Asplund 17266 (type) [possibly just south of area].

2. *Gunnera atropurpurea* L. E. Mora var. *atropurpurea*

Prim. & sec. for., clearings, 2000-2750 m; herb to 2.5 m, lvs. < 1 m across: 29162*, 30499*,
30538*, 31249; H 29536. [Not in CVPE.]

3. *Gunnera brephogea* Linden & André var. *magna* (L. E. Mora) L. E. Mora

Sec. for., clearings, 1600-2100 m; herb to 2 m, lvs. 1 m across: 27153*.

HIPPOCASTANACEAE (1) (* det. G. T. Prance)

Refs.: Hardin, J. W. 1957. Brittonia 9: 175-178. Ulloa, C. & P. Jørgensen. 2001. Novon 11:
287.

1. *Billia rosea* (Planch. & Linden) C. Ulloa & P. Jørg.

Sec. for., 1700-2275 m; tree to 25 m X 56 cm, calyx green, corolla creamy-white, anthers
orange, frs. red to wine-colored (brown): 29178, 30233 (det. G. Nesom), 30243*, 30515, 31928;
F 1013, 1040, 1081, 1261, 1553; Vargas 4056, 4083; Zak & Jaramillo 3222 (det. M. Merello).

HIPPOCRATEACEAE (1)

1. *Salacia* cf. *cordata* (Miers) Mennega

Rip. for. near waterfall, Sendero Unión de los Ríos, 1300-1350 m; tree 10 m: 32380 (det. with
aid of C. Cerón).

HYDRANGEACEAE (1) (* det. A. Freire-Fierro)

Refs.: McClintock, E. 1957. Proc. Cal. Acad. Sci. IV. 29: 147-256. Freire-Fierro, A. 2004. Fl.
Ecuador 73: 25-40.

1. *Hydrangea peruviana* Moric. ex DC. var. *peruviana*

Prim. & sec. for., 1200-1650 m; common liana to 15 m, glabrescent, lvs. remotely denticulate,
bracts & fls. red: 27608*, 28335*, 30392; (G 69919; K 31803 not determined to variety).

1A. *Hydrangea peruviana* Moric. ex DC. var. *oerstedii* (Briq.) Friere-Fierro

Prim. & sec. for., 1200-1650 m; common liana to 15 m, pubescent, lvs. remotely denticulate,
bracts & fls. red: 27062*, 30003, 31032, 31106; G 73174*; N 8643**; T 207**, 593**.

2. *Hydrangea preslii* Briq.

Prim. for., 1250-2000 m; climber, lvs. entire, fls. yellow-green: 30231*, 32386*. (Previously determined as *H. tarapotensis* Briq. by E. McClintock.)

ICACINACEAE (1)

1. *Citronella incarum* (J. F. Macbr.) R. A. Howard

Prim. for., 1750-2300 m; tree 15-28 m: 28488 (det. C. Cerón), 28908; F 1226; Vargas 4068, 4079.

LAMIACEAE (6) (* det. R. M. Harley)

Ref.: Epling, C. 1935-7. Repert. Spec. Nov. Beih. 85(1): 1-96; 85(2): 97-192; 85(4): 289-341.

1. *Hyptis atrorubens* Poit.

Disturbed wet areas, 1125-1300 m; herb with white fls.: 31275; Z 12.

2. *Hyptis obtusiflora* C. Presl ex Benth.

Sec. for., 1300-1500 m; herb to 1.5 m, fls. white: 27374, 27419, 29868, 31742; Z 49. "Hierba de chancho"

3. *Hyptis pectinata* Poit.

Sec. for., 1300-1500 m; herb with white fls.: 28272. "Poleo"

4. *Hyptis sidifolia* (L'Hér.) Briq.

Sec. for., 1200-1600 m; herb 1.5 m, fls. lavender: 27082; Z 121; Holm-Nielsen 24456*.

5. *Lepechinia betonicifolia* (Lam.) Epling

Banks in upper mont. for., 2750-2800 m; shrub 1 m, fls. white: Øllgaard 98988; 1200-1400 m; cult.: C 6872*; Filskov 37042 (det. R. M. Harley & S. Atkins). "Matico"

6. *Lepechinia bullata* (Kunth) Epling

Prim. for., 21 km west of Calacalí, 2500 m; shrub 3-4 m; fls. white: L 13655 (det. P. M. Jorgensen).

[*Mentha* sp., Nanegalito, gardens & fields, 1400 m: Filskov 37039*. "Hierba buena"]

6. *Minthostachys mollis* (Kunth) Griseb.

Sec. & upper mont. scrub, 1550-2500 m; herb 1 m, fls. white: 28096, 31915, 32765. "Tipo"

[*Ocimum campechianum* Mill., Nanegalito, 1400 m: Filskov 37014*, is doubtless cultivated. "Albaca"]

[*Origanum* sp., Nanegalito, gardens & fields, 1400 m: Filskov 37033*. "Oregano"]

7. *Salvia macrophylla* Benth.

Sec. for., 1200-1700 m; herb with blue fls.: 27075, 31730, 32758; Z 232.

8. *Salvia quitensis* Benth.

Prim. & sec. for., 1300-2225 m; shrub or climber to 3.5 m, fls. pinkish: 27364, 27591, 30092, 31848; C 12989; Delgado 69.

9. *Salvia scutellarioides* Kunth

Nanegalito, gardens & fields, 1200-1400 m; fls. blue or white: Filskov 37045*, 37070*.
"Ruda"

10. *Scutellaria coccinea* Kunth (incl. *Scutellaria atriplicifolia* Benth.)

Sec. for., 1100-1300 m; herb with purplish fls.: 27264, 27277, 27665, 28830, 29270, 30325; Filskov 37127 (det. A. Paton).

11. *Stachys lamioides* Benth.

Sec. for., 1150-2000 m; herb with red fls.: 29073, 30318, 32849.

12. *Stachys micheliana* Briq.

Sec. for., 1300-1400 m; herb with white fls.: 27428, 31882; Z 166. "Pedorrera"

LAURACEAE (9) (* det. H. van der Werff; ** det. J. Rohwer; *** det. F. G. Lorca-Hernández)

Refs.: Rohwer, J. G. 1986. Mitt. Inst. Allg. Bot. Hamburg 20: 1-278; 1993. Fl. Neotrop. 60: 1-322.

1. *Beilschmiedia alloiphylla* (Rusby) Kosterm.

Sec. for., 1200 m; tree 25 m, fls. green: V 12256, 12289; El Pahuma, 2275 m; tree 14-25 m: Vargas 4057, 4058, 4059, 4060, 4075, 4078.

2. *Beilschmiedia costaricensis* (Mez & Pittier) C. K. Allen

Prim. & sec. for., 1200-1700 m; tree 20 m, fls. yellowish: T 141; V 13368 (det. Sa. Nishida).
[Not in CVPE.]

3. *Beilschmiedia towarensis* (Meisn.) Sa. Nishida

Sec. for., 1300 m; tree 25 m, fls. pale yellow: N 9782 (det. Sa. Nishida); [V 13377 (det. Sa. Nishida) was collected just south of our area.]. [Not in CVPE.]

4. *Caryodaphnopsis theobromifolia* (A. H. Gentry) van der Werff & H. G. Richt.

Sec. for., Cerro Negro, 1375-1400 m; tree 10 m, lvs. with wintergreen odor: 31315*. "Caoba"

5. *Cinnamomum triplinerve* (Ruiz & Pav.) Kosterm.

Sec. for., 1300-1600 m; tree 12-15 m, fls. white, with foetid odor, cupules red: 31313***; T 590***; V 12315***.

6. *Licaria applanata* van de Werff

Loma Pahuamba, 1850-1900 m; tree 10 m: F 1001; [V 13372 & 13381 were collected just south of the floristic boundary].

7. *Nectandra acutifolia* (Ruiz & Pav.) Mez
Sec. for., 1200-1700 m; tree 5-25 m, fls. white: 31037*; C 12440*; N 9779*; Q 133*; T 186*; V 12234, 12246, 13367. "Canelo", "Pacche"
8. *Nectandra asplundii* C. K. Allen
Los Puentes, near Nanegal, 1200 m: Asplund 17257 (type). [May be an unpublished name.]
9. *Nectandra laurel* Nees
Prim. & sec. for., 1300-1950 m; tree 8-30 m, fls. white: 28753*, 32757*; F 1063 (det. W. Palacios); P 3618*; Q 80*, 87*; T 160*; V 12297, 13388, 13407; Holm-Nielsen 24422**.
10. *Nectandra longifolia* (Ruiz & Pav.) Nees
Sec. for., 1300-1500 m; tree 10 m, fls. white: P 3617*.
11. *Nectandra membranacea* (Sw.) Griseb.
Sec. for., 1300-2200 m; tree 6-20 m, fls. white: 29357*, 31885; C 39772; N 9775*; P 3620**;
Rubio 2420*; Zak & Jaramillo 3225**. "Aguacatillo"
12. *Nectandra obtusata* Rohwer
Prim. & sec. for., 1200-2200 m; tree 12-30 m, fls. white: 30089; F 1256*, 1275*; G 69920*;
Q 2 (det. J. Guevara); V 12230, 12232, 12296; Holm-Nielsen 24433**.
13. *Nectandra purpurea* (Ruiz & Pav.) Mez
Sec. for., 1400 m; tree 6 m, lvs. slightly aromatic, fls. white, slightly fragrant: 31263*.
14. *Nectandra* sp.1
Sta. Lucia, 1435 m: 31760.
15. *Ocotea benthamiana* Mez
Upper mont. for., 2400-2700 m; tree to 15 m: 29471*, 30597*.
16. *Ocotea* cf. *cernua* (Nees) Mez
Rip. for., 1250-1300 m; tree 4-15 m, fls. green, fr. with red cupule: 29057; K 31806; V 12237, 13398.
17. *Ocotea floccifera* Mez & Sodiro
Nanegal: Sodiro 143/4 (Aug 1874) (type).
18. *Ocotea floribunda* (Sw.) Mez
Prim. & sec. for., 1200-1600 m; tree 10-20 m, fls. yellowish-white: T 603*; V 12277; El Pahuma, 2275 m; tree 18 m DAP to 17.9 cm: Vargas 4070, 4072, 4085.
19. *Ocotea fuliginosa* Sodiro
Cerro Sosa, 1700 m; tree 20 m: C 39743. [Not in CVPE.]

20. *Ocotea insularis* (Meisn.) Mez
Sec. for., 1200-1600 m; tree 12 m, fls. green: V 12247; Holm-Nielsen 24465B*.
21. *Ocotea oblonga* (Meissner) Mez
Sec. for., 1200 m; tree 15 m, fls. white: V 12279.
22. *Ocotea rugosa* van der Werff
Sec. for., 1500-1600 m; tree 15 m: Q 52*; V 13366.

[*Ocotea smithiana* O. Schmidt, F 1139, is at 00° 01' S 78° 38' W, 1940 m.]
23. *Ocotea stenoneura* Mez & Pitt.
Sec. for., 1200 m; tree 10-15 m, fls. green, fragrant: V 12269, 12282, 12284.
24. *Persea americana* Mill.
Sec. for., near Marianitas, 1200 m; tree 15 m: 28679. [Apparently introduced.] "Aguacate"
25. *Persea areolatocostae* (C. K. Allen) van der Werff
Sec. for., 1650 m; tree 5 m: 29360*.
26. *Persea caerulea* (Ruiz & Pav.) Mez
Prim. for., Loma Pahuamba, 2300 m; tree 20 m: F 1456.
27. *Persea mutisii* Kunth
Prim. for., 1700-2500 m; shrub 6-10 m: C 39759; V 12337.
28. *Persea* aff. *pseudofasciculata* Kopp
Cerro Sosa, 1700 m; tree 25 m: C 39750. [Two additional specimens, F 1157 & V 13390, were collected just south of our boundary at 1600-1950 m.]
29. *Pleurothyrium giganthum* van der Werff
Sec. for., Cerro Santa Lucia, 1500 m; tree 8 m, bark aromatic: 31762* [barren specimen; identification tentative].
30. *Rhodostemonodaphne cyclops* Madriñán
Prim. for., 1750 m; tree 8 m, fls. white: F 1228 (det. A. Chanderbali).

[Several additional collections of Lauraceae remain unidentified.]

LECYTHIDACEAE (3) (* det. S. Mori)

Ref.: Prance, G. T., & S. Mori. 1979. Fl. Neotrop. 21: 141-236.

1. *Eschweilera integrifolia* (Ruiz & Pav. ex Miers) R. Knuth
Prim. & sec. for., 1550-1800 m; tree 10-20 m, fls. pendent, deep pink: 30355*, 30425*, 33591; C 39729; G 73246; Z 120. [According to Dr. Mori (pers. com.), this is an upper elevational record for this species.]

2. *Eschweilera* cf. *caudiculata* R. Knuth

Prim. for., 1900 m; flowers (on trail) yellowish: 29044. [Another collection, Z 120, from lower sec. for., may possibly represent the same species.]

3. *Grias* cf. *multinervia* Cuatrec.

Sec. for., 1350-1450 m; sparsely branching tree 8-10 m; petals creamy-white with reddish tinge: 31755. [32357 may represent a sapling of this species.] "Jagua lechosa"

4. *Gustavia* cf. *dodsonii* S. A. Mori

Prim. & sec. for., 1325-1700 m; tree 4-12 m; fls. fragrant, whitish tinged with pink: C 39769; G 69930; K 31793. (Gentry specimen identified as *G. pubescens* Ruiz & Pav.) "Membrillo"

5. *Gustavia* cf. *longifolia* Poepp. ex Berg

Sec. for., 1600 m; sparsely branching shrub 2 m, lvs. 1.5-2 m long, frs. green with edible pulp: 31778.

6. *Gustavia* sp. 1

Sec. for., 1875 m; shrub 2.5 m, frs. green: 30389.

LOASACEAE (2)

Refs.: Poston, M. S., & J. W. Nowicke, Syst. Bot. 15: 671-678. 1990. Weigend, M. 2000. Fl. Ecuador 64: 1-92.

1. *Klaprothia mentzelioides* Kunth

Prim. & sec. for., 1800-2500 m; flaccid weed with white fls.: 30179, 31609, 32851; C 12996; L 13668 (det. M. Poston); Harling & Andersson 11578.

[*Nasa aequatoriana* (Urb. & Gilg) Weigand in Jorgensen & Léon, between Nono and Nanegal, 17 km nw of Nono, 2000 m: Croat 38845; on road from Nono to Tandayapa and Nanegal, 16 km from Nono, 2100 m: Molau & Eriksen 2218.]

2. *Nasa peltiphylla* (Weigend) Weigend

Between Nono and Nanegal, Rio Alambi, km 43-45, 2200-2500 m: Sparre 15968.

3. *Nasa triphylla* spp. *papverifolia* (Kunth) Weigend (= *Loasa triphylla* Juss.)

Prim. & sec. for., 1300-1900 m; herb to 1.5 m with urticating hairs, fls. white: 27609, 29274, 30111; C 12412; Z 212, 233. "Ortiga borracho", "Pringamoza"

LOGANIACEAE (1) (* det. R. Liesner, **det. F. J. Fernández Casas)

1. *Spigelia multispica* Steud.

Rip. for., 1350-1450 m; herb with whitish fls.: 30268.

2. *Spigelia pedunculata* Kunth

Prim. & sec. for., 1500-2100 m; shrubby herb to 1.3 m, fls. dull pink: 29085, 30078, 31182, 32584; C 5904*, 5918*; P 3588*; F 1251**, 1750**; Croat 82699**; Delgado 3**, Suin 372.

LORANTHACEAE (5) (* det. J. Kuijt)

Ref.: Kuijt, J. 1986. Fl. Ecuador 24: 113-197.

[*Dendrophthora chrysostachya* (C. Presl) Urb., collected between Nono & Nanegalito: Laegaard 51814, is 2.5' south of our area.]

1. *Dendrophthora lindeniana* Tiegh.
Sec. for., 2000 m; ep., frs. white: L 14043.
2. *Gaiadendron punctatum* (Ruiz & Pav.) G. Don
Upper mont. for., 2500-2700 m; tree 6 m, frs. greenish-white: 30603. "Matial"
3. *Oryctanthus alveolatus* (Kunth) Kuijt
Sec. for., 1300 m; ep., parasitic on *Allophylus*, fls. green: 29037.
4. *Phoradendron chrysocladon* A. Gray
El Pahuma, 1800 m; ep., frs. yellow: Nicolalde 377*.
5. *Phoradendron dipterum* Eichler
Nanegal, 1300 m; ep. shrub with red frs.: V 12321*.
6. *Phoradendron parietarioides* Trel.
Sec. for., 1300-2000 m; ep.: V 12322*; C. Espinoza 46.
7. *Phoradendron piperoides* (Kunth) Trel.
Sec. for., 1300-1780 m; ep.: 27253*; Harling & Andersson 11601.
8. *Phoradendron undulatum* (Pohl ex DC.) Eichler
Sec. for., 1150-1300 m; ep.: 27653*, 31014*, 31261*, 32902; Wiens 3703.
9. *Struthanthus aequatoris* Kuijt
Sec. for., 1250-2200 m; ep., stems vine-like, fls. greenish yellow, berries dull red: 30484*, 31937; Zak & Jaramillo 3221*.
10. *Struthanthus leptostachyus* (Kunth) G. Don
Sec. for., 1200-1350 m; ep. shrub or vine, fls. whitish or yellowish: 27310*, 28123*, 28682*, 29036*, 29117*, 31175*; V 12303*.

LYTHRACEAE (1) (* det. A. Lourteig)

Ref.: Lourteig, A. 1989. Fl. Ecuador 37: 1-47.

1. *Cuphea racemosa* (L. f.) Spreng.
Sec. for. & roadsides, 1200-2000 m; weedy herb, fls. in racemes; petals pink or lavender: 27202, 27669, 27911; Z 48; Delgado 34; Filskov 37054*; Holm-Nielsen 24453*. "Hierba de toro"

2. *Cuphea strigulosa* Kunth

Sec. for. & roadsides, 1200-1600 m; weedy herb, fls. axillary, petals pink: 27094; N 9778; Z 47; Filskov 37058*; Holm-Nielsen 24465A*, 24485*. "Hierba de toro"

MAGNOLIACEAE (1)

Ref.: Lozano-Contreras, G. 1983. Fl. Colombia 1: 1-119.

1. *Talauma gilbertoi* Lozano

Prim. & trans. for., Cerro Sosa, 1600-2000 m; tree to 35 m; fls. yellowish-white, fragrant: 27337, 29359, 31672, 32946; C 39747, 39761; G 69912 (det. D. Neill). [Not listed in CVPE, and occurring at a higher elevation than any of the four species of *Talauma* recorded; apparently *T. gilbertoi* of the Western Cordillera of Colombia (Risaralda and Valle) in its lvs. pubescent beneath and with scar 1/2 to 2/3 the length of the petiole, and relatively small gynoeceum with c. 10 carpels.]

MALPIGHIACEAE (2) (* det. C. Anderson)

Ref.: Anderson, C. 1987. Contr. Univ. Michigan Herb. 16: 1-48; Syst. Bot. Monogr. 51: 1-313.

1. *Bunchosia argentea* (Jacq.) DC.

El Pahuma, 1960-2000 m; tree to 7 m, frs. yellow: Nicolalde 351; Rojas 404.

2. *Stigmaphyllon bogotense* Triana & Planch.

Prim. & sec. for., 1300-2175 m; vine with yellow fls.: 29106, 30202*, 31114*, 32390; Croat 72860*.

MALVACEAE (5) (* det. P. A. Fryxell)

Ref.: Fryxell, P. A. 1992. Fl. Ecuador 44: 1-141.

[*Abutilon pictum* (Gillies ex Hook. & Arn.) Walp. is cult. at Hacienda El Carmen, 1250 m: 31176.]

1. *Bastardiopsis myrianthus* (Planch. & Linden) Fuertes & Fryxell

Sec. for., 1200-1960 m; tree 5-20 m, petals yellow: 27629*, 29261, 31655; N 9790*; Nicolalde 320*.

[*Malvaviscus penduliflorus* DC. is cult. at Hacienda El Carmen, 1250 m; shrub with red fls.: Z 122.]

2. *Pavonia castaneifolia* A. St.-Hil. in Naudin

Sec. for., 1400-1800 m; common weed with white fls.: 27175; C 12406*.

3. *Pavonia fruticosa* (Miller) Fawc. & Rendle

Overgrown thickets, 1350 m; weed with pink fls.: 31727; Z 33.

4. *Pavonia pseudotyphalaea* Planch. & Linden ex Triana & Planch.
El Pahuma, 2000 m; shrub 0.7 m, white fls.: Delgado 71*.
5. *Pavonia schiedeana* Steud.
Sec. for., 1200-1400 m; petals pink on outside, white on inner side: Filskov 37076*.
6. *Sida acuta* Burm. f.
Sec. for., 1300-1350 m; common weed with yellow fls.: 27421. "Escoba", "Escobilla"
7. *Sida poeppigiana* (K. Schum.) Fryxell
Sec. for., 1200-2000 m; shrub 0.5 m, fls. yellow: Z 20; Cedeño 41*; Filskov 37055*; Holm-Nielsen 24470*.
8. *Sida rhombifolia* L.
Sec. for. & roadsides, 1200-1250 m; weed with yellow-orange fls.: 27093. "Escoba"
9. *Urena lobata* L.
Sec. for., 1300-1350 m; subshrub with pink fls.: 27438; Z 25. "Amonan", "Abrojo", "Cadillo"
10. *Wercklea ferox* (Hook. f.) Fryxell
Sec. for., 1200-1650 m; spiny shrub 3-4 m, calyx red, corolla yellow: 27544, 29349, 31089; N 8644*, 9791. "Ortiguilla"

MARCGRAVIACEAE (4) (* det. S. Dressler)

Ref.: de Roon, A. C. 1970. Ann. Missouri Bot. Gard. 57: 29-50.

1. *Marcgravia brownei* (Triana & Planch.) Krug & Urb.
Prim. & sec. for., 1550-1950 m; ep. vine, fls. green: 28718*, 29380*; F 1054*; G 73120 (det. D. Giraldo).
2. *Marcgravia* cf. *helverseniana* S. Dressler & Tschapka
Prim. for., 2100-2200 m; ep. vine to 12 m, fls. green, frs. orange: 28901*, 29181*, 29184*.
3. *Marcgravia* sp. 1
Sec. for., Cerro Campana, 1750 m; climbing vine, fls. greenish: 30033*.
4. *Marcgraviastrum gigantophyllum* (Gilg) Bedell ex S. Dressler
Prim. for., 1550-2250 m; ep. vine, fls. green: 28942*, 30021*, 30249*, 32836*; G 73226 (det. D. Giraldo).
5. *Marcgraviastrum sodiroi* (Gilg) Bedell ex S. Dressler
Cerro Sosa, 1700 m; vine: C 39746.
6. *Sarcopera anomala* (Kunth) Bedell (= *Norantea anomala* Kunth)
Sec. for., 1200-1900 m; common liana, bracts red, fls. greenish: 27388*, 28970*, 29363 (cf.)*, 31764; C 39723; F 1273; C. Espinoza 48*.

7. *Norantea guianensis* Aubl.

Prim. for., hemiephytic climber, 1550 m: G 73163 (?), 73177 (det. D. Giraldo).

[Several additional collections of Marcgraviaceae remain unidentified.]

MELASTOMATACEAE (13) (* det. J. J. Wurdack; ** det. F. Almeda; *** det. E. Cotton)

Refs.: Wurdack, J. J. 1980. Fl. Ecuador 13: 1-405; Freire-Fierro, A. 2002. Syst. Bot. Monogr. 62: 1-99 [*Aciotis*].

1. *Aciotis rubricaulis* (Martius ex DC.) Triana (incl. *Aciotis alata* (Beurl.) Almeda & *Aciotis caulialata* (Ruiz & Pav.) Triana)

Sec. for., 1200-1400 m; herb 1 m, fls. white: 27187, 27877; Asplund 17278; Filskov 37074; Freire-Fierro 2767a, 2767b; Sodiro 478?; Sparre 14892 (all non-GLW collections det. A. Freire-Fierro).

2. *Arthrostemma ciliatum* Pav. ex D. Don

Scrub, El Carmen to Marianitas, 1200-1250 m; scrambling, fls. pale pink: 27299, 31344.

[*Axinaea sodiroi* Wurdack, collected near Gulea (Valencia et al., 2000: 231) may occur within our limits.]

3. *Blakea eriocalyx* Wurdack

Prim. & sec. for., 1250-1950 m; shrub or tree to 15 m, corolla white or pink: 27009, 27248, 27880**, 28199, 28331, 28735*, 29257, 30032, 30406, 31076, 31956; C 12419*, 39738; G 69941*; Q 293*; V 12267*. [Type from Los Puentes near Nanegal: Asplund 17244.]

[*Blakea incompta* Markgr. has been reported from Nanegalito by Valencia et al., 2000: 232)]

4. *Blakea quadriflora* Gleason

Prim., sec., & upper mont. for., 1300-2750 m; shrub or tree to 15 m, sometimes vine-like, corolla pink: 28697*, 28709*, 28721*, 28907*, 29108, 29151, 30031, 31774; F 1285, 1382; T 137*; Z 136.

5. *Blakea rotundifolia* D. Don

Loma Pahuamba, 1750-2275 m; tree 10-25 m: F 1222, 1473***; Nicolalde 387; Suin 437***; Vargas 4089 (det. D. Neill).

6. *Blakea* sp. 1

Sec. for., Cerro Negro, 1650 m; tree, bracts green, frs. pink: 31327.

7. *Brachyotum ledifolium* (Desr.) Triana

El Pahuma, 1500-1800 m; shrub to 50 cm, frs. reddish: Rubio 2089*.

8. *Conostegia superba* D. Don ex Naudin

Sec. rip. for., 1250-1400 m; common tree 5 m, corolla white: Z 101; Harling & Andersson 11588.

9. *Graffenrieda cucullata* (Triana) L. O. Williams.
Sec. for., 1250-1600 m; arborescent shrub or tree 3-12 m, corolla white: 27036, 27982, 29050**, 32933; V 12266*; Sparre 14874.
10. *Graffenrieda* sp. 1
Sec. for., 1450-1500 m; tree 4 m: 31895** [assignment provisional due to lack of fls.].
11. *Leandra nervosa* (Naudin) Cogn.
Sec. for., 1750-1850 m; shrub 1.5-4 m: 31630.
12. *Leandra subseriata* (Naudin) Cogn.
Sec. for., 1700 m; shrub 2-3 m, fls. white: 32775.
13. *Meriania* cf. *acostae* Wurdack
Prim. for., 1200-1700 m; tree 12 m, fls. red: T 173*; Nanegal, Sodiro Add. 3.
14. *Meriania* aff. *drakei* (Cogn.) Wurdack
Loma Pahuamba, 1750-2000 m; tree to 25 m: F 1207, 1225***.
15. *Meriania maxima* Markgr.
Prim. & sec. for., 1325-1925 m; tree 7-25 m, corolla purple: 31038, 31666; F 1062***, 1514; Holm-Nielsen 24460*; Sparre 14878. "Flor de Mayo"
16. *Meriania peltata* Uribe
Prim. for., 1900-2000 m; tree 10 m x 10 cm, corolla violet:, 30607* (det. confirmed S. Renner). [Not in CVPE.]
17. *Meriania pichinchensis* Wurdack
Sec. for., 1900-2200 m; shrub 3 m, corolla red: Zak & Jaramillo 3233*.
18. *Meriania tomentosa* (Cogn.) Wurdack
Prim. for., 1500-2650 m; shrub or tree to 20 m, corolla red or pink: 28221, 28705*, 31077, 31183, 31324, 31683; C 5906**; F 1049, 1101; G 73191***; N 9798**; Q 23*, 113*, 287**; P 3603**; Cedeño 43; Nicolalde 329, 332***, 344, 373; Rojas 396. [A specimen from Cerro Campana, 31077, appears similar but has yellow fls.] "Hualicón cari"
19. *Miconia adrieni* J. F. Macbr.
El Pahuma, 2600 m; ep., calyx red, petals yellow: C. Espinoza 18.
20. *Miconia aeruginosa* Naudin
Sec. for., 1200-1800 m; shrub 1-4 m, fls. with foetid odor, corolla white: 27061, 27245*, 27712, 32774; C 12404*; Z 237.
21. *Miconia asclepiadea* Triana
Prim. & sec. for., 1600-2050 m; shrub or small tree 3-4 m, corolla white: 27139*, 27831**, 30478; F 1206; Mantuano 9; Nanegal, Jameson 363.

22. *Miconia aspergillaris* (Bonpl.) Naudin
Prim. for., 2500 m; shrub 3 m, fls. white: V 12335*.
23. *Miconia asperrima* Triana
Loma Pahuamba, 2150 m; tree 3 m: F 1288.
24. *Miconia brevitheca* Gleason
Sec. for., 1500-1700 m; tree 15 m: Q 20*, 91*, 108*, 283*.
25. *Miconia crinita* Naudin ssp. *australis* Wurdack
Sec. for., 1800-2000 m; subshrub 1 m: C 7182*.
26. *Miconia crocea* (Desr.) Naudin
El Pahuma, 1500-1800 m; shrub to 1.5 m, fls. white, frs. lead-colored: Rubio 2073*.
27. *Miconia dapsiliflora* Wurdack
Prim. for., 1500-1700 m; tree 10 m, calyx yellow, corolla pink: Q 288*.
28. *Miconia denticulata* Naudin
Prim. for., 1900-2000 m; shrub 1-2 m, fls. white: 30132**, 32414.
29. *Miconia hymenantha* Triana
Prim. & upper mont. for., 1900-2750 m; shrub or tree 1-10 m, calyx red, corolla yellow, orange, or red: 28909*, 29133, 29436, 29482*, 30181, 30534, 31511, 31536, 31610*, 32855; F 1296***; Cedeño 8***; Mantuano 21***.
30. *Miconia lasiocalyx* Cogn.
Prim. for., 1900-2375 m; tree 4-8 m, corolla white: 29456, 29464*, 30178, 30236**; Cedeño 15***.
31. *Miconia rivetii* Danguy & Cherm.
Prim. & sec. for., 1200-2050 m; tree 4-10 m, fls. pale pink, fr. red: 27725*, 29177, 29337, 31716; V 12301*; Holm-Nielsen 24432*, 24466*. "Colca"
32. *Miconia sodiroi* Wurdack
Sec. for., Cerro Sosa, 1700 m; tree to 15 m: C 39719; Nanegal, Sodiro Add. 2 (type, cited by Wurdack, 1980).
33. *Miconia theaezans* (Bonpl.) Cogn.
Upper mont. for., 2000-2750 m; shrub or tree 4-14(-30) m, corolla white or pink: 29476*, 30252; F 1494***; H 29525; K 31970; Q 5*, 73* [these two Quelal collections, from 1500-1700 m, are as trees 30 m high, exceeding description of Wurdack]; Vargas 4049, 4067, 4069, 4071, 4080; Zak & Jaramillo 3210*. "Amarillo"
34. *Miconia* sp. 1
Prim. for., 2200-2250 m; shrub 5 m, calyx pink, corolla white: 28941.

35. *Miconia* sp. 2.
Rip. for., Río Tulambi, 1350-1400 m; shrub 4 m: 30293.
36. *Monochaetum hartwegianum* Naudin
Prim. for., 2000-2050 m; scarcely woody, fls. pink: 30477. "Amaya"
37. *Monochaetum lineatum* (D. Don) Naudin
Sec. for., 1700-2000 m; shrub to 1 m, fls. pink: Delgado 57; Holm-Nielsen 16145*, 24429*; Hurtado 1424.
38. *Ossaea micrantha* (Sw.) Macfad. ex Cogn.
Prim. & sec. for., 1400-2100 m; shrub or tree 1.5-5 m, corolla white: 27184, 27252, 27876**, 28192, 29232, 29376, 30027**, 30200, 31658; F 1007, 1037; G 69926*, 73117***; N 9810**; P 3605*; Q 8*, 90*; Z 108; Rojas 398***.
39. *Ossaea sparrei* Wurdack
Sec. for., 1300-1500 m; arborescent shrub 3-4 m, corolla white: 27182*, 27867, 31264.
40. *Tibouchina lepidota* (Bonpl.) Baill.
Prim. & sec. for., often rip., 1250-2700 m; tree 3-8 m, corolla pink to purple: 27757, 27950, 28388, 30436, 30473, 30600, 31779, 31801, 32761; K 31801; Holm-Nielsen 24461*; Nicolalde 326. "Flor de Mayo"
41. *Tibouchina longifolia* (Vahl) Baill.
Sec. for. & scrub, 1200-1350 m; common weedy herb, corolla white: 27081, 27844; D 6115; Z 54; Filskov 37128*.
42. *Tibouchina pendula* Cogn.
Sec. for., 1500-2250 m; clambering herb or shrub to 1 m, corolla white, frs. reddish: 27954*, 30471, 31957, 32119, 32825.
43. *Topobea pittieri* Cogn.
Sec. for., 1550-1600 m; shrub or tree or hemiephytic climber 2-5 m, fls. white: 30013, 30429**; G 73126, 73223. (Gentry's specimens recorded as *T. anisophylla* Triana.)

MELIACEAE (3) (* det. W. Palacios)

Ref.: Pennington, T. D., B. T. Styles, & D. A. H. Taylor. 1981. *Fl. Neotrop.* 28: 1-470.

1. *Carapa megistocarpa* A. Gentry & Dodson
Sec. for., 1500-2025 m; tree 5 m: 30091, 33599 (both det. D. Neill). "Logma" .
2. *Guarea cartaguenya* Cuatrec.
Rip. for., 1200-1700 m; tree 30 m: T 181*.
3. *Guarea kunthiana* A. Juss.
Prim. for., 1500-2450 m; tree to 18 m: F 1345, 1467; G 69927; Q 82; T 175*. "Colorado"

4. *Guarea* sp. 1

Sec. for., 1650 m; tree 4 m: 29362.

5. *Ruagea glabra* Triana & Planch.

Prim. for., 1550 m; tree: G 73231*.

6. *Ruagea tomentosa* Cuatrec.

Prim. for., 1700-2200 m; tree 4-16 m: 30242, 30244; F 1196, 1472; Q 295; P 3590; T 135, 170; Nicolalde 360; Rubio 2419(?). [Treated as a synonym of *Ruagea pubescens* H. Karst. by Pennington, but appearing distinct in its pointed lvs. & pubescent ovary.] "Cedrillo"

MENISPERMACEAE (2)

Ref.: Barneby, R. C. 1970. Mem. N. Y. Bot. Gard. 20(2): 81-158.; Rhodes, D. 1975. Phytologia 30: 415-484 (*Cissampelos*).

1. *Cissampelos grandifolia* Triana & Planch.

Sec. for., 1200-1300 m; vine with greenish fls. & green frs.: 28281; V 12300 (both det. C. Ott).

2. *Cissampelos tropaeolifolia* DC.

Prim. & sec. for., 1200-1350 m; common vine with greenish fls.: 27411, 28122, 30212, 31179; 1500-1600 m: J. L. Clark 7079.

3. *Cissampelos* sp. 1

Prim. for., above Río Pichán, 2000-2050 m; vine with green fls.: 30212 [keys to *C. grandifolia* but more robust, with much denser indumentum].

4. *Odontocarya tripetala* Diels

Prim. & sec. for., 1500-2000 m; vine with greenish fls.: 28765, 30347, 32008.

5. *Odontocarya* sp. 1

Sec. for., Inca trail, 1350-1400 m; vine: 32370 [differs from *O. tripetala* in hirsute stems & lvs. pubescent beneath].

MONIMIACEAE (1) (* det. S. Renner)

Refs.: Spichiger, R. et al. 1990. Boissiera 44: 1-565. Renner, S. S. & G. Hausner. 1997. Fl. Ecuador 59: 1-125.

1. *Siparuna aspera* (Ruiz & Pav.) A. DC.

Sec. for., 1200-2000 m; common weedy tree 5-13 m, fls. yellow or orange, frs. pinkish with rank odor: 27066, 27304*, 27655, 27731*, 28124*, 28896*, 29093*, 30007, 30362, 31947, 32440; C 5920*; F 1041, 1113, 1248, 1516*, 1557; Q 60*, 64*; T 152*; V 12239*; Nicolalde 324*. "Guayusa de monte"

2. *Siparuna echinata* (Kunth) A. DC.

Prim. & upper mont. for., 1900-2750 m; shrub or tree to 5 m: 30255*, 30535; H 29538*; V 12340*, 12342*. "Guayusa", "Limoncillo"

3. *Siparuna lepidota* (Kunth) A. DC.

Sec. & rip. for., 1200-2000 m; shrub or tree 3-10 m, fls. green or yellow, frs. yellowish: 28806*, 29268*; F 1253; V 12243*; Holm-Nielsen 24464*. "Guayusa de monte"

4. *Siparuna piloso-lepidota* Heilborn

Upper mont. for., 1960-2500 m; tree to 10 m; fls. pale green: 29468*, 30584; F 1202*, 1431*, 1437; Harling & Andersson 11604*; Nicolalde 358*; Vargass 4086. "Limoncillo", "Palo hediondo"

MORACEAE (7) (* det. C. C. Berg; ** det. T. A. Kvitvik; *** det. W. Palacios)

Refs.: Berg, C. C. 1972. Fl. Neotropica 7: 1-228; 1998. Fl. Ecuador 60: 1-128.

1. *Brosimum* sp.?

Sec. for., 1300-1600 m; tree to 8 m: Z 129B, 236.

2. *Clarisia biflora* Ruiz & Pav.

Rip. & sec. for., Hacienda El Carmen, 1250-1300 m; tree 15 m: Z 129. "Tillo serrano"

3. *Clarisia* cf. *racemosa* Ruiz & Pav.

Sec. for., 1250-1300 m; tree 15 m: 31646. "Moral bobo"

4. *Ficus americana* Aubl. ssp. *andicola* (Standl.) C.C. Berg

Sec. for., 1200-1300 m; common tree 5-20 m, figs from green with reddish spots to red: 27037*, 28959*; N 9786*.

5. *Ficus brevibracteata* W. C. Burger

Loma Pahuamba, 1750 m; tree 6 m: F 1585.

[*Ficus carica* L., Nanegalito, 1400 m; cult.: Filskov 37013. "Higo"]

6. *Ficus cervantesiana* Standl. & L. O. Williams

Prim. for., 1500-1950 m; tree 12 m, figs pink: 31694; F 1119; G 69932*, 73128*, 73156*; Q 79**.

7. *Ficus citrifolia* Mill.

Prim. for., 1550 m; hemiepiphytic tree: G 73244*.

8. *Ficus cuatrecasiana* Dugand

Prim. & sec. for., 1200-2100 m; tree 6-25 m: 30224*, 31018*, 32910; F 1036, 1038, 1070, 1102, 1501*, 1542*; Q 32**, 57**, 102**; V 12240*; W 12240*; Nicolalde 379*.

9. *Ficus dulciaria* Dugand
Loma Pahuamba, 1550-2470 m; tree 15 m: F 1385*, 1488*; Vargas 4050.
10. *Ficus gigantosyce* Dugand
El Pahuma, 1960-2300 m; tree 25-30 m: F 1399*; Nicolalde 359 (aff., det J. C. Valenzuela)
11. *Ficus* cf. *hartwegii* (Miq.) Miq.
Sec. for., 1525-1700 m; tree or shrub 4-10 m: 30437*, 31325*.
12. *Ficus macbridei* Standl.
Sec. for., 1450-1475 m; tree 15 m x 30 cm, lvs. with yellowish glands at base: 31049*; [Z 105 probably represents the same species].
13. *Ficus mutisii* Dugand
Prim. & sec. for., 1200-1700 m; tree 7-10 m, frs. yellowish: 27778*, 29379*; C 39766.
14. *Ficus rieberiana* C. C. Berg
Sec. for., 1550 m: G 73216 (paratype).
15. *Ficus subandina* Dugand
Rip. for., 1200 m; 5 m tree: 29077.
16. *Morus insignis* Bureau
Prim. & sec. for., 1250-2275 m; tree to 15 m: 28337, 29053, 31217; C 12420; F 1046, 1240; G 73239; Q 24***, 290***; Z 115; Vargas 4047*; Zak & Jaramillo 3215 (det. R. Liesner).
"Huasca"
17. *Naucleopsis* sp.
Rip. for., banks, 2000 m; shrub with milky sap, clambering branches: 31831 [material barren & verification needed; if correctly placed in *Naucleopsis*, it appears distinct from the species treated by Berg (1972) in its long narrow lvs. with very long petioles].
18. *Pseudolmedia gentryi* C. C. Berg
Prim. for., 1550 m; tree with white latex: G 73232*.
19. *Pseudolmedia* sp. 1 ?
Rip. for., 1500 m; tree 3 m: 30001.
20. *Sorocea trophoides* W. C. Burger ssp. *rhodorachis* (Cuatrec.) C. C. Berg
Prim. for., 1550-1700 m; tree to 6 m: C 39757; G 69916*, 73121*."Tillo prieto"

[Myricaceae have not been encountered in Maquipucuna, but *Morella pubescens* (Humb. & Bonpl. ex Willd.) Wilbur (= *Myrica pubescens* Humb. & Bonpl. ex Willd.) has been collected in Reserva Geobotanica Pululahua, at 00° 05' N 78° 30' W: C 1845, as well as at 00° 01' S 78° 41' W, 2200 m: Clark 3451, and might possibly occur within our limits.]

MYRISTICACEAE (1) (* det. T. S. Jaramillo et al.)

Ref.: Jaramillo, T. S., P. Muriel & H. Balslev. 2004. Fl. Ecuador. 72: 1-99.

1. *Otoba gordoniiifolia* (A. DC.) A. H. Gentry

Prim. & sec. for., 1250-1800 m; common tree to 40 m x 80 cm: 27014*, 27681*, 29109, 29119; C 12437*, 39752; G 69936*, 73175*, 73255*; N 8641*, 9807; Q 68*, 98*, 118*, 284*; V 13369*; Z 79, 79B, 196; Holm-Nielsen 24457*. "Caracha coco"

MYRSINACEAE (5) (* det. J. Pipoly)

Refs.: Mez, C. 1902. Pflanzenreich 9 (236): 1-437. Lundell, C. L. 1971. Ann. Missouri Bot. Gard. 58: 285-353. Pipoly, J. J. 1996. Sida 17: 445-458.

1. *Ardisia colombiana* Lundell

Prim. for., 1500-1700 m; tree 12-25 m: Q 13, 69, 72, 76, 86.

2. *Ardisia websteri* Pipoly

Rip. & sec. for., 1250-1700 m; treelet with unbranched trunk 1-3 m, fls. white or reddish, frs. reddish or purplish: 27468, 29316*, 30009*, 30307* (holotype BRIT), 30030, 30361*, 31011, 31180*, 31323, 32944; T 185*; Z 78, 125. [This species is, at present, known only from Maquipucuna; according to Pipoly (1996), it is so distinctive that it does not fit easily into any of the subgenera of *Ardisia*.]

3. *Cybianthus goudotiana* (Mez) G. Agostini

Sec. for., 1350-1400 m; shrub or tree: 32366; Z 133. [Not in CVPE.]

4. *Cybianthus simplex* (Hook. f.) G. Agostini

Prim. & sec. for., 1250-1950 m; shrub 1.5-2.5 m, fls. pale greenish, frs. reddish to purplish: 27594*, 27795*, 28702*, 28710*, 28769*, 28796*; C 39734.

5. *Geissanthus cf. fallenae* Lundell

Prim. for., 1750-2275 m; tree 18 m: 30216; F 1052, 1218, 1233; Vargas 4048, 4082.

6. *Geissanthus cf. longistamineus* (A. C. Sm.) Pipoly

Rip. for., 1400 m; tree 15 m, frs. green: 32376.

7. *Geissanthus pichinchae* Mez

Prim. for., 1550 m; treelet: G 73176*. "Casca"

8. *Geissanthus pichinchana* (Lundell) Pipoly

Prim. for., 1550-1900 m; tree to 4 m: F 1008; G 73124*.

9. *Myrsine coriacea* (Sw.) R. Br. ex Roem. & Schult.

Prim. & sec. for., 1200-2275 m; tree to 18 m, fls. green: F 1259; G 73189*; T 176*; Vargas 4073; Zak & Jaramillo 3244*.

10. *Myrsine* cf. *latifolia* (Ruiz & Pav.) Spreng.

Rip. for., 2000 m; tree 5 m, frs. green: 31844. [Differs from description of Mez in more distinctly acuminate lvs. not densely punctulate beneath.]

11. *Myrsine pellucida* (Ruiz & Pav.) Spreng.

Sec. for., 175-2100 m; tree 15-20 m, fls. greenish: F 1278; P 3582*.

12. *Stylogyne ambigua* (C. Mart.) Mez

Prim. & upper mont. for., 1700-2720 m; tree to 30 m, fls. white, frs. dark purple or black: 28925, 30248, 32445; C 39754; F 1242, 1310; K 31987; P 3586*; Vargas 4065.

MYRTACEAE (6) (* det. B. Holst)

Ref.: McVaugh, R. 1958. Publ. Field Mus. Nat. Hist., Bot. 13(4): 567-818.

1. *Calyptranthes* sp. 1 (ined.)

Prim. for., 2050-2150 m; tree to 10 m: 28884*, 29164*.

2. *Calyptranthes* sp. 2

Prim. for., 1900-2000 m; tree 7 m: 30237.

3. *Calyptranthes* sp. 3

Prim. for., 1900-2000 m; tree 12 m: 30238, 31584.

4. *Eugenia* aff. *calva* McVaugh

Sec. for., 1300-1600 m; tree 5 m: 28333*, 29112*; T 592*.

5. *Eugenia* aff. *florida* DC.

Cerro Sosa, 1700 m; tree 8 m: C 39773.

6. *Eugenia* cf. *myrobalana* DC.

Upper mont. for., 2700-2750 m; shrub or tree to 5 m, frs. yellow: 30594; K 31965; El Pahuma, 1960 m; tree 6-7 m: Nicolalde 356. [Not in CVPE.]

7. *Eugenia* sp. 1 (ined.)

Prim. for., 2275 m; tree 5 m: 29444*.

8. *Eugenia* sp. 2

Sec. for., 1450 m; tree 30 m: 31112.

9. *Myrcia* cf. *calumbaensis* Kiaersk.

Prim./sec. for. trans., 1650 m; tree 25 m: 29377. [Not in CVPE.]

10. *Myrcia* aff. *fallax* (Rich.) DC.

Prim. & sec. for., 1225-1550 m; tree to 5 m: 29358?, 31040, 31161; G 73170*; Z 132. [Leaves are larger than described by McVaugh for Peruvian material.]

11. *Myrcia* sp. 1
Prim. for., 1850-1925 m; tree 15 m: 28694*.
12. *Myrcia* sp. 2
Prim. for., 1750-2200 m; tree 17 m: 28754*, 29552*.
13. *Myrcianthes discolor* (Kunth) McVaugh
Upper mont. for., Cerro Montecristi, 2700 m; tree 15 m: 30595; El Pahuma, 1960 m: Nicolalde 354. "Arrayán" [Various species of *Myrcianthes* are given this name.]
14. *Myrcianthes orthostemon* (O. Berg) Grifo
Sec. for., 2075 m; tree 5 m: 31208*.
15. *Myrcianthes rhopaloides* (Kunth) McVaugh
Loma Pahuamba, 1750-2275 m; tree 30 m: F 1047, 1263; Nicolalde 381; Vargas 4077.
16. *Myrcianthes* sp.1
Prim. for., 1550 m; tree: G 73143.
17. *Psidium guajava* L.
Sec. for., 1200-1300 m; tree with yellow frs.: 27916; C 6864*; Z 5, 20. [Widely planted; although an American species, probably introduced in our area.] "Guayaba"
18. *Syzygium jambos* (L.) Alston
Sec. for., 1200-1500 m; tree 20 m; fls. pale green: V 12242* [perhaps not naturalized].

NYCTAGINACEAE (1)

Ref.: Bohlin, J.-E. 1988. *Nordic J. Bot.* 8: 231-252.

1. *Colignonia rufopilosa* Kuntze
Upper mont. for., 2700-2750 m; scrambling weak shrub to 3 m, bracts white: H 29534; K 31974.

OCHNACEAE (1)

1. *Sauvagesia erecta* L.
Mossy banks in sec. for., 1200-1400 m; herb with white fls.: 27080, 27638; Z 160; Filskov 37066.

OLACACEAE (1)

Ref.: Sleumer, H. 1984. *Fl. Neotrop.* 38: 1-159. Jørgensen, P. & C. Ulloa. 2002. *Fl. Ecuador* 69: 61-103.

1. *Heisteria asplundii* Sleumer
Sec. for., 1200 m; treelet 6 m, fls. green: V 12275 (det. Jørgensen & Ulloa).

2. *Heisteria* cf. *latifolia* Standl.

Sec. for., 1200-1250 m; shrub 3 m, fls. yellowish-green: 31163 (perhaps conspecific with the preceding species).

ONAGRACEAE (3) (* det. P. Berry)

Ref.: Munz, P. A. 1974. Fl. Ecuador 3: 1-46.

1. *Fuchsia macrostigma* Benth.

Prim. & sec. for., 1300-2750 m; common shrub to 2 m, fls. pink to red: 27260, 27807, 27961*, 28219, 28220, 28263, 28706, 29169, 30141, 30605*, 31067, 31611, 32377; G 73254*; K 31989; P 3580*; Cedeño 7. "Zarcillo"

2. *Fuchsia polyantha* Killip ex Munz

Prim. & upper mont. for., 2500-2800 m; shrub 2-3 m, fls. deep red: L 13653*; Øllgaard 98995 (det. S. León).

3. *Fuchsia scabriuscula* Benth.

Prim. for., Loma Pahuamba-Tandayapa, 2000-2200 m; shrub 1 m, fls. red & white: 28662*; F 1287; Cedeño 26.

4. *Fuchsia sessilifolia* Benth.

Prim. & upper mont. for., 1950-2750 m; shrub 1-3 m, infls. pendulous, fls. red: 28381, 30087*, 31540, 31581, 32409; L 13646*; Croat 72878*.

5. *Fuchsia sylvatica* Benth.

Upper mont. for., Cerro Montecristi, 2500-2750 m; shrub c. 1 m, fls. red: 30580*; H 29528*.

6. *Ludwigia affinis* (DC.) H. Hara

Wet disturbed areas and swamps, 1150-1300 m; fls. yellow: 31276, 33607.

7. *Ludwigia octovalvis* (Jacq.) P. H. Raven

Sec. for. & scrub, Marianitas to Nanegal, 1200-1250 m; in wet area: 28308, 31277. "Clavito"

8. *Oenothera pubescens* Willd. ex Spreng.

Clearings in upper mont. scrub, 2700 m; herb with reddish-yellow fls.: 31809; K 32002. "Platanillo"

OXALIDACEAE (1)

Refs.: Lourteig, A. 1980. Ann. Missouri Bot. Gard. 67: 823-850; 1988. Fl. Patagonica 8(5): 1-29.

1. *Oxalis corniculata* L.

Sec. for., clearings, 2050 m; prostrate herb, fls. yellow: 31203 [possibly not native]. "Chulco"

2. *Oxalis* cf. *frutescens* L.

Sec. for., 1200-1350 m; herb 0.5 m, fls. yellow: 28937, 31041.

3. *Oxalis hedysaroides* Kunth

Near road from Nanegalito to Pacto, km 8, 00° 04' N 78° 41' W, 1600 m; shrub 0.7 m, lower sides of stems and lvs. dark red: Holm-Nielsen 24473 (det A. Lourteig).

4. *Oxalis jamesonii* Lourteig

Prim. for.?, 1800 m; fls. yellow: C 12409.

5. *Oxalis* cf. *latifolia* Kunth

Sec. for., 1250-1450 m; bulbous herb, fls. pink or pale purple: 27402, 29049, 31023; K 31802; Z 176. "Chirisque"

6. *Oxalis lotooides* Kunth

Sec. for., 1900-2400 m; clambering herbaceous vine, fls. yellow: 31220, 31626, 32805; Delgado 22. "Cañitas"

7. *Oxalis psoraleoides* Kunth

Rip. & sec. for., 1250-1400 m; herb 0.5 m, fls. yellow: 27258, 27598, 27671, 28733, 29089. "Tantanil blanco"

PAPAVERACEAE (1)

1. *Bocconia integrifolia* L.

Sec. for., 1200-2450 m; shrub to 4 m: 27294, 28851; F 1322; N 9777; Z 180. "Chandor", "Mandor", "Sandalla"

PASSIFLORACEAE (1) (* det. P. M. Jørgensen; ** det. J. MacDougal)

Ref.: Holm-Nielsen, L. B., P. M. Jørgensen, & J. E. Lawesson. 1988. Fl. Ecuador 31: 1-129.

1. *Passiflora adenopoda* DC.

Sec. for., 2200 m; vine, fls. white with red stamens: MacDougal 4989; Rubio 2418**.

2. *Passiflora alnifolia* Kunth

Sec. for., 1900-2200 m; vine, fls. purple & cream: Zak & Jaramillo 3232**.

3. *Passiflora chelidonea* Mast.

Upper mont. for., 2200-2725 m; twining vine, fls. white with purplish-brown markings: H 29521*. "Taxillo"

4. *Passiflora coactilis* (Mast.) Killip

Prim. for., 21 km west of Calacalí, 2500 m; twining herb, fls. red and purple: L 13671*.

5. *Passiflora foetida* L.

Roadside scrub, 1200-1250 m; vine, lvs. foetid, petals white, corona purple: 31721. "Bedoca", "Bombillo"

6. *Passiflora macrophylla* Mast.
Sec. for., 1250 m; shrub 2.5 m, sparsely branched, fls. white: 31004.
7. *Passiflora manicata* (Juss.) Pers.
Sec. for., 2050 m; vine, frs. green: 31201*. "Taxo"
8. *Passiflora menispermifolia* Kunth
Sec. for., banks, 1280-1350 m; vine: 28184; Kapan 7**.
9. *Passiflora mixta* L. f. var. *eriantha* (Benth.) Killip
Roadside scrub, 2000 m; vine with pinkish fls.: 31807. "Taxo silvestre"
10. *Passiflora resticulata* Mast. & André
Sec. for., 1200-2000 m; vine: 27240*, 27547*, 27879*, 28305, 31577; C 5944**.
11. *Passiflora riparia* Mart. ex Mast.
Sec. for., 1400 m; liana, frs. mottled, cut surface with cucurbitacin odor: 31316*.
12. *Passiflora rubra* L.
Sec. for., 1150-1325 m; vine, frs. red: 31019*, 31271.
13. *Passiflora* sp. nov. ?
Sec. for., Cerro Negro & Cerro Sosa, 1500-2000 m; nearly leafless vine, calyx green, corolla white: 27958, 32975.

PHYTOLACCACEAE (1)

1. *Phytolacca bogotensis* Kunth
Clearings in sec. for., 1950-2000 m; herb to 0.6 m, fls. red, frs. black: 32443; Mantuano 15.
2. *Phytolacca rivinoides* Kunth & C. D. Bouché
Sec. for., 1200-2000 m; weed c. 1 (2) m, fls. white or pink, berries bluish: 27471, 27515, 28270, 30121, 31101; Hurtado 1430. "Atusara", "Jaboncillo"

PIPERACEAE (2) (* det. A. J. Bornstein; ** det. R. Callejas)

Refs.: Candolle, C., Bull. Herb. Boiss. 1: 477-495, 505-521. 1898; Sodiro, Piperaceas ecuatorianas. 1900; Tebbs, M. C. Bull. Brit. Mus. Nat. Hist. (Bot.) 19: 117-158. 1989. Trelease, W. & T. G. Yuncker. Piperaceae of Northern South America. 2 vols. 1950.

1. *Peperomia acuminata* Ruiz & Pav.
Prim. & upper mont. for., 2000-2750 m; robust herb to 1 m, spikes green: 28903*, 29136, 29427, 29466, 29545, 31516; C. Espinoza 11, 38, 39 (ep.).
2. *Peperomia albertsmithii* Trel. & Yunck. var. *villosa* Trel. & Yunck.
Sec. for., 1650-1675 m; terr., spikes green: 31770**.

3. *Peperomia angularis* C. DC.
Sec. for., 1250-2000 m; terr. or ep.: 28028**, 28786**, 29221**, 29277**, 31705; Cedeño 6.
4. *Peperomia bicolor* Sodiro (vel aff.)
Prim. for., 1900-1925 m: 29194**. [Type from Gualea: Sodiro 2/33X.]
5. *Peperomia caespitosa* C. DC.
Sec. for., 2100 m; ep.: 30083**.
6. *Peperomia calimana* Trel. & Yunck.
Sec. for., 1300-1500 m; ep., spikes green: 27980**.
7. *Peperomia crispa* Sodiro
Sec. for., 1250-2000 m; terr., stems erect or trailing, spikes green: 28265**, 29190**, 31598, 31767, 31892**, 32412, 32971; Delgado 8*.

[*Peperomia discifolia* Sodiro, from "Mt. Pichincha hasta Gualea": Sodiro s.n., may possibly have been collected within our area.]
8. *Peperomia distachya* (L.) A. Dietr.
Rip. for., 1250-1300 m; ep.: 30512**; El Pahuma, 2000 m: Mantuano 16.

[*Peperomia distichophylla* Sodiro, based on Sodiro 2/5 from Gualea, treated as a synonym of *Peperomia lancifolia* Hook. by Trelease & Yuncker, may occur in our area.]
9. *Peperomia eburnea* Sodiro
Sec. for., 1250-1900 m; very common, terr. or more often ep., mostly creeping or climbing, lvs. often red-spotted beneath: 27008**, 27339**, 27704**, 27840**, 27863**, 28072**, 28262**, 28336**, 29252**, 29297**, 29318**, 30008**, 30289, 30326**, 31736, 31926**, 33603; C. Espinoza 51; Nanegal: Mille, 4/1902; Sodiro s.n., s.d.(type), Sodiro s.n., 7/1902.
10. *Peperomia ecuadorensis* C. DC.
Sec. for., 1150-1400 m; terr., lvs. (at least veins & petioles) reddish beneath: 27179, 27289, 27467, 27686, 27706, 27775**, 28736**, 28818**, 29984; Nanegal-Gualea, Sodiro 4.
11. *Peperomia elongata* Kunth
Nanegal; ep.: Sodiro s.n., 3/1901 (type of *Peperomia cuspidigera* Sodiro).
12. *Peperomia emarginella* (Sw. ex Wikstr.) C. DC.
Prim. for., 2050-2100 m; ep.: 29224**.
13. *Peperomia emarginulata* C. DC.
El Pahuma, 2000 m: Delgado 66.
14. *Peperomia flavescens* C. DC.
Nanegal Valley; ep.: Sodiro. [Not in CVPE.]

15. *Peperomia galioides* Kunth
Sec. for., 1300-2100 m; ep., foliage very aromatic: 29291**, 31533. "Congona silvestre"
16. *Peperomia gaultheriifolia* Sodiro
Nanegal Valley; terr.: Sodiro, 7/1902.
17. *Peperomia glabella* (Sw.) A. Dietr.
El Pahuma, 1900 m; ep.: C. Espinoza 54.
18. *Peperomia haematolepis* Trel.
Nanegal: Sodiro s.n., 10/1901 (type of *Peperomia cinerea* Sodiro), Sodiro s.n., 4/1906.
19. *Peperomia hartwegiana* Miq.
Nanegal Valley: Sodiro s.n., 10/1901
20. *Peperomia helminthostachya* Sodiro
Prim. & sec. for., 1250-1750 m; terr.: 27008a**, 27318*, 27774**. [Cited in CVPE as known only from the type.]
21. *Peperomia hirtipeduncula* C. DC.
Nanegal Valley: Sodiro 5.
22. *Peperomia longipetiolata* Trel. & Yunck.
Sec. for., 1200-1600 m; terr., creeping: 28750**, 29333**, 31769; Z 97.
23. *Peperomia martiana* Miq.
Sec. for., 1300-1400 m; ep., spikes greenish: 29322**, 31733.
- [*Peperomia melanosticta* Sodiro, collected between Nono & Gualea: Sodiro 2/94, may occur in our area.]
24. *Peperomia metapalcoensis* C. DC.
Nanegal Valley: Sodiro s.n. [Not in CVPE.]
25. *Peperomia obtusifolia* (L.) A. Dietr.
Sec. for., 1150-1400 m; terr., spikes greenish: 28292, 28823*, 30334**.
26. *Peperomia pachystachya* C. DC.
Subtrop. for., Nanegal-Gualea: Sodiro 2/15X (type of *Peperomia phyllostachya* Sodiro).
27. *Peperomia peltoidea* Kunth
Rip. for., 1350-1400 m; ep., stems green: 30310**.
28. *Peperomia pilicaulis* C. DC.
Sec. for., 1300-1400 m; ep., climbing: 29281**.

[*Peperomia pseudovariegata* C. DC. var. *sarcophylla* (Sodiolo) Trel. & Yunck., based on Sodiolo 11/900 from Gualea, may occur in our area.]

29. *Peperomia pteroneura* C. DC.

Sec. for., 1300-1400 m; terr., stems prostrate, spikes green: 27760**.

[*Peperomia pubirhachis* Yunck., between Nono & Nanegal, 2100 m: Asplund 17269**.]

30. *Peperomia quadrifolia* (L.) Kunth

Sec. for., 1200-1600 m; ep.: 27116, 27480, 27701, 27881**, 27906, 29278*, 29999; Filskov 37095 (det. G. Mathieu).

31. *Peperomia rotundata* Kunth var. *rotundata*

Upper mont. for., 2650 m; ep.: K 31996.

31A. *Peperomia rotundata* Kunth var. *trinervula* (C. DC.) Steyermark

Prim. for., 2100 m; ep.: P 3596**.

32. *Peperomia rupicola* C. DC.

Banks in rip. for., 2000 m; terr., stems reddish, spikes green: 31835**.

[*Peperomia sarmentosa* Sodiolo, collected between Mt. Pichincha & Gualea: Sodiolo 4/900, may occur in our area.]

33. *Peperomia scutellariifolia* Sodiolo

Subtrop. for., Nanegal; prostrate repent herb: Sodiolo 2/66X.

34. *Peperomia stelechophila* C. DC.

Nanegal Valley; repent herb or small scandent shrub: Sodiolo s.n. (as *P. gualeana*).

35. *Peperomia subalata* C. DC.

Nanegal; assurgent herb: Sodiolo s.n., 2/1902 (type of *P. camposii* Sodiolo).

36. *Peperomia subdiscoidea* Sodiolo

"Subtropical forest", Nanegal Valley; repent herb: Sodiolo s.n., 1/1900.

37. *Peperomia swartziana* Miq.

Prim. & sec. for., 1200-2025 m; common ep., sometimes climbing: 27316, 27340, 27694, 27705, 27835, 28013**, 28060, 28208**, 29219, 30267, 30511; V 12328**; Filskov 37103**; Suin 337**.

38. *Peperomia ternata* C. DC.

Prim. & sec. for., 1250-2250 m; terr. or ep., spikes clustered on a peduncle: 29433**, 31557, 32413; Nanegal: Sodiolo 7/1900.

39. *Peperomia tetraphylla* (G. Forst.) Hook. & Arn.
Roadcut in sec. for., 2000 m: K 32012**.

[*Peperomia thienii* Yuncker may be expected within our area; the type locality, Guayumo (= Cerro Guarumos?) is 2' south of the Equator.]

40. *Peperomia tovariana* C. DC.
Sec. for., 1650 m; ep.: 31866.

41. *Peperomia trianae* C. DC.
Near road from Nanegalito to Pacto, km 8, 00° 04' N 78° 41' W, 1600 m; ep.: Holm-Nielsen 24481 (det. G. Mathieu).

42. *Peperomia trinervis* Ruiz & Pav.
Sec. for., 1400-1800 m; ep.: 32403; Sodiro s.n, 1902.

43. *Peperomia tropeolifolia* Sodiro
Prim. & sec. for., 2000-2300 m; scandent: 28002, 28247**, 28912**, 29159**, 32830;
Nanegal Valley, Sodiro 9/907. "Guiadora"

[A number of additional collections of *Peperomia* remain unidentified to species.]

44. *Piper aduncum* L.
Sec. for., 1200-2000 m: N 9776**, T 208**, 209**, Cedeño 37 (ep.). "Cordoncillo"

45. *Piper aequale* Vahl
Sec. for., 1300-2030 m; shrub or tree 2-5 m, foliage very aromatic, spikes erect, whitish or yellowish: 29123**, 31193, 31634, 32415, 32798; K 31909. "Mucuchalla"

46. *Piper appendiculatum* (Benth.) C. DC.
"Bosques de Nanegal, Hartweg" (Synonymized with *Piper fraseri* C. DC. by Sodiro).

[*Piper barbatum* Kunth, collected between Calacalí & Yunguillas: Zak & Jaramillo 1809, 1828, probably will be found within our area.]

47. *Piper bullosum* C. DC.
Prim. & sec. for., 1250-2100 m; shrub to 5 m, sometimes clambering or ep.: 27043, 27405, 27978**, 28064**, 28205, 28711*, 29097**, 31237, 31738**, 32372; C 5922**, G 69943**, 73221**, P 3595**, T 161**, Z 102.

48. *Piper carpunya* Ruiz & Pav.
Sec. for., 1500-2200 m; tree or arborescent shrub to 5 m, foliage strongly aromatic, spikes erect, greenish or yellowish: 31909**, Zak & Jaramillo 3209**, 3247** (the last two det. as *Piper lenticellosum* C. DC.).

49. *Piper crassinervium* Kunth
Sec. for., 1300-1500 m; shrub 2-4 m, spikes erect: 27180*, 27991*.
50. *Piper cuspidilimum* C. DC.
Prim. for., 1630 m: G 69949**.
51. *Piper ecuadoreense* Sodiro
Nanegal: Sodiro s.n., 1905.
52. *Piper eriocladum* Sodiro
Nanegal Valley: Sodiro (cited by Valencia et al., 2000: 382). [Type from Verde-cocha, 2500 m: Sodiro s.n.]
53. *Piper falanense* Trel. & Yunck.
Sec. for., 1250 m; tree 5 m: 29056**. [Not in CVPE.]
54. *Piper filistilum* C. DC.
Sec. for., 1350-1400 m; shrub 0.5 m: 30315*.
55. *Piper friedrichsthalii* C. DC.
Sec. for., 1350-1550 m; tree 4 m: 29260**; Z 3, 6. [Treated by Bornstein as a synonym of *P. lanceifolium*.]
56. *Piper fuliginosum* Sodiro
Cerro Sosa, 1700 m; tree 4 m: C 39743.
57. *Piper grande* Vahl
Sec. for., 1950-2000 m; slender tree 6 m: C 5916**; F 1065.
- [*Piper gualeanum* C. DC., based on Sodiro 34 from Gualea, may occur within our area.]
58. *Piper guayasanum* C. DC.
Sec. for., 1300-1680 m; shrub or tree 2.5-5 m, spikes pendent: 27987**, 31338. [Cited in CVPE as known only from the type.]
59. *Piper hispidum* Sw.
Sec. for., 1200-1700 m; shrub or tree to 8 m, spikes erect: 27041, 29060, 29328**, 32748; T 210**. "Cordoncillo"
60. *Piper hylebates* C. DC.
Sec. & rip. for., 2000 m; shrub 1.5-2 m, spikes greenish or whitish: 30150*, 31865*.
61. *Piper imperiale* (Miq.) C. DC.
Nanegal, 1000-1600 m; shrub: Sodiro 1/44.

62. *Piper lanceifolium* Kunth

Sec. for., 1250-2200 m; arborescent shrub 2-5 m, foliage aromatic, spikes curving at tip: 27038, 30222*, 31232, 31633*; Delgado 56**; Zak & Jaramillo 3246**. "Cordoncillo"

63. *Piper lineolatifolium* Trel. & Yunck.

Rip. for., 1350-1400 m; shrub 2 m, spikes erect: 30273*.

64. *Piper manabinum* C. DC.

Sec. for., 1200-1250 m; shrub: 28288**. "Guabiduca"

65. *Piper marequitense* C. DC.

Sec. for. & scrub, 1300-1800 m; shrub 3-4 m, spikes erect, yellow: 28283**, 30393*; Z 10; Luteyn 6534**. "Luto negro"

66. *Piper nanegalense* Trel. & Yunck.

Nanegal, 1600 m: Mille s.n., 1908 (holotype ILL). [Perhaps not separable from *P. obliquum* Ruiz & Pav., fide M. C. Tebb.]

67. *Piper obliquum* Ruiz & Pav. (incl. *P. pseudonobile* C. DC.)

Sec. for., 1300-2000 m; shrub or tree 2.5-7 m, spikes pendulous, to 1.5 m: 27514, 29366, 30375*, 31890*; F 1024, 1074, 1198; Sodiro 9/899.

68. *Piper ottoniifolium* C. DC.

Sec. for. along Río Umachaca, 1200 m; ep. shrub, spikes erect, yellowish-green: 27630*.

69. *Piper pallidirameum* C. DC.

Prim. for., 1800 m; tree 6 m, foliage very aromatic: C 12429. [Not in CVPE.]

70. *Piper peltatum* L. (= *Pothomorphe peltata* (L.) Miq.)

Sec. for., 1500 m; herb 1.5 m: 27545. "Corazón", "Santa Maria", "Taco-taco"

71. *Piper phytolaccifolium* Opiz

Sec. for., 1200-1500 m; shrub 1-2 m, spikes erect: 27045, 28116**, 28137**, 28275 (det. N. Greig); V 12238**; Z 8, 19; Filskov 37109**.

72. *Piper piluliferum* Kunth

Sec. for., 1225-1600 m; shrub 1-2 m, spikes capitate: 27396**, 27483**, 27986*, 28687**, 29324**, 30312, 31154; T 211**.

73. *Piper* cf. *scobinifolium* Yunck.

Rip. for., 2000 m; shrub 1 m, spikes erect: 32438. [Not in CVPE.]

74. *Piper sodiroi* C. DC.

Sec. for., 1600-2200 m; shrub or tree 4-5 m; spikes erect, green: 32782; Zak & Jaramillo 3254**.

75. *Piper squamulosum* C. DC.

Sec. for., 1250-1900 m; shrub or tree to 7 m, foliage aromatic, spikes pendulous: 27042*, 29114; Z 29, 192; Nanegal, Sodiro 1/46 (type). "Anis"

76. *Piper subflavispicum* C. DC.

Nanegalito to Armenia & Loma San José, 1900-2200 m; shrub 2 m, infls. yellow-green: Zak & Jaramillo 3250**; El Pahuma, 2000 m: Delgado 25 (cf.).

77. *Piper subglabribracteatum* C. DC.

Nanegal, 1000-1600 m: Sodiro 1/26.

78. *Piper tenuilimum* C. DC.

Sec. for., 1400-1500 m; shrub: 27983**.

79. *Piper tristemon* C. DC.

Prim. for., 1550 m; treelet, infls. greenish: G 73211**. [Not in CVPE.]

80. *Piper* aff. *tumidinodum* Yunck.

Sec. for., Cerro Santa Lucia, 1500 m; shrub: 28321**. [Not in CVPE.]

81. *Piper* (*Pothomorphe*) *umbellatum* L.

Nanegal: Sodiro s.n., 7/1906. "Maria panga"

82. *Piper* sp. 1 (aff. *bullosum* C DC. ?)

Sec. for., 1350 m; undershrub 0.5 m: 29991.

[A number of additional collections of *Piper* remain unidentified to species.]

PLANTAGINACEAE (1)

1. *Plantago australis* Lam. ssp. *hirtella* (Kunth) Rahn

El Pahuma, 2000 m; 0.15 m herb: Delgado 41 (det. R. Liesner).

2. *Plantago major* L.

Sec. for., weed in clearings & fields, 1400-2700 m: 27429, 28019; K 31980; Filskov 37017; Mantuano 6 (det. R. Liesner). "Llantén"

POLYGALACEAE (3) (* det. B. Eriksen)

Refs.: Ferreyra, R. 1953. *Lloydia* 16: 193-226. Eriksen, B., B. Stahl & C. Persson. 2000. *Fl. Ecuador*: 65:1-134.

1. *Monnina hirta* (Bonpl.) B. Eriksen ssp. *cuspidata* (Benth.) B. Eriksen

Sec. for. & thickets, 1200-1800 m; shrub 2-3 m, fls. purplish: 27246*, 27537*, 27557*, 28056*, 28746*, 28766*, 28767*, 29032; Z 168, 231; Harling & Andersson 11573*. "Azulina"

2. *Monnina glaberrima* Chodat

Prim. for., 1900-2000 m; shrub 4 m, fls. purplish: 30609*. [Not in CVPE.]

3. *Monnina pseudopilosa* Ferreyra

Prim., sec., & upper mont. for., 1200-2750 m; shrub 1.5-4 m, fls. purplish: 28081*, 28285*, 30599*, 31524, 32809. "Iguilán"

4. *Monnina sodiroana* Chodat

Prim. & upper mont. for., 1600-2500 m; clambering shrub c. 2 m, fls. purplish: 27275, 27329*, 27679*, 28240*, 28714*, 28760, 28890*, 29188*, 31321, 31664, 31682.

5. *Polygala paniculata* L.

Sec. for. & clearings, 1250-1700 m; common weed with pinkish fls.: 27644, 32778; Holm-Nielsen 24421*. "Canchalagua"

6. *Securidaca coriacea* Bonpl. ?

Sec. for., 1300-1400 m; scandent shrub c. 0.5 m: 32353; "valle Nanegal", Sodiro 59. "Bejuco de jabón"

POLYGONACEAE (2) (* det. J. Brandbyge)

Ref.: Brandbyge, J. 1989. Fl. Ecuador 38: 1-61.

1. *Polygonum hydropiperoides* Michx.

Along road, 10 km north of Nanegalito, 0° 7' N 78° 39' W, 1400 m; weedy herb: Laegaard 53101*. "Yaco"

2. *Rumex obtusifolius* L.

Sec. for., scrub & fields, 1400-2000 m; weedy herb: 31615, 32784; Cedeño 37; Filskov 37015*. "Lengua de vaca"

[Primulaceae, *Anagallis minima* (L.) E. H. L. Krause, between Nono and Nanegalito, 2300 m: Øllgaard 98937, is 2' south of our boundary.]

PROTEACEAE (2)

Refs.: Sleumer, H. 1954. Bot. Jahrb. Syst. 76: 139-211. Bonifaz, C. & X. Cornejo 2002. Fl. of Ecuador 69: 3-48

1. *Panopsis antioquiensis* L. E. Gut.

Prim. for., 1550 m; tree: G 73140 (det. K. Edwards). [Not in CVPE.]

2. *Panopsis* sp. 1

Prim. & sec. for., 1600-1700 m; tree 10-20 m: 29367; Q 26; Edwards 565. [Bonifaz & Cornejo list the last two (sterile) specimens as resembling *P. antioquiensis*.]

3. *Roupala monosperma* (Ruiz & Pav.) I.M. Johnst. (incl. *Roupala obovata* Kunth)
Prim. for., 1500-1750 m; tree 5-30 m: 31697; Edwards 564, 566, 567, 573; El Pahuma, 1550-1750 m; tree 15-25 m: F 1270 (det. Cornejo); N 9809. "Roble blanco" "Roble andino"

RANUNCULACEAE (3)

1. *Clematis haenkeana* C. Presl
Prim. & sec. for., 1300-2100 m; climbing vine, fls. yellowish-white: 27744, 28185, 30491; Z 17. "Barba de viejo"
2. *Ranunculus limoselloides* Turcz.
Prostrate aquatic herb, sandy banks of stream south of Tandayapa, 1700 m: 32747.
3. *Thalictrum podocarpum* Kunth ex DC.
Rip. for. & banks, 1800-2000 m; fls. greenish: 31837, 32754; P 3622.

ROSACEAE (3) (* det. K. Romoleroux)

Refs.: Romoleroux, Katya. 1994. The family Rosaceae in Ecuador. Dissert., Aarhus. 1996. Fl. Ecuador 56:1-169.

1. *Lachemilla aphanoides* (Mutis ex L. f.) Rothm.
Clearing in upper mont. for., 2725 m: H 29519*; edge of prim. for., 21 km west of Calacalí, 2500 m: L 13664*.
2. *Lachemilla pectinata* (Kunth) Rothm.
Upper mont. for., Cerro Montecristi, 2725-2800 m: 30540, 31521; H 29520*.
3. *Prunus huantensis* Pilg.
Prim. for., 1630 m; tree: G 69940.
4. *Rubus boliviensis* Focke
Sec. for., upper mont. for., 1400-1700, 2700-2750 m; vine with white fls.: 27716*, 29493*, 30536*; C 39731. "Mora" [Name applied to most species of *Rubus*.]
5. *Rubus glabratus* Kunth
Upper mont. for., 2700-2800 m; vine with white fls.: 30537*, 31530.
6. *Rubus glaucus* Benth.
Upper mont. for., 2650-2700 m; vine to 1.2 m, lvs. white beneath, fls. white: K 31998.
7. *Rubus niveus* Thunb.
Nanegalito, gardens & fields, 1400 m: Filskov 37036*. "Morita"
8. *Rubus nubigenus* Kunth
Upper mont. for., Cerro Montecristi, 2700-2750 m; clambering shrub or vine to 3 m, fls. pink or white: 30548; H 29531*; K 31972. "Huagramora"

9. *Rubus robustus* C. Presl

Loma Pahuamba, 2300 m; spiny shrub, petals pink: F 1428. "Mora silvestre"

10. *Rubus urticifolius* Poir.

Sec. for., 1250-1400 m; vine with white fls.: 27015*, 28319*; Z 167.

11. *Rubus* sp. 1 (ined.)

Sec. for., occ. in prim. for., 1250-1725 m; liana with pink fls.: 27403*, 28351*, 28693*, 29038*, 29284.

RUBIACEAE (23) (revised by P. Delprete; * det. P. Delprete; ** det. C. M. Taylor)

Refs.: Standley, P. C. 1931. Field Mus. Nat. Hist. 7(2): 177-251; Standley, P. C. 1936. Field Mus. Nat. Hist. 13(6): 1-263; Andersson, L. & L. T. Dempster. 1993. Fl. Ecuador 47: 1-38; Andersson, L. & C. M. Taylor. 1994. Fl. Ecuador 50: 1-112; Delprete, P. G., L. Andersson, B. Ståhl, & C. M. Taylor. 1999. Fl. Ecuador 62:1-320.

1. *Agouticarpa grandistipula* C. Persson

Sec. for., 1300-2000 m; tree or shrub 4-6 m: 27993, 31790; C 5910; D 6090; G 73194, 73196. (All specimens, except 31790, are determined by C. Persson and are paratypes.) [Not in CVPE.]

2. *Arachnothryx chimboracensis* (Standl.) Steyrm.

Sec. for., 1200-1675 m; shrub to treelet 3-6 m, fls. white to pinkish: 28320*, 28898*, 31015*, 31050*, 31170*, 31772; Q 107*; V 12251 (det. D. Lorence).

3. *Arachnothryx reflexa* (Benth.) Planch.

Sec. for., 1150-1750 m; shrub or tree to 6 m, fls. pink: 27071*, 28841*, 30025*, 31663. (Some these have been determined as *A. chimboracensis*.)

4. *Borojoa stipularis* (Ducke) Cuatrec. ?

Sec. for., 1300-2000 m; tree or shrub 3-12 m: 29987, 30239, 31674, 32956. [It is not certain that the flowers found on the trail, 32954, belong with the other collections.]

5. *Borreria assurgens* (Ruiz & Pav.) Griseb.

Sec. for., 1200-1600 m; weed with white fls.: 27702**, 28149, 32381, 32790; D 6119, 6123; Z 42. [Several recent treatments place this taxon in synonymy under *Borreria remota* (Lam.) Bacigalupo & E. L. Cabral.]

6. *Borreria exilis* L. O. Williams

Sec. for., 1300-1800 m; herb with white fls.: 27368**, C 13021; D 6096; Z 162. "Piojo"

7. *Borreria remota* (Lam.) Bacigalupo & E. L. Cabral

El Pahuma, 2000 m; 0.3 m herb, fls. white: Delgado 33**.

8. *Chiococca alba* (L.) A. Hitchc.

Sec. for., 1900-2000 m; vine: 30614.

9. *Cinchona pubescens* Vahl

Sec. for., 1900-2300 m; tree 15 m: 30613*; F 1454.

[*Coffea arabica* L., edge of clearings, 1200-1250 m; cult.: 27539, does not appear to be naturalized.]

10. *Condaminea corymbosa* (Ruiz & Pav.) DC.

Sec. for., 1150-1550 m; arborescent shrub 3-5 m, fls. yellowish-white to purplish with greenish corolla lobes: 28816, 31563, 31955*.

11. *Elaeagia karstenii* Standl.

Prim. for., 1550-1700 m; tree 8 m: C 39721 (det. as *E. utilis* (Godot) Wedd.); G 73171**.

12. *Faramea calyptrata* C. M. Taylor

Sec. for., 1900-2200 m; shrub 3 m: C 5914**; Zak & Jaramillo 3224** (both collections paratypes).

13. *Faramea oblongifolia* Standl.

Prim. & sec. for., 1300-2000 m; shrub or tree 3-5 m, fls. yellowish-white, frs. purplish: 27486**, 28785**, 28893*, 30019*; D 6085**; G 73116**; N 9805**; Q 1**.

14. *Faramea* cf. *quinqueflora* Poepp.

Prim. for., 1750-2215 m; tree 7-12 m, fls. blue or blackish: 28949*, 29130*, 29182*, 29983, 30157, 30261, 30617*; F 1575.

15. *Faramea* sp. 1 (spp.?)

Sec. for., 1200-1400 m; shrub 6-7 m: 30416, 31051; D 6070.

16. *Faramea* sp. 2

Sec. for., 1500-1700 m; shrub 3.5 m, corolla yellow-white: 27136*, 27743*, 27839*, 28077*.
"Jazmin"

17. *Galium hypocarpium* (L.) Endl. ex Griseb. (= *Relbunium hypocarpium* (L.) Hemsl.)

Prim., sec., & upper mont. for., 1200-2750 m; clambering or creeping herb, corolla greenish, frs. orange: 27092, 27905, 28141, 29537, 30394, 30544; D 6120; K 1963; Z 55; Filskov 37084 (det. L. T. Dempster). "Coralitos"

18. *Gonzalagunia cornifolia* (Kunth) Standl.

Sec. for., 1400-1850 m; shrub 1-3 m, fls. & frs. white: 30366*; D 6093.

19. *Gonzalagunia dependens* Ruiz & Pav.

Prim. & sec. for., 1600-2500 m; common shrub 1.5-3 m, fls. white: 27126, 30720, 31094, 31222*; D 6083; L 14042 (det. B. Staahl), 13642 (det. C. Ulloa, confirmed B. Staahl); Croat 72861; Dodson & Thien 1114; Molau & Eriksen 2189**; Sparre 19328.

20. *Gonzalagunia discolor* Standl.
Upper mont. for., banks, 2400 m; undershrub 0.3 m, fls. white: 32804**. [Not in CVPE.]
21. *Hillia parasitica* Jacq.
Prim. & sec. for., 1200-1400 m; scandent shrub 5-6 m, fls. white: 31712; D 6099.
22. *Hippotis brevipes* Spruce ex K. Schum.
Sec. for., 1750-1925 m; shrub 2 m, fls. white: F 1043, 1590.
23. *Hoffmannia latifolia* (Bartl. ex DC.) Kuntze
Sec. for., 1200-2000 m; common cauliflorous shrub or tree 1-2 m, fls. pink or red: 27174*, 27297*, 27555*, 27973*, 28699*, 28752*, 30047, 30135*, 30229, 32378; G 73201**; V 12236**. [Not in CVPE.]
24. *Hoffmannia* cf. *obovata* (Ruiz & Pav.) Standl.
Prim. for., 1350-2025 m; cauliflorous shrub to 4 m, fls. yellowish to red-orange: 27129*, 28865*, 30270*, 31221, 32364, 32433; D 6094. [Not in CVPE.]
25. *Hoffmannia pauciflora* Standl.
Prim. & sec. for., 1600 m; shrub 1-2 m, fls. red: D 6081. [Not in CVPE.]
26. *Hoffmannia* sp. 1
Sec. for., 1200-1400 m; shrub 5-6 m: D 6075.
27. *Hoffmannia* sp. 2
Rip. for., 1900 m; shrub 2-2.5 m, fls. yellowish-green: 31595.
28. *Ladenbergia pavonii* (Lamb.) Standl.
Sec. for., 1200-1300 m; tree 5-25 m, fls. white: 27382, 27631 (det. L. Andersson), 28677; N 9774 (det. L. Andersson); Z 147. "Cascarilla"
29. *Manettia acutifolia* Ruiz & Pav.
Sec. for., 1300-1500 m; vine with white fls.: 27878*. [Not in CVPE.]
30. *Manettia paniculata* Poepp. & Endl.
Prim. & sec. for., 1450-2000 m; vine with blue or purplish fls.: 27866*, 30251*, 31699, 31756*.
31. *Manettia peruviana* Standl.
Sec. for., upper mont. for., 1300-2750 m; slender vine with white fls.: 27720, 31196*; K 31968*. [Not in CVPE.]
32. *Manettia recurva* Sprague
Prim. & sec. for., 1500-2750 m; herbaceous vine with white fls.: 27959*, 28887*, 30563*, 31510, 31938; D 6118; H 29530*; K 31990*.

33. *Nertera granadensis* (Mutis ex L. f.) Druce
Prim. for., 2000-2750 m; mat-forming, berries orange: 29132; K 32001; Cedeño 19**.
34. *Notopleura anomothyrsa* (K. Schum. & Donn. Sm.) C. M. Taylor
Sec. for., 1500 m; subshrub 1-1.5 m, fls. white: 27201**.
35. *Notopleura corniculata* C. M. Taylor
Sec. for., 1300 m; shrub 1 m, fls. & frs. white: V 12318** (paratype).
36. *Notopleura lateriflora* (Standl.) C. M. Taylor
Prim. for., 1800 m; shrub, fls. white: 27682**. [Not in CVPE.]
37. *Notopleura longipedunculoides* (C. M. Taylor) C. M. Taylor
Prim. for., 1800-2000 m; shrub 2.5 m, fls. white: 27328**. [Not in CVPE.]
38. *Notopleura macrophylla* (Ruiz & Pav.) C. M. Taylor (s. lat.)
Prim. & sec. for., 1250-2000 m; common herb 1-2 m, fls. & frs. white: 27330*, 27469, 27862, 27901, 28022, 28070, 28209*, 28791, 29116(aff.)*, 29226, 30182, 30297, 31257?; C 7178; D 6072, 6109; Mantuano 22. [In the narrow circumscription, these collections may represent *Notopleura longissima* Bremek.]
39. *Palicourea acetosoides* Wernham
Prim. for., 1800-2250 m; shrub 3-5 m, infl. axes yellowish, fls. red: 27322**, 27651, 28548*, 28876*, 28889*, 28981, 29220, 32828; D 6088. "Café de monte" [Application of common name is uncertain.] [Not in CVPE.]
40. *Palicourea amethystina* (Ruiz & Pav.) DC.
Prim. & sec. for., 1500-2700 m; shrub or tree to 10 m, peduncles lavender, fls. blue or purplish: 30517**, 31839; C 5912**, D 6106; F 1093, 1097, 1235; K 31966.
41. *Palicourea apicata* Kunth
Prim. for., 1500 m; shrub 1.5-2m, fls. white: D 6107.
42. *Palicourea calothyrsus* K. Schum. & K. Krause
Upper mont. for., Cerro Montecristi, 2700-2800 m; shrub 1-1.5 m, fls. white or pink, frs. dark blue: 29496**, 30533**, 31522; K 31988*; 00° 01' N 78° 37' W, 2300 m: Valenzuela 780**.
43. *Palicourea demissa* Standl.
Prim. & sec. for., 1450-2350 m; tree or shrub 2-14 m, peduncles orange, fls. reddish, frs. bluish-green: 27482**, 27972**, 28068*, 29253*, 30095, 31889, 32842; C 39763; F 1011, 1109, 1563; G 73118**; Q15**, 19**, 38**; Delgado 43**; Holm-Nielsen 24467 (det. B. Boom); Montenegro 225**; Nicolalde 337**; Vargas 4062; Zak & Jaramillo 3219**.
44. *Palicourea guianensis* Aubl.
Prim. & sec. for., 1300-1750 m; shrub or tree 3-5 m, infl. axes yellow: 27131.

45. *Palicourea lineata* Benth.
Prim. for., 2000-2225 m; tree to 10 m, peduncles pink to lavender, fls. pale blue: 28946**, 29174**, 29423**, 30138**.
46. *Palicourea* cf. *padifolia* (Willd. ex Roem. & Schult.) C. M. Taylor & D. Lorence
Prim. for., 1700-1750 m; tree 6 m: 27553. [Not in CVPE.]
47. *Palicourea sodiroi* Standl.
Sec. for., 1550-1700 m; tree to 7 m, inf. red: C 39756; G 73241**; Nanegal: Sodiro s. n., July 1874 (type).

[*Palicourea stenosepala* Standl., in secondary forest 17 km NW of Nono: Croat 38865**, is likely just south of our boundary].
48. *Palicourea* cf. *stipularis* Benth.
Sec. for., Cerro Negro, 1630 m; treelet, infl. axes reddish: G 69911**.
49. *Palicourea thyrsoiflora* (Ruiz & Pav.) DC.
Prim. & sec. for., 1500-2150 m; tree 6 m, peduncles orange: D 6068, 6071.
50. *Palicourea* sp. 1
Prim. for., 1500-2000 m; shrub 2.5 m, fls. pink: 28008* [dubious record], 29959.
51. *Palicourea* sp. 2
Prim. for., 1900 m; common shrub c. 3 m, infl. axes orange: 29207.
52. *Pentagonia* cf. *macrophylla* Benth.
Rip. for., 1300-1750 m; tree to 17 m; frs. edible: K 31788.
53. *Posoqueria coriacea* M. Martens & Galeotti (incl. *Posoqueria maxima* Standl.)
Prim. for., 1750-1950 m; tree to 17 m: F 1071, 1262**.
54. *Posoqueria latifolia* (Rudge) Roem. & Schult.
Prim. for., 1900-2000 m; tree 10 m: 30253*.
55. *Psychotria allenii* Standl.
Sec. for., 1500-2450 m; tree 7-8 m, fls. yellow-green: 30606**; F 1305; Q 134**; T 187.
56. *Psychotria amplifrons* Standl.
Rip. for., 1250-1300 m: 27659**; El Pahuma 2000 m: Mantuano 19**; Nanegal Valley: Sodiro, 1874 (type).
57. *Psychotria caerulea* Ruiz & Pav.
Prim. & sec. for., 1300-1915 m; shrub or tree 3-5 m, fls. white: 27133, 28216*, 28979, 29110, 31604. "Cafecillo" [Name applied to other species of *Psychotria*.]

58. *Psychotria carthagenensis* Jacq.
Sec. for., 1200-1400 m; shrub 3-4 m, fls. white: D 6077.
59. *Psychotria chimboracensis* Standl.
Disturbed rip. for., 1300-1440 m; tree 4 m, frs. purplish: 27288**.
60. *Psychotria* aff. *ernestii* Krause
Cerro Sosa, 1700 m; tree or shrub 3 m: C 39741.
61. *Psychotria gentryi* (Dwyer) C. M. Taylor
Sec. for., 1250-2100 m; tree or shrub 4-18 m, fls. white: 27596*, 27992*, 28789*, 28906*, 29082*, 29173*, 30023*, 30254, 30256, 31030*, 31157*, 31341*, 31653; D 6069; Z 116.
62. *Psychotria hazenii* Standl. (incl. *Psychotria recordiana* Standl.)
Prim. & sec. for., 1350-2000 m; arborescent shrub 2-4 m, fls. white: 28216**, 30129**, 30377**; F 1002**, 1072**, 1098**, 1117**, 1177*, 1519**, 1935**; G 73214**, Z 80**; Delgado 10**; Hurtado 1433**; Nicolalde 341**, 343**; Rojas 397**. "Pigüe"
63. *Psychotria sodiroi* Standl.
Nanegal: Sodiro s.n. (Aug 1874) (type).
64. *Psychotria steyermarkii* Standl.
Prim. for., 1550-2100 m; shrub 1.5-2 m, fls. white: 28950*; D 6087. [Not in CVPE.]
65. *Psychotria* sp. 1
Sec. for., 1200-1400 m; shrub 4-5 m, fls. white: D 6067, 6084.
66. *Psychotria* sp. 2
Sec. for., 1650 m; herb 1 m: 30040.
67. *Psychotria* sp. 3
Sec. for., 1200-1400 m; shrub 5-6 m: D 6074.
68. *Sabicea villosa* var. *villosa* Willd. ex Roem. & Schult.
Sec. for., 1200-1500 m; vine with white fls.: 27376 (det. L. Andersson), 28120; Z 38; Filskov 37068 (det. L. Andersson).

RUTACEAE (2)

Ref.: Kaastra, R. C. 1982. *Flora Neotropica* 33: 1-198.

[*Citrus* sp., Nanegalito, 1400 m; cult. tree to 5 m: Filskov 37009. "Limon"]

1. *Esenbeckia warscewiczii* Engl. (vel aff.)

Sec. for., 1275 m; tree 8 m: 31744. [Capsules are not tuberculate, nor with apophyses; not conspecific with *E. grandiflora* var. *peruviana* Macbr.; possibly representing *E. dielsiana* Schulze, which was referred to the synonymy of *E. warscewiczii* by Kaastra (1982).]

[*Ruta* spp., Nanegalito, 1400 m; cult.: Filskov 37002, 37044. "Ruta" "Salballal"] [Apparently two *Ruta* species are cultivated.]

2. *Zanthoxylum quinduense* Tul.

Loma Pahuamba, 2450-2500 m; treelet 3 m: F 1374.

SABIACEAE (1)

Refs.: Cuatrecasas, J., & J. M. Idrobo. 1955. *Caldasia* 7: 187-211. Gentry, A. H. 1986. *Ann. Missouri Bot. Gard.* 73: 820-824.

1. *Meliosma arenosa* Idrobo & Cuatrec.

Loma Pahuamba, 1750 m; tree 18 m: F 1255, 1568.

2. *Meliosma* aff. *occidentalis* Cuatrec.

Loma Pahuamba, 1900-1950 m: F 1039.

3. *Meliosma* aff. *violacea* Cuatrec. & Idrobo

Prim. for., 1900-2000 m; tree 5 m: 30240.

4. *Meliosma* sp. 1

Prim. for., 1550 m; tree: G 73152, 73178.

SAPINDACEAE (6)

Ref.: Croat, T. B. 1976. *Ann. Missouri Bot. Gard.* 63: 419-540.

1. *Allophylus floribundus* (Poepp.) Radlk.

Sec. for., 1250-1950 m; shrub or tree to 12 m, fls. white, frs. orange: 27064, 28106, 29055, 29113, 29334, 29982, 31348, 31704; F 1090. [27722, recorded as a liana with yellow frs., may represent a different species.]

2. *Cupania cinerea* Poepp.

Prim. for., 1700-1800 m; tree 6-17 m, fls. cream: C 12424, 39726; F 1566.

3. *Matayba* sp.

Prim. for., 1550 m; tree 0.5 m dbh: G 73164.

4. *Paullinia* cf. *fraxinifolia* Triana & Planch.

Sec. for., 1200-1600 m; liana, fls. white: 31267. [Not in CVPE.]

5. *Paullinia gigantea* Poepp.

Prim. & sec. for., 1200-1600 m; liana, frs. reddish: 28392, 28960; Nanegal, Sodiro 279 (syntype of *Paullinia quitensis* Radlk., fide Radlkofer, *Bot. Jahrb.* 36: 382. 1905).

6. *Serjania mollis* Kunth

Sec. for. & scrub, 2000-2300 m; vine: 31818; K 32019. "Bejuco negro"

7. *Talisia cerasina* (Benth.) Radlk.

Prim. & sec. for., 1225-1750 m; tree 2.5-6 m, lvs. to 1 m, petals white or pale pink: 27287, 27556, 30441, 31107, 31888; F 1269. "Paragüita" [Not in CVPE.]

SAPOTACEAE (1)

Ref.: Pennington, T. D. 1990. Fl. Neotropica 52: 1-771.

1. *Pouteria* cf. *collina* (Little) T. D. Penn.

Sec. for., 1300-1700 m; tree 5-15 m, stems with white latex, fls. yellow-green: 30014, 30363, 31749. [31047, with more pointed lvs. & longer petioles, may represent another species.]

SCROPHULARIACEAE (9)

Ref.: Holmgren, N. N., & U. Molau. 1984. Fl. Ecuador 21: 1-188.

1. *Alonsoa meridionalis* (L. f.) Kuntze

Loma Pahuamba, 2300 m; herb, corolla white: F 1249.

2. *Bartsia mutica* (Kunth) Benth.

Upper mont. scrub, above Río Pichán, 2500 m; herb with pink fls.: 28094.

3. *Calceolaria chelidonioides* Kunth

Clearings in sec. for., 1950-2000 m; herb, fls. yellow: 32442; Delgado 55 (det. U. Molau).

4. *Calceolaria crenata* Lam.

Sec. for. & upper mont. scrub, above Río Pichán, 1800-2500 m; herb with yellow fls.: 28087, 30123; Rubio 2080 (det. U. Molau). "Zapatito"

5. *Calceolaria perfoliata* L. f.

Prim. for., 21 km west of Calacalí, 2500 m; scandent herb c. 1 m with yellow fls.: L 13643.

[*Calceolaria tenuis* Benth., collected along Calacalí-Nanegalito road, 2175 m: Croat 72874 (det. U. Molau), is only 1' east of our boundary.]

6. *Calceolaria tripartita* Ruiz & Pav.

5-10 km above Nanegalito, on road from Nono to Pacto, 00° 00' N 78° 40' W, 1700 m; fls. light yellow: Holm-Nielsen 24439 (det. U. Molau).

7. *Castilleja arvensis* Schltldl. & Cham.

Prim. & sec. for., 1200-2000 m; herb with pink or red bracts: 27144, 28268, 30124, 30465; Z 28; Filskov 37056 (det. N. H. Holmgren). "Candelilla"

8. *Escobedia grandiflora* (L. f.) Kuntze

Scrub, El Carmen to Marianitas, 1200-1300 m; herb to 1 m, fls. white: 27090, 27167. "Malva blanca"

9. *Lamourouxia virgata* Kunth

Prim. for. & upper mont. scrub, 1800-2500 m; herb with pink fls.: 28095; K 31960; Rubio 2077 (det. U. Molau), 2416. "Falsa dedalera"

10. *Leucocarpus perfoliatus* (Kunth) Benth.

Sec. for., 1950-2175 m; herb with yellow fls.: 28080, 30086, 31613, 32405; C 5945; J. F. Smith 1981.

11. *Scoparia dulcis* L.

Sec. for., 1200-1500 m; weedy herb, fls. white: 27192, 27408, 28154. "Tía tina", "Pedepe"

12. *Stemodia suffruticosa* Kunth

Sec. for., 1875-2100 m; subshrub to 1.5 m, fls. bluish: 30079, 30476, 31632; C 5943 (det. K. Barringer); Hurtado 1429.

SIMAROUBACEAE (1)

1. *Picramnia* sp.

Rip. for., Río Umachaca, 1250 m; tree 8 m: 31649. [Verification of Simaroubaceae in our area is needed, as the single collection is vegetative.]

SOLANACEAE (18) (* det. S. Knapp; ** det. E. Dean; * det. M. Nee)**

Refs.: D'Arcy, W. G. 1973. *Ann. Missouri Bot. Gard.* 60: 573-780. Knapp, S., et al. 1997. *Ann. Missouri Bot. Gard.* 84: 67-89; 1998. *Novon* 8: 152-161.

1. *Acnistus arborescens* (L.) Schldtl.

Sec. for., 1200-1250 m; shrub or tree 5-8 m, fls. white or yellowish, fragrant: 28155, 28282, 31715.

2. *Browallia americana* L.

Sec. for., 1200-1675 m; herb with blue fls.: 27197, 27423, 29048, 30360.

3. *Browallia speciosa* Hook.

Sec. for., 1300-1800 m; herb with blue fls.: 28271, 30743, 31334.

4. *Brugmansia candida* Pers.

Prim. & sec. for., 1200-1800 m; shrub or tree to 6 m, fls. pendent, white: 28222 (det. A. Holguín), 28720, 31335**, 31717, 31761. [Some of these specimens previously determined as *Brugmansia suaveolens* (Humb. & Bonpl. ex Willd.) Bercht. & J. Presl.] "Floripondio blanco"

5. *Brugmansia versicolor* Lagerh.

Prim. for., 1200-1700 m; tree 6 m, fls. white, with narrowing throat: 28897 (det. A. Holguín); Q 58*; T 144* (det. confirmed by A. Holguín). [It appears that we indeed have two white-flowered species of *Brugmansia* at Maquipucuna.]

6. *Capsicum geminifolium* (Dammer) Hunz.
Sec. for., 2075-2100 m; shrub 1 m, corolla yellow: 30501 (det. N. W. Sawyer).
7. *Capsicum lycianthoides* Bitter
Prim. & sec. for., 1300-2100 m; shrub 1-2.5 m, fls. yellow, frs. red or orange: 27143***, 27493***, 27602***, 27714**, 27888**, 27984***, 28749***, 28856***, 29094**, 29217**, 29283**, 29345**, 30044***, 32907; P 3591***; Z 82; Delgado 38***.
8. *Cestrum humboldtii* Francey
Sec. for., 1900-2200 m; shrub or tree to 7 m, corolla cream: Nicolalde 361***; Zak & Jaramillo 3214***.
9. *Cestrum megalophyllum* Dunal
Sec. for., 1250-2150 m; shrub or tree to 10 m, fls. white or pale yellow, frs. purplish: 27198, 27256, 27633, 27707, 29051, 29096(?), 29098, 31006, 32362; F 1006, 1297, 1297A, 1528; G 73228***; Z 45, 201. "Sauco negro"
10. *Cestrum peruvianum* Hort. Roth. ex Dunal
Upper mont. & rip. for., 2000-2400 m; shrub 2-3 m, frs. purplish-black: 31204***, 31248***, 32812, 32833. "Sauco"
11. *Cuatresia colombiana* Hunz.
Rip. for., Quebrada Santa Rosa, 2000-2050 m; shrub 1.5 m, corolla yellow: 31243**, 31250**, 31832, 32857***. [Not in CVPE.]
12. *Cuatresia harlingiana* Hunz.
Rip. & sec. for., 1250-1900 m; shrub or subshrub 0.5-2.5 m, corolla white with purple center: 31151**, 31168***, 31688***, 32927; F 1026***.
13. *Cuatresia riparia* (Kunth) Hunz.
Sec. for., 1600 m; shrub 1.5 m, fls. yellow: 30346**, 32957**.
14. *Cuatresia* sp. 1
Rip. for., Quebrada Santa Rosa, 2000 m; shrub 1 m, corolla purple with white border: 31240**.
15. *Cuatresia* sp. 2
Sec. for., 1650 m; shrub 1.5 m, fls. & fr. white: 31133**.
16. *Deprea glabra* (Standl.) Hunziker
Prim. for., 1800-2000 m; shrub 4 m, fls. blue-green: C 7183***.
17. *Deprea granulosa* (Miers) Hunz. & Barbosa
Sec. for., Cerro Santa Lucia, 1700 m; herb 1 m, fls. yellow: 28345.

[*Dunalia solanacea* Kunth, collected at 2700 m near Yunguillas: 31529, and at 2000 m: Dodson & Thien 1081, may occur within our area.]

18. *Iochroma calycinum* Benth.

Sec. for., 1900-2200 m; shrub 2 m, fls. & frs. violet: Zak & Jaramillo 3248***.

19. *Jaltomata glandulosa* (Miers) R. Castillo & R. E. Schult.

Roadside, 2000 m; viscid herb 0.5 m, corolla lavender: 32401.

20. *Jaltomata procumbens* (Cav.) J. L. Gentry

Sec. for., 1150-1750 m; herb c. 1 m, corolla yellow or white with yellow-green spots: 27185, 27387, 27422, 28838, 30062, 31884, 33597. "Yana cucuna"

21. *Jaltomata sinuosa* (Miers) Mione

Rip. for., 2000 m; herb with clammy foliage, corolla whitish with purple center: 31234 (det. T. Mione).

22. *Juanulloa pavonii* (Miers) Benth. & Hook. f. (= *Markea pavonii* (Miers) D'Arcy)

Sec. for., 1200-1750 m; ep. (?) liana or tree with vine-like branches, to 15 m, fls. green: 27719, 27723, 28961*, 30039, 32368. [Elsewhere in Ecuador recorded from lower elevations, < 700 m.]

23. *Larnax sachapapa* Hunz.

5-10 km above Nanegalito, on road from Nono to Pacto, 00° 00' N 78° 40' W, 1700 m; scandent, corolla greenish: Holm-Nielsen 24445***.

24. *Lycianthes acutifolia* (Ruiz & Pav.) Bitter

Sec. for., 1600-2100 m; shrub 2-4 m, corolla white, frs. red: 30201***, 30376, 31690, 31768, 32416, 32793.

25. *Lycianthes* aff. *acutifolia* (Ruiz. & Pav.) Bitter

Rip. for., Quebrada Santa Rosa, 2000-2050 m; shrub, fls. white: 31244**; El Pahuma, 1960-2000 m; shrub to 4 m: Mantuano 25; Nicolalde 338.

26. *Lycianthes dendriticothrix* Bitter

1900-2000 m; shrub 1 m, fls. white: Zak & Jaramillo 3239*. [Not in CVPE.]

27. *Lycianthes inaequilatera* (Rusby) Bitter

Prim. for., 1750-2030 m; shrub 2-4 m, fls. white: 30208**, 30230**, 32858**, 32945**.

28. *Lycianthes radiata* (Sendtn.) Bitter

Sec. & rip. for., 1400-2300 m; shrub 2 m, fls. white: 30050***, 31752; F 1443; Rojas 405***.

29. *Markea spruceana* Hunziker
Rip. for., Río Alambi, 2200-2500 m; ep. shrub to 3 m, corolla purple or greenish: Sparre 15992 (type, cited by Knapp, 1998).
30. *Nicandra physalodes* (L.) Gaertn.
Disturbed areas, 1950-2000 m; herb c. 0.5 m, frs. green: 31612. "Ambo"
31. *Physalis* aff. *angulata* L.
El Pahuma, 2000 m; shrub to 2-3 m: Rojas 403.
32. *Physalis peruviana* L.
Cleared areas, 1800 m; shrub 1 m: C 13108. "Uvilla"
33. *Physalis pubescens* L.
Sec. for., 1250-1400 m; herb with yellow fls.: 28054; Z 153, 187. "Uvilla"
34. *Schultesianthus leucanthus* (Donn. Sm.) Hunz.
Prim. for., 1800-1900 m; liana with yellow fls.: 29264*.
35. *Solanum acerifolium* Dunal
Sec. for., 1200-1400 m; shrub 1-1.5 m, fls. yellow: 27232, 27401*, 27918; Z 36; Filskov 37111***.
36. *Solanum aphyodendron* S. Knapp
Sec. for., 1300-2200 m; shrub or tree 5-10 m, fls. white: 32906***; Zak & Jaramillo 3256***.
37. *Solanum asperolanatum* Ruiz & Pav.
Sec. for., 1400-2200 m; tree or shrub 3-6 m, fls. white: 27142***, 27239, 28082***; Z 226; Rojas 401; Zak & Jaramillo 3234***. "Tambor"
38. *Solanum barbulatum* Zahlbr.
Prim. for., 1800-2000 m; shrub 4 m, fls. & frs. green: C 7194***.
39. *Solanum betaceum* Cav.
Sec. for., 1400 m; tree 2 m: Filskov 37010 (det. L. Bohs). "Tomate"
40. *Solanum brevifolium* Dunal
Sec. for., 1250-1600 m; herb. vine, corolla white, frs. red-orange: 27004***, 27761, 31007***, 31729. "Veneno de perro", "Tomatillo de monte"
41. *Solanum candidum* Lindl.
Sec. for. & pastures, 1300 m; shrub 1-1.5 m, fls. white: 27406*. "Berenjena"
42. *Solanum caripense* Dunal
Prim. for., 2000-2100 m; herb or vine, calyx violet, corolla white: 31282***, 32853; P 3639***; Delgado 68.

43. *Solanum circinatum* Bohs
Prim. for., 2075-2100 m; arborescent shrub 3 m, petals white with purple midstrip: 30492**. "Tomate de monte"
44. *Solanum cornifolium* Dunal
Upper mont. for., Cerro Montecristi, 2500-2700 m; tree 5 m, fls. white: 30598***.
45. *Solanum cucullatum* S. Knapp
Prim. & sec. for., 1200-2000 m; shrub or tree to 8 m, fls. white, frs. green, 5-6 cm in diam.: 27257*, 27554*, 27922, 28248*, 28698, 31016***, 31253, 31599; C 5931*; S. Espinoza 729*; Delgado 5; Rojas 395; Rubio 2086*. "Kujaco" [Some specimens were determined as *S. abitaguense* S. Knapp.]
46. *Solanum* cf. *dolosum* S. Knapp
Prim. for., 1800-2000 m; treelet 5 m: C 7172***.
47. *Solanum fallax* Bohs
Prim. & sec. for., 1175-2100 m; arborescent shrub 2-3 m, fls. white or greenish tinged with purple: 27585, 27710 (det. L. Bohs), 28810, 31103**; Z 227.
48. *Solanum furcatum* Dunal
Nanegalito, gardens & fields, 1400 m; many branched herb to 50 cm: Filskov 37018. "Yerba Mora"
49. *Solanum juglandifolium* Dunal
Prim. & sec. for., 1200-2500 m; clambering vine, fls. yellow: 27076, 28043, 28187, 28318, 30496, 31776, 32767; C 13051; L 13645***; V 12268; Holm-Nielsen 24450***.
50. *Solanum laevigatum* Dunal
Upper mont. for., 2300-2500 m; shrub or tree to 5 m, corolla white: 30573***; F 1420*.
51. *Solanum lepidotum* Dunal
Sec. for., 1250 m; tree 7 m, fls. pale green: 29052*; T 204*.
52. *Solanum macrotonum* Bitter
Sec. for., 1900-1950 m; herb 1 m, fls. white: 30110 (det. N. W. Sawyer).
53. *Solanum muricatum* Aiton
Nanegalito, gardens & fields, 1400 m; cult.?.; fl. buds purple-white: Filskov 37018. "Pepino"
54. *Solanum nigrescens* M. Martens & Galeotti
Sec. for., 1350-2750 m; weedy herb, fls. white: 31218***, 31514; Z 185; Croat 72877***; El Pahuma, 2000 m; shrub to 3-4 m: Rojas 392. "Hierba mora"

55. *Solanum nudum* Dunal

Sec. for., 1200-1250 m; shrub 2 m, fls. white: 28309*; El Pahuma, 2650 m; shrub 3-4 m: Nicolalde 364.

56. *Solanum nutans* Ruiz & Pav.

Sec. for., 1725-2475 m; shrub or tree 4-5 m, fls. white: 31931*; F 1289 (cf.)***, 1395.

57. *Solanum ovalifolium* Dunal

Sec. for., 1200-1550 m; weedy shrub or tree to 6 m, fls. white: 27413***, 29250, 30263***, 31100; Z 13. "Sauco lanudo"

58. *Solanum quitoense* Lam.

Sec. for., 1375 m; shrub, lvs. purplish beneath, fls. white: C 6856***; Z 225; El Pahuma, 2000 m: Cedeño 36. [These collections represent the cultivated "Naranjilla", which is widely grown in the area, but escapes to some extent; although presumably native to Ecuador, it may well be introduced in the Nanegal region.]

59. *Solanum rudepannum* Dunal

Sec. for., 1200-1350 m; shrub or tree to 3.5 m, fls. white: 28147. "Tululucha"

60. *Solanum schlechtendalianum* Walp.

Prim. & sec. for., 1400-1750 m; shrub or tree to 6 m, fls. white: 27206, 28756, 30417.

61. *Solanum ternatum* Ruiz & Pav.

Sec. for., 1300-1350 m; creeping vine, lvs. pinnatifid: 29086 [specimen barren, determination provisional].

62. *Trianaea nobilis* Planch. & Linden

Prim. & sec. for., 1250-2300 m; liana with pendent yellow-green fls.: 27276*, 28924, 29288*, 31268*, 32942; F 1086(?); Zak & Jaramillo 3229*.

STAPHYLEACEAE (2)

Ref.: Macbride, J. F. 1951. Field Mus. Nat. Hist. Bot. 13(3A,1): 233-235.

1. *Huerteia glandulosa* Ruiz & Pav.

Prim. for., 1500-1700 m; tree to 12 m, lvs. pinnate, frs. green: 32756; G 73136; Q 35.

2. *Turpinia occidentalis* (Sw.) G. Don

Prim. for., 1500-2300 m; tree 10-18 m, lvs. trifoliolate: C 7191 (det. R. Liesner); F 1423, 1468; Q 4. "Cuero de puerco"

STYRACACEAE (1)

Ref.: Gonsoulin, G. J. 1974. Sida 5: 191-258.

1. *Styrax argenteus* C. Presl var. *ramirezii* (Greenm.) Gonsoulin

Prim. for., 1750-2470 m; tree 12-20 m, fls. pink: 30612; F 1239, 1276, 1367, 1497; Vargas 4076. [Not in CVPE.]

SYMPLOCACEAE (1)

Ref.: Stahl, B. 1991. Fl. Ecuador 43: 1-57.

1. *Symplocos* sp.

Sec. for., 1225 m; white flowers fallen on trail: 31164. [Species uncertain because of incomplete material; differing from the relatively few species of *Symplocos* from northern Ecuador, especially at the low elevation, by the large white fls. with many stamens. Possibly an undescribed species.]

THEACEAE (2) (* det. A. L. Weitzman)

Ref.: Kobuski, C. 1941. J. Arnold Arb. 22: 457-496.

1. *Freziera canescens* Bonpl.

Prim. & upper mont. for., 1800-2700 m; tree to 15 m, fls. white: 30447, 30602; C 7185*; K 31984. "Guatzhic"

2. *Freziera verrucosa* (Hieron.) Kobuski

Sec. for., 1300-2650 m; shrub or tree to 17 m, fls. white: 27989*, 29081*, 29259; F 1294*, 1432*; T 148*; Holm-Nielsen 24412*; Nicolalde 370*. "Turo aliso"

3. *Gordonia fruticosa* (Schrad.) H. Keng

El Pahuma, 1800 m; tree 20-25 m, fls. white: Nicolalde 383*.

THEOPHRASTACEAE (1) (* det. B. Stahl)

1. *Clavija* aff. *eggersiana* Mez

Sec. for., 1250-1300 m; unbranched treelet 1-2.5 m: 32741; F 1510; Stahl 4046*.

THYMELAEACEAE (2) (* det. K. Barringer)

Ref.: Nevling, L. I. 1959. Ann. Missouri Bot. Gard. 46: 257-358.

1. *Daphnopsis grandis* Nevling & Barringer

Prim. & sec. for., 1200-1725 m; shrub or tree 3-15 m, fls. pale yellow, frs. white: 31045*, 31054*, 31144*, 31329, 31650, 31689; T 166*. "Sapan"

2. *Schoenobiblus* sp.

Sec. for., 1600 m: T 600 [perhaps confused with *Daphnopsis grandis*].

TILIACEAE (2)

Ref.: Lay, K. K. 1950. Ann. Missouri Bot. Gard. 37: 315-395.

1. *Luehea* sp.

Sec. for., Cerro Santa Lucia, 1600 m; tree 15 m: 30350.

2. *Triumfetta grandiflora* Vahl

Sec. for., 1300-1675 m; shrub or tree to 10 m, corolla yellow: 27718, 28042, 28188, 28700; T 206; Z 40. "Yausa", "Caudillo", "Balsilla"

3. *Triumfetta mollissima* Kunth

1900-2200 m; shrub to 60 cm, corolla pink: Zak & Jaramillo 3255 (det. W. Meijer).

TOVARIACEAE (1)

1. *Tovaria pendula* Ruiz & Pav.

Prim. & sec. for., 1500-2200 m; shrub 1-3 m, infls. pendulous, fls. greenish: 28083, 30210, 31621, 32394, 32750; P 3616; Zak & Jaramillo 3216.

TROPAEOLACEAE (1) (* det. P. M. Jørgensen)

Refs.: Sparre, B. 1973. Fl. Ecuador 2: 1-30; Sparre, B. & L. Andersson. 1991. Opera Bot. 108: 1-139.

1. *Tropaeolum adpressum* Hughes

Prim. & sec. for., 1250-1950 m; vine, calyx scarlet with green tip, petals purple: 27677*, 27734, 28855, 30329, 31580, 31771, 33584; Sparre 19327(?) ("at Alambi").

2. *Tropaeolum* cf. *pubescens* Kunth

Prim. for., 2000-2100 m; vine, calyx orange-red with green tip: 30177, 31535.

3. *Tropaeolum stipulatum* Buchenau

Upper mont. for., 2450 m; vine, calyx pink with yellow-green tip: 29490.

4. *Tropaeolum* sp. 1

Sec. for., 1300-1350 m; vine: 29107.

ULMACEAE (2)

1. *Trema micrantha* (L.) Blume

Sec. for., 1250-2200 m; tree 5-12 m, fls. greenish: 27930, 29258, 29336; G 73192; Z 161; Zak & Jaramillo 3223 (det. R. Liesner). "Sapán", "Chale"

2. *Lozanella permollis* Killip & C. V. Morton

Loma Pahuamba, 2300 m; tree 10 m: F 1449.

URTICACEAE (6)

Refs.: Killip, E. P. 1939. Contr. U. S. Nat. Herb. 26: 475-530; 1960. Ann. Missouri Bot. Gard. 47: 179-198.

1. *Boehmeria aspera* Wedd.
Sec. for., 1200-1600 m; shrub 1-1.5 m: 27295, 32780.
2. *Boehmeria bullata* Kunth
Sec. for., 1850-2000 m; shrub 1-4 m: 30454.
3. *Boehmeria caudata* Sw.
Sec. for., 1250-1700 m; shrub 1-5 m: 27007 (det. R. Liesner), 27243, 32746; N 9784; Z 118.
"Ortiguilla"
4. *Myriocarpa stipitata* Benth.
Rip. & sec. for., 1300-2000 m; shrub 2-3 m, spikes pendent, yellowish: 31745, 31851.
"Ortiguilla macho"
5. *Phenax hirtus* (Sw.) Wedd.
Sec. to upper mont. for., 1200-2700 m; herb or shrub to 2 m: 27895, 28310, 30532(?), 32862.
6. *Phenax laevigatus* Wedd.
Rip. for., 2000 m; shrub 3 m: 31838.
7. *Phenax rugosus* (Poir.) Wedd.
Prim. for., 1800-2600 m: 31219, 32389; C 13095; C. Espinoza 12 (ep.). "Ashpa ortiga"
8. *Pilea* cf. *antioquiensis* Killip
Prim. & sec. for., 1300-2025 m; herb to 0.5 m, fls. pink or reddish: 27188, 27485, 27892, 28071, 29042, 29176, 29211; Z 43.
9. *Pilea* aff. *dauciodora* Wedd. ex Pav.
El Pahuma, 2000 m; urticant herb to 0.15 m, fls. pink: Cedeño 18.
10. *Pilea* cf. *fendleri* Killip
Prim. for., 2000-2350 m; creeping herb: 29453, 31247. [Not in CVPE.]
11. *Pilea* cf. *flexuosa* Wedd.
Muddy banks in rip. for., 2000 m; terr., 0.3 m: 31840.
12. *Pilea* cf. *goudotiana* Wedd.
Prim. & sec. for., 1650-2100 m; ep. or terr., stems pink, fls. greenish: 29212, 31059, 32860.
13. *Pilea hitchcockii* Killip ?
Upper mont. for., 2725 m; ep. vine on log: K 31978; El Pahuma, 2000 m; creeping herb 0.25 m: Delgado 13 (cf.).

14. *Pilea involucrata* (Sims) Urb.
Sec. for., 1250 m; terr., stems reddish, infls. yellow-green, flattened against upper lvs. in one plane: 32905.
15. *Pilea jamesoniana* Wedd.
Upper mont. for., 2700-2750 m; trailing herb or epiphytic vine: 30523; H 29524.
16. *Pilea microphylla* (L.) Liebm.
Banks, sec. & sec. upper mont. for., 1700-2300 m; terr.: K 31961; L 11344.
17. *Pilea myriantha* Killip
Sec. for., 1800-2100 m; stems c. 1 m, lvs. aromatic, fls. red: 32751, 32856.
18. *Pilea pubescens* Liebm.
Sec. for., 1400-1500 m; on mossy banks, fls. greenish: 27204.
19. *Pilea* cf. *puracensis* Killip
Prim. & sec. for., 1500-1750 m; erect, fls. greenish: 27132. [Not in CVPE.]
20. *Pilea* sp. 1
Rip. for., 2000 m; shrub 1.5 m, with viny branches.: 31817.
21. *Pilea* sp. 2
Upper mont. for., 2750-2800 m; erect, stems reddish, lvs. thick & dull reddish beneath: 31523.
22. *Pilea* sp. 3 (aff. *pubescens* Liebm.?)
Sec. for., 1250-1275 m; spreading herb, stems rooting at nodes but becoming erect: 31876.
- [Additional collections of *Pilea* remain unidentified to species.]
23. *Pouzolzia* sp.
5-10 km above Nanegalito, on road from Nono to Pacto, 00° 00' N 78° 40' W, 1700 m; shrub 1 m, infls. greenish: Holm-Nielsen 24438.
24. *Urera baccifera* (L.) Gaudich. ex Wedd.
Prim. & sec. for., 1300-2000 m; urticant shrub 1-1.5 m, infl. axes purplish: 27327, 27400, 27952, 30223; C 5949; G 69938; Z 96; Nicolalde 335, 340 (shrub to 3-5 m). "Ortiga"
25. *Urera caracasana* (Jacq.) Griseb.
Loma Pahuamba, 1750 m; tree 8 m, lvs. urticant: F 1517.
26. *Urera eggersii* Hieron.
El Pahuma, 2000 m; shrub 1.5 m, lvs. urticant, fls. clear pink: Cedeño 35.

VALERIANACEAE (1)

Ref.: Eriksen, B. 1989. Fl. Ecuador 34: 1-59.

1. *Valeriana chaerophylloides* Sm. (= *Astrephia chaerophylloides* (Sm.) DC.)

Sec. for., 1250-1600 m; flaccid herb with white fls.: 27178, 27420, 27931, 32788.
"Huanhuan"

2. *Valeriana clematitidis* Kunth

Prim. for., 21 km west of Calacalí, 2500 m; liana to 2-3 m, fls. white with purple-tipped lobes:
L 13641 (det. B. Eriksen).

3. *Valeriana scandens* L.

Sec. for., El Pacchal, 1300-1500 m; vine with white fls.: 27875, 31886.

VERBENACEAE (7) (* det. R. Liesner)

Ref.: Moldenke, H. N. 1973. Ann. Missouri Bot. Gard. 60: 41-148.

1. *Aegiphila alba* Moldenke

Sec. for., 1200-2000 m; tree 5-15 m, fls. white, fragrant: 28394, 29035, 30519, 32843; N 8642*; Q 81*; T 165*; Z 69, 234. [30519 differs in its more distant lateral veins & conspicuous reticulation, and may not be conspecific.] "Palo blanco", "Jiguerón"

2. *Callicarpa* sp. ?

Sec. for., Cerro Negro, 1500-2000 m; tree 6 m: 28032 [fls. only in bud; perhaps not this genus].

3. *Cornutia microcalycina* Moldenke

Sec. for. along Río Umachaca, 1200-1350 m; tree 12-18 m, corolla purple: 28145, 31169; T 192*; Z 148. [Not in CVPE. Our form best matches var. *pulverulenta* Moldenke (Repert. Sp. Nov. 40: 175. 1936); Ecuadorean plants, including T 192, have been called *C. pyramidata* L., considered by Moldenke to be a Caribbean species; our plants have been collected at higher elevations than species of *Cornutia* elsewhere in Ecuador.]

4. *Duranta repens* L. (s. lat.)

Sec. for., east of Tandayapa, 1700 m; shrub 2 m, branches pendent, frs. yellowish: 32763.

5. *Duranta sprucei* Briq.

Prim. for., 1800-2000 m; shrub, corolla turquoise at base, lobes white tinged with purple: C 7174.

6. *Lantana camara* L.

Sec. for., 1200-1300 m; common shrub 1.5 m, fls. orange & red: 27084; Z 44. "Supirrosa"

7. *Stachytarpheta cayennensis* (Rich.) M. Vahl

Sec. for., 1200-1400 m; common herb with blue fls.: 27427; Z 158; Filskov 37069(?).
"Verbena negra", "Verbena azul"

8. *Verbena litoralis* Kunth

Sec. for., 1200-2000 m; common herb with bluish fls.: 27436, 32846; Z 27; Cedeño 39; Filskov 37007, 37125 (both det. B. Øllgaard). "Verbena"

VIOLACEAE (1)

Ref.: Smith, L. B., & A. Fernández-Pérez. 1954. *Caldasia* 6: 83-181.

1. *Viola scandens* Willd. ex Roem. & Schult.

Prim. for., 2175-2400 m; herb with yellow fls.: 29180, 32811.

[*Viola* sp.1, Nanegalito, gardens & fields, 1400 m; purple fls.: Filskov 37003, 37032. "Violeta"]

VITACEAE (2) (* det. J. A. Lombardi)

Refs.: Elias, T. S. 1968. *Ann. Missouri Bot. Gard.* 55: 81-92; Lombardi, J. A. 1995. *Taxon* 44: 195-206; 1997. *Novon* 7: 182-185. 2000. *Fl. Neotrop. Monogr.* 80:1-250, 2001. *Fl. Ecuador.* 67: 1-36

1. *Cissus alata* Jacq. ?

Upper mont. for., 2750-2800 m; vine with trifoliolate lvs., greenish fls.: 31531 [determination provisional; similar to *C. obliqua*, but stems & lvs. distinctly pubescent].

2. *Cissus anisophylla* Lombardi

Sec. for., 1300-1750 m; vine with coarse, simple lvs., frs. large & brown, often producing pseudofruits due to fungal infection (*Mycosyrinx cissi*): 29118*, 30024*, 30330*, 31728*, 32959*; Z 81, 181. "Escoba de bruja"

3. *Cissus obliqua* Ruiz & Pav. (incl. *Cissus andina* Dugand)

Sec. & rip. for., 1900-2500 m; vine with trifoliolate lvs., greenish fls.: 31537*, 31846*, 32448*, 32813; Mantuano 8; Sparre 17018*. "Mano de sapo"

4. *Cissus verticillata* (L.) Nicolson & C. E. Jarvis

Sec. for., 1200-1750 m; vine with simple lvs., green fls.: 28276*. [Listed in most manuals as *C. sicyoides* L.] "Bejuco de agua"

5. *Vitis tiliifolia* Humb. & Bonpl. ex Roem. & Schult.

Sec. for., 1300-1500 m; common liana: 27884. "Bejuco de agua"

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