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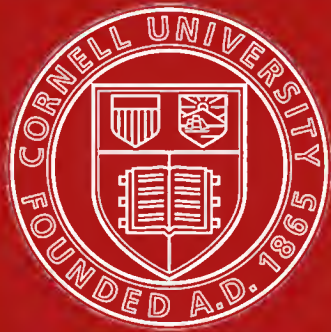
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B I O L O G I A
C E N T R A L I - A M E R I C A N A ;

OR,

CONTRIBUTIONS TO THE KNOWLEDGE
OF THE
F A U N A A N D F L O R A
OF
M E X I C O A N D C E N T R A L A M E R I C A .

EDITED BY

F. DUCANE GODMAN AND OSBERT SALVIN.

B O T A N Y .

V O L . II .

BY

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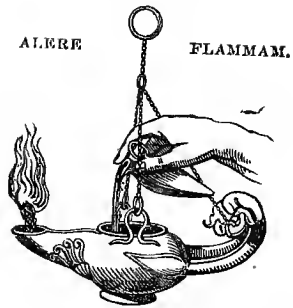
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BIOLOGIA CENTRALI-AMERICANA.

BOTANICA.

PHANEROGAMIA.

DICOTYLEDONES.

GAMOPETALÆ.

Series I. INFERÆ.

Order LXX. CAPRIFOLIACEÆ.

Caprifoliaceæ, Benth. et Hook. Gen. Plant. ii. p. 1.

Thirteen genera, comprising about 200 species, are referred to this order. With few exceptions, they are shrubs or small trees, inhabiting the northern hemisphere. A few occur in Australia and South America; but the order is not known to be represented either in Tropical or South Africa. All the Mexican and Central-American species are shrubby or arboreous.

1. SAMBUCUS.

Sambucus, Linn. Gen. Plant. n. 372; Benth. et Hook. Gen. Plant. ii. p. 3.

A genus of about a dozen species generally dispersed in temperate regions, excluding South Africa, but including mountains in the tropics. The Mexican forms should perhaps be referred to one species.

1. ***Sambucus bipinnata***, Ch. et Schl. in Linnæa, v. p. 171.

SOUTH MEXICO, near Jalapa (*Schiede & Deppe*).

2. ***Sambucus canadensis***, Linn. Sp. Pl. p. 385; Torr. & Gray, Fl. N. Am. ii. p. 13.

CANADA, southward on both sides of the continent.—SOUTH MEXICO, valley of Cordova (*Bourgeau*, 2490 bis)? Hb. Kew.

3. ***Sambucus mexicana***, Presl; DC. Prodr. iv. p. 322.

CALIFORNIA, NEW MEXICO.—NORTH MEXICO, Mabibi, Sonora (*Thurber*); SOUTH MEXICO, valley of Mexico, Desierto Viejo (*Bourgeau*, 1270); region of Orizaba (*Bourgeau*, 2490; *Müller*, 628), Jalapa (*Linden*, 530). Hb. Kew.

S. glauca, Nutt., may be the same species, which would extend its northward range.
BIOL. CENTR.-AMER., Bot. Vol. II., April 1881. b

2. VIBURNUM.

Viburnum, Linn. Gen. Plant. n. 370; Benth. et Hook. Gen. Plant. ii. p. 3.

From eighty to 100 species in the temperate and subtropical regions of the northern hemisphere and the Andes of South America; also represented in the West Indies and Madagascar.

1. ***Viburnum acutifolium***, Benth. Pl. Hartw. p. 59.

Oreiotinus acutifolius, Ærst. in Vidensk. Meddel. 1860, p. 293, t. 6. fig. 25.

SOUTH MEXICO, Cerro Pelado (*Hartweg*), Sempoaltepec, Oaxaca (*Liebmann*), Cordillera of Oaxaca, in pine-forests at 7000 to 9000 feet (*Galeotti*, 3095). Hb. Kew.

√ 2. ***Viburnum costa-ricanum***, Hemsley.

Oreiotinus costa-ricanus, Ærst. in Vidensk. Meddel. 1860, p. 290.

COSTA RICA, Volcan de Irazu, at 9000 feet (*Ærsted*).

3. ***Viburnum densum***, Benth. Pl. Hartw. p. 59; Ærst. in Vidensk. Meddel. 1860, p. 302, t. 6. figg. 26, 27.

SOUTH MEXICO, around Toluca (*Andrieux*, 339, 340), Regla, at 6000 feet (*Galeotti*, 3556), Real del Monte (*Graham*), Chiapas (*Linden*, 567), without locality (*Coulter*, 216). Hb. Kew.

√ 4. ***Viburnum discolor***, Benth. Pl. Hartw. p. 83.

GUATEMALA, mountains of Totonicapan (*Hartweg*). Hb. Kew.

5. ***Viburnum elatum***, Benth. Pl. Hartw. p. 59.

SOUTH MEXICO, Tlalpuxahua (*Graham*). Hb. Kew.

6. ***Viburnum fuscum***, Hemsley.

Oreiotinus fuscus, Ærst. in Vidensk. Meddel. 1860, p. 289.

SOUTH MEXICO, near Santiago, Amatlan, Oaxaca (*Liebmann*), Cordillera of Oaxaca, woods at 5500 feet (*Galeotti*, 2719). Hb. Kew.

√ 7. ***Viburnum glabratum***, H. B. K. Nov. Gen. et Sp. iii. p. 428.

GUATEMALA, Alta Vera Paz, 4400 feet (*Türckheim*).—PERU. Hb. Kew.

8. ***Viburnum hartwegii***, Benth. Pl. Hartw. p. 84.

SOUTH MEXICO, Chiapas (*Ghiesbreght*, 809); GUATEMALA, Mountains of Santa Maria (*Hartweg*). Hb. Kew.

9. ***Viburnum membranaceum***, Hemsley.

Oreiotinus membranaceus, Ærst. Vidensk. Meddel. 1860, p. 284.

SOUTH MEXICO, around Toluca (*Andrieux*, 341), Cuesta de San Juan del Estado, near Oaxaca (*Liebmann*). Hb. Kew.

10. ***Viburnum microcarpum***, Ch. et Schl. in Linnæa, v. p. 170.

Oreiotinus microcarpus, Ærst. in Vidensk. Meddel. 1860, p. 282.

SOUTH MEXICO, San Miguel del Soldado (*Schiede*), Chinantla, Puebla, at 7000 feet (*Liebmann*), Jalapa (*Linden*, 529). Hb. Kew.

11. **Viburnum microphyllum**, Hemsley.

Oreiotinus microphyllus, Ærst. in Vidensk. Meddel. 1860, p. 293.

SOUTH MEXICO, Cuesta de San Pedro Alto, at 8000 feet (*Liebmann*).

12. **Viburnum parviflorum**, Mart. et Gal. in Bull. Acad. Brux. xi. p. 243; Walp. Rep. vi. p. 8.

SOUTH MEXICO, in woods Zacatepec, Pacific coast of Oaxaca (*Galeotti*, 7138), Chiapas (*Ghiesbreght*)? Hb. Kew.

13. **Viburnum rhombifolium**, Hemsley.

Oreiotinus rhombifolius, Ærst. in Vidensk. Meddel. 1860, p. 283.

SOUTH MEXICO, Peak of Orizaba, at 9000 feet (*Galeotti*, 2667), at 9750 feet (*Linden*, 531). Hb. Kew.

↳ 14. **Viburnum stellato-pilosum**, Polak. in Linnæa, xli. p. 564.

COSTA RICA, Volcan de Barba (*Polakowsky*).

↳ 15. **Viburnum stellato-tomentosum**, Hemsley.

Oreiotinus stellato-tomentosus, Ærst. in Vidensk. Meddel. 1860, p. 283, t. 6. figg. 18-20.

COSTA RICA, Irazu, 8000 to 9000 feet (*Ærsted*). Hb. Kew.

16. **Viburnum stellatum**, Hemsley.

Oreiotinus stellatus, Ærst. in Vidensk. Meddel. 1860, p. 292.

SOUTH MEXICO, Orizaba, at 8000 feet (*Liebmann*); COSTA RICA, Irazu, at 9000 feet (*Ærsted*).

17. **Viburnum stenocalyx**, Hemsley.

Oreiotinus stenocalyx, Ærst. in Vidensk. Meddel. 1860, p. 285.

MEXICO (*Ehrenberg*).

18. **Viburnum sulcatum**, Hemsley.

Oreiotinus sulcatus, Ærst. in Vidensk. Meddel. 1860, p. 287.

SOUTH MEXICO, Cerro de Sepaltepec, Oaxaca (*Liebmann*). Hb. Kew.

19. **Viburnum tiliæfolium**, Hemsley.

Oreiotinus tiliæfolius, Ærst. in Vidensk. Meddel. 1860, p. 282, t. 6. figg. 21, 22.

SOUTH MEXICO, Sierra Zongolica (*Botteri*, 983), Mirador and Jalapa (*Sartorius*), Chinantla, at 7000 feet (*Liebmann*). Hb. Kew.

↳ 20. **Viburnum wendlandi**, Hemsley.

Oreiotinus wendlandi, Ærst. in Vidensk. Meddel. 1860, p. 283.

COSTA RICA, without locality (*Wendland*).

3. MICROSPLENIUM.

Microsplenium, Hook. fil. in Benth. et Hook. Gen. Plant. ii. p. 4.

Monotypic as far as known at present.

1. **Microsplenium coulteri**, Hook. fil. in Benth. et Hook. Gen. Plant. ii. p. 4.
SOUTH MEXICO, Zimapan (*Coulter*, 1167), Regla, at 5000 feet (*Galeotti*, 7204). Hb. Kew.

4. SYMPHORICARPUS.

Symphoricarpus, Juss. Gen. Plant. p. 211; Benth. et Hook. Gen. Plant. ii. p. 4; A. Gray, in Journ. Linn. Soc. xiv. p. 9.

A genus of about eight species, confined to North America and Mexico.

1. **Symphoricarpus microphyllus**, H. B. K. Nov. Gen. et Sp. iii. p. 424; Bot. Mag. t. 4975.

Symphoricarpus glaucescens, H. B. K. Nov. Gen. et Sp. p. 424, t. 295.

Symphoricarpus montanus, H. B. K. Nov. et Sp. p. 425, t. 296.

Margaris barbiger, DC. Prodr. iv. p. 483; Calques des Dess. Fl. Mex. 480.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 296); SOUTH MEXICO, Santa Rosa, at 7800 feet, between San Augustin and the city of Mexico at 7000 feet, near Moran at 8000 feet (*Humboldt & Bonpland*), Chiapas (*Ghiesbreght*, 810), Moran and Popocatepetl, 7800 to 8500 feet (*Galeotti*, 2642), without localities (*Graham*, 223; *Coulter*, 905). Hb. Kew.

2. **Symphoricarpus rotundifolius**, A. Gray, Pl. Wright. ii. p. 66?

UTAH southward to NEW MEXICO.—SOUTH MEXICO, Zimapan (*Coulter*, 904). Hb. Kew.

5. ABELIA.

Abelia, R. Br. in Abel's Chin., App. p. 376, cum icone; Benth. et Hook. Gen. Plant. ii. p. 4.

About half a dozen species, inhabiting the Himalayas, China, Japan, and Mexico.

1. **Abelia coriacea**, Hemsley, Diag. Pl. Nov. pars 3, p. 53. (Tab. XXXVI. figg. 1-5.)

Glabra vel glabrescens, foliis confertis petiolatis parvis coriaceis ovato-ellipticis obtusis scabridis, venis utrinque immersis, floribus brevissime pedunculatis axillaribus solitariis vel 2-3 cymosis infrapollinaribus, calycis hirsuti lobis lanceolato-oblongis obtusiusculis, corollæ hirsutæ tubo curvo.

Frutex sempervirens, præter flores fere glaber vel glabrescens, ramis teretibus, junioribus tantum puberulis, dense foliosis. *Folia* opposita, breviter petiolata, coriacea, ovato-elliptica vel interdum fere oblonga, 6-10 lin. longa, obtusa, margine setulosa, supra scabrida, utrinque nitida, costa supra canaliculata, subtus elevata, venis utrinque immersis, petiolo brevi, crasso. *Flores* axillares, solitarii vel 2-3 cymosi, basi bibracteati, subsessiles, 9-12 lin. longi, bracteis subulatis ovario appressis; calyx rigide hirsutus, lobis lanceolato-oblongis, quam corolla subtriplo brevi-

oribus; corollæ puberulæ tubus curvus, limbi lobi rotundati; stamina 4, breviter exserta, antheræ magnæ; ovarium pentagonum, triloculare, loculis duobus pluriovulatis, loculo tertio uniovulato; stylus glaber, exsertus, stigmatibus capitato. *Fructus* puberulus, pisiformis.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 299; *Schaffner*, 32). Hb. Kew.

EXPLANATION OF TAB. XXXVI. FIGS. 1-5.

Fig. 1, flowering branch, nat. size; 2, a flower; 3, a corolla laid open; 4, cross section of an ovary,—all enlarged; 5, a fruit, nat. size.

2. **Abelia floribunda**, Dcne. in *Flore des Serres*, ii. t. 5; *Bot. Mag.* t. 4316.

Vesalea floribunda, Mart. et Gal. in *Bull. Acad. Brux.* xi. 1, p. 242.

SOUTH MEXICO, Peak of Orizaba, at 10,000 feet (*Galeotti*, 2640, 2641), at 9570 feet (*Linden*, 630), Sierra San Pedro Nolasco (*Jurgensen*, 816). Hb. Kew.

3. **Abelia speciosa**, Dcne. in *Flore des Serres*, ii. (Jan. 1846) sub tab. 5.

Abelia hirsuta, Walp. *Rep.* vi. p. 3.

Vesalea hirsuta, Mart. et Gal. in *Bull. Acad. Brux.* xi. 1, p. 242.

SOUTH MEXICO, Cerro de San Felipe, near Oaxaca, at 7500 to 9000 feet (*Galeotti*, 2640).

Probably the same as *A. floribunda*, but the number quoted by Martens and Galeotti for that species is 2640 bis.

6. LONICERA.

Lonicera, Linn. *Gen. Plant.* n. 233; Benth. et Hook. *Gen. Plant.* ii. p. 5.

About eighty species, widely dispersed in the temperate and subtropical regions of the northern hemisphere.

1. **Lonicera dumosa**, A. Gray, *Pl. Wright.* ii. p. 66.

NEW MEXICO.—NORTH MEXICO, Sonora (*Smith*).

2. **Lonicera gibbosa**, Willd. in *Schult. Syst.* v. p. 257.

Xylosteum mexicanum, H. B. K. *Nov. Gen. et Sp.* iii. p. 426, t. 297.

SOUTH MEXICO, woods near Real del Monte, 8600 feet (*Humboldt & Bonpland*).

3. **Lonicera moçiniana**, DC. *Prodr.* iv. p. 336; *Calques des Dess. Fl. Mex.* 446.

MEXICO (*Moçino & Sessé*).

4. **Lonicera pilosa**, Willd. ex H. B. K. *Nov. Gen. et Sp.* iii. p. 427.

Lonicera tubulosa, Benth. *Pl. Hartw.* p. 37.

Caprifolium pilosum, H. B. K. *Nov. Gen. et Sp.* iii. p. 427, t. 298.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 297), Sierra Madre (*Seemann*, 2064)?; SOUTH MEXICO, around Toluca (*Andrieux*, 338), Chiapas (*Ghiesbreght*, 699), Velasco (*Hartweg*), without locality (*Coulter*, 902). Hb. Kew.

Order LXXI. RUBIACEÆ.

Rubiaceæ, Benth. et Hook. Gen. Plant. ii. p. 7.

This order includes upwards of 4000 species, belonging to about 340 genera ; and it is dispersed throughout the world except in the coldest regions.

[BERGHESIA, Nees in Linnæa, xx. p. 701 ; Benth. et Hook. Gen. Plant. ii. p. 39.

Berghesia coccinea, Nees in Linnæa, xx. p. 702.

MEXICO (*De Berghes*). A doubtful plant.]

Tribe I. NAUCLEÆ.

Nauclea, Benth. et Hook. Gen. Plant. pp. 8, 9.

Eight genera are referred to this tribe ; and their species are dispersed nearly all over the warmer regions.

1. CEPHALANTHUS.

Cephalanthus, Linn. Gen. Plant. n. 113 ; Benth. et Hook. Gen. Plant. ii. p. 30.

There are six shrubby species, natives of Tropical Asia, Tropical and Temperate America ; and one occurs in Extratropical South Africa.

1. **Cephalanthus occidentalis**, Linn. Sp. Pl. p. 138 ; Barton, Fl. iii. t. 91.

EASTERN STATES of North America to CALIFORNIA.—Also in MEXICO, according to Gray in ‘Botany of California.’

2. **Cephalanthus salicifolius**, Humb. et Bonpl. Pl. Æquin. ii. p. 63, t. 98.

SOUTH MEXICO, near Acapulco (*Humboldt & Bonpland*), Morelia, at 3600 feet (*Galeotti*, 2593), Puebla (*Andrieux*, 331), Sierra San Pedro Nolasco (*Jurgensen*, 160). Hb. Kew.

2. UNCARIA.

Uncaria, Schreb. Gen. Plant. i. p. 125 ; Benth. et Hook. Gen. Plant. ii. p. 31.

Ouroparia, Aubl. Pl. Gui. i. p. 177, t. 68.

About thirty species are known ; with the exception of the following and one African species they are natives of Tropical Asia. They are climbing shrubs.

✓ 1. **Uncaria tomentosa**, DC. Prodr. iv. p. 349.

Nauclea tomentosa, Willd. in Rœm. et Schult. Syst. v. p. 221 ; Karst. Fl. Colomb. ii. t. 180. figg. ii. et 13.

Nauclea aculeata, H. B. K. Nov. Gen. et Sp. iii. p. 382.

NICARAGUA, Chontales (*Tate*, 387).—COLOMBIA, GUIANA, and TRINIDAD. Hb. Kew.

Tribe II. CINCHONEÆ.

Cinchoneæ, Benth. et Hook. Gen. Plant. ii. pp. 8, 10.

There are thirty-six genera in this tribe, which is represented in nearly all tropical countries except Australia, but by far most numerous in Tropical South America.

3. MACROCNEMUM.

Macrocnemum, P. Br. Hist. Jam. p. 165 ; Benth. et Hook. Gen. Plant. ii. p. 35.

Lasionema, Don in Trans. Linn. Soc. xvii. p. 141.

About ten shrubby and arboreous species, inhabiting Tropical America and the West Indies.

✓ 1. **Macrocnemum exsertum**, Ærst. in Vidensk. Meddel. 1852, p. 23.

COSTA RICA (*Ersted*).

✓ 2. **Macrocnemum glabrescens**, Wedd. in Ann. Sc. Nat. sér. 4, i. p. 76.

Lasionema glabrescens, Benth. Bot. Voy. 'Sulphur,' p. 105.

COSTA RICA, Nicoya (*Hinds*); PANAMA, common about Lion-Hill railway-station (*S. Hayes*), river Chagres (*Seemann*).—COLOMBIA. Hb. Kew.

4. BOUVARDIA.

Bouvardia, Salisb. Parad. Lond. t. 88 ; Benth. et Hook. Gen. Plant. ii. p. 36.

Herbs and shrubs, inhabiting Mexico, Guatemala, and Colombia, and most numerous in the first country. The genus probably comprises about thirty species ; but, as it is greatly in need of revision, the number is uncertain.

1. **Bouvardia angustifolia**, H. B. K. Nov. Gen. et Sp. iii. p. 384 ; Schl. in Linnæa, xxvi. p. 60.

SOUTH MEXICO, near San Augustin de las Cuevas and Moran, at 6600 to 7800 feet (*Humboldt & Bonpland*), Misteca Alta and Sierra de Yavesia, near Oaxaca, at 5500 to 7500 feet (*Galeotti*, 2650 *c*). Hb. Kew.

2. **Bouvardia bicolor**, Kze. in Linnæa, xx. p. 24 ; Schl. in Linnæa, xxvi. p. 63.

MEXICO.

3. **Bouvardia cavanillesii**, DC. Prodr. iv. p. 366.

Bouvardia multiflora, Schl. in Linnæa, xxvi. p. 86.

SOUTH MEXICO, mountains of Juquila (*Hartweg*), Cumbre de Estepa (*Liebmann*). Hb. Kew.

4. **Bouvardia chlorantha**, Bertol. ex Schl. in Linnæa, xxvi. p. 64.

Houstonia chlorantha, Bertol. Elench. p. 5.

MEXICO.

5. **Bouvardia chrysantha**, Mart. Delect. Sem. Hort. Monac. 1848, p. 4, adnot., ex Schl. in Linnæa, xxvi. p. 65.

SOUTH MEXICO, near Santiaguillo (*Karwinski*).

6. **Bouvardia cordifolia**, DC. Prodr. iv. p. 366; Calques des Dess. Fl. Mex. 487.

SOUTH MEXICO (*Moçino et Sessé*), near Morelia de Michoacan, at 6500 feet (*Galeotti*, 2584).

✓ 7. **Bouvardia corymbosa**, Ærst. in Vidensk. Meddel. 1852, p. 25.

NICARAGUA, Segovia (*Ærsted*). Hb. Kew.

B. crocata is, according to Schlechtendal (Linnæa, xxvi. p. 67), only a catalogue name.

8. **Bouvardia flava**, Dcne. in Flore des Serres, i. p. 215; Bot. Reg. 1846; t. 32; Schl. in Linnæa, xxvi. p. 68.

MEXICO (*Ghiesbreght*).

9. **Bouvardia glaberrima**, Engelm. Bot. Wisliz. Exped. p. 22; Schl. in Linnæa, xxvi. p. 71.

NORTH MEXICO, Cosiquiriachi (*Wislizenus*).

10. **Bouvardia glabra**, Polak. in Linnæa, xli. p. 565.

COSTA RICA, San José (*Polakowsky*).

11. **Bouvardia hirtella**, H. B. K. Nov. Gen. et Sp. iii. p. 384; Schl. in Linnæa, xxvi. p. 72.

NEW MEXICO.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 298); SOUTH MEXICO, near the city of Mexico, at 7000 feet (*Humboldt & Bonpland*), Jalapa (*Coulter*, 206), Zacuapan and Misteca Alta, at 7500 feet (*Galeotti*, 2621), region of Orizaba (*Bourgeau*, 2803; *Botteri*, 923), Chinantla (*Liebmann*), Leon (*Hartweg*). Hb. Kew.

12. **Bouvardia houtteana**, Schl. in Flore des Serres, x. t. 1024.

MEXICO.

13. **Bouvardia hypoleuca**, Benth. Pl. Hartw. p. 288; Schl. in Linnæa, xxvi. p. 75.

NORTH MEXICO, Sierra Madre (*Seemann*); SOUTH MEXICO, Aguas Calientes (*Hartweg*), without locality (*Bates*). Hb. Kew.

14. **Bouvardia lævis**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 236.

SOUTH MEXICO, Zacuapan, at 3000 feet (*Galeotti*, 2600; *Linden*, 1257 bis). Hb. Kew.

✓ 15. **Bouvardia leiantha**, Benth. Pl. Hartw. p. 85; Schl. in Linnæa, xxvi. p. 78.
SOUTH MEXICO, Chiapas (*Ghiesbreght*); GUATEMALA, Chimaltemango (*Hartweg*),
Dueñas (*Fraser*), Llano de Jocotenango (*Bernoulli*), Volcan de Fuego, 4950 feet
(*Salvin*). Hb. Kew.

16. **Bouvardia linearis**, H. B. K. Nov. Gen. et Sp. iii. p. 383; Schl. in Linnæa,
xxvi. p. 79.

SOUTH MEXICO, near San Augustin de las Cuevas, at 6600 to 7800 feet (*Humboldt & Bonpland*), Bolaños (*Hartweg*), Tepic (*Sinclair*). Hb. Kew.

17. **Bouvardia microphylla**, Schl. in Linnæa, xxvi. p. 112.
SOUTH MEXICO (*Schiede*).

18. **Bouvardia mollis**, Linden ex Schl. in Linnæa, xxvi. p. 85.
MEXICO.

19. **Bouvardia myrtifolia**, Schl. in Linnæa, xxvi. p. 121.
SOUTH MEXICO, near the Hacienda de Cocoyotla (*Schiede*).

20. **Bouvardia obovata**, H. B. K. Nov. Gen. et Sp. iii. p. 385; Schl. in Linnæa,
xxvi. p. 89.

SOUTH MEXICO, between Chapultepec and Tezcucuo, at 7200 feet (*Humboldt & Bonpland*).

21. **Bouvardia ovata**, A. Gray, Pl. Wright. ii. p. 67.
NORTH MEXICO, Sonora (*Wright*).

22. **Bouvardia quaternifolia**, DC. Prodr. iv. p. 365; Schl. in Linnæa, xxvi. p. 90.
NORTH MEXICO, Camp Bowie, S. Arizona (*Rothrock*); SOUTH MEXICO, around the city
of Mexico (*Alaman*), near Morelia, at 7500 feet (*Galeotti*, 2597), Orizaba (*Botteri*, 604),
without localities (*Bates*, *Sallé*). Hb. Kew.

23. **Bouvardia rosea**, Schl. in Linnæa, xxvi. p. 116.
SOUTH MEXICO, San José del Oro (*Schiede*).

24. **Bouvardia scabra**, Hook. et Arn. Bot. Beech. Voy. p. 427.
Bouvardia obovata, Benth. Pl. Hartw. p. 16, nec H. B. K.
SOUTH MEXICO, Bolaños (*Hartweg*), Tepic (*Sinclair*). Hb. Kew.

25. **Bouvardia scabrida**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 237.
SOUTH MEXICO, Cordillera of Oaxaca, in woods at 6000 to 7000 feet (*Galeotti*, 2624).
Hb. Kew.

26. **Bouvardia schiedeana**, Schl. in Linnæa, xxvi. p. 123.
SOUTH MEXICO, Barranca de Tioselo (*Schiede*).

27. **Bouvardia tenuiflora**, Schl. in Linnæa, xxvi. p. 97.
MEXICO.

28. **Bouvardia toluhana**, Hook. et Arn. Bot. Beech. Voy. p. 427, in adnot.

SOUTH MEXICO, around Toluca (*Andrieux*, 332), here and there around Mexico (*Schaffner*). Hb. Kew.

29. **Bouvardia triphylla**, Salisb. Parad. Lond. t. 88.

Bouvardia jacquini, H. B. K. Nov. Gen. et Sp. iii. p. 385.

Bouvardia ternifolia, Schl. in Linnæa, xxvi. p. 98.

Bouvardia coccinea, Link, Enum. i. p. 139.

Bouvardia splendens, Grah. in Bot. Mag. t. 3781.

Ixora ternifolia, Cav. Ic. iv. p. 3, t. 305.

Ixora americana, Jacq. Hort. Schœnb. iii. p. 4, t. 257.

Houstonia coccinea, Andrews, Bot. Rep. t. 106.

NORTH MEXICO, near Monterey (*Eaton & Edwards*), Sonora (*Wright*); SOUTH MEXICO, near the city of Mexico, at 7000 feet (*Humboldt & Bonpland*), valley of Mexico (*Bourgeau*, 99), Oaxaca (*Ghiesbreght*), Real del Monte (*Coulter*, 205), near Jalapa (*Linden*, 505), at 4000 feet (*Galeotti*, 2620). Hb. Kew.

30. **Bouvardia versicolor**, Ker, Bot. Reg. t. 245; Schl. in Linnæa, xxvi. p. 109.

SOUTH MEXICO, near San Francisco, Tetecala (*Schiede*).

31. **Bouvardia viminalis**, Schl. in Linnæa, xxvi. p. 120.

SOUTH MEXICO (*Schiede*).

32. **Bouvardia viperalis**, Schl. in Linnæa, xxvi. p. 114.

SOUTH MEXICO, near Tenancingo (*Schiede*).

33. **Bouvardia xylosteoides**, Hook. et Arn. Bot. Beech. Voy. p. 428, in adnot.

SOUTH MEXICO, near Oaxaca (*Andrieux*, 333). Hb. Kew.

5. MANETTIA.

Manettia, Mutis in Linn. Mant. p. 558; Benth. et Hook. Gen. Plant. ii. p. 37.

About thirty species of herbs and twining shrubs, limited to Tropical and Subtropical South America, Central America, and Mexico.

✓ 1. **Manettia barbata**, Ærst. in Vidensk. Meddel. 1852, p. 25.

COSTA RICA, Aguacate (*Ærsted*), without locality (*Endres*, 1)? Hb. Kew.

✓ 2. **Manettia cuspidata**, Bertol. in Spreng. Syst. i. p. 415; DC. Prodr. iv. p. 363.

SOUTH MEXICO, Teapa, banks of the Rio Puyapatengo (*Linden*); NICARAGUA, Chontales (*Seemann*, 115; *Tate*, 196); COSTA RICA, Aguacate (*Ærsted*), without locality (*Endres*, 2); PANAMA, Chagres (*Fendler*, 238), Empire railway-station (*S. Hayes*).—WEST INDIES. Hb. Kew.

3. **Manettia hirtella**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 238.

SOUTH MEXICO, Tonaguia, eastern Cordillera of Oaxaca, 4000 to 5000 feet (*Galeotti*, 2635).

- ✓ 4. **Manettia panamenis**, Duch. et Walp. in Linnæa, xxiii. p. 753.

PANAMA (*Duchassaing*).

5. **Manettia reclinata**, Linn. Mant. p. 553; DC. Prodr. iv. p. 362.

MEXICO.

6. **Manettia zimapanica**, Hemsley, Diag. Pl. Nov. pars altera, p. 30.

Ramis gracilibus teretibus, junioribus puberulis, foliis breviter petiolatis ovato-lanceolatis acuminatis acutis sparse puberulis glabrescentibus venis lateralibus apicem versus excurrentibus, pedunculis terminalibus 3-5-floris, floribus pedicellatis, calycis lobis elongatis lineari-sulcatis obscure serrulatis, corolla tubulosa.

Frutex erectus?, ramis teretibus, gracilibus, junioribus puberulis. *Folia* breviter petiolata, submembranacea, ovato-lanceolata, 2½-4-pollicaria, longe acuminata, acuta, subtus præcipue puberula, demum glabrescentia, venis lateralibus conspicuis, apicem versus excurrentibus, petiolo 1-2 lin. longo; stipulæ latæ, breves, persistentes. *Flores* corymbosi, glabri, pedicellati; corymbi terminales, 3-5-flori, breviter pedunculati, pedicellis gracilibus, 5-9 lin. longis; bracteæ minutæ, subulatæ; calycis lobi lineares, subulati, 6-8 lin. longi, tubo brevi, hemisphærico; corollæ tubus fere rectus sesquipollicaris, limbus lobis ovato-oblongis, obtusis, 2-3 lin. longis; stamina breviter exserta; ovarium multiovulatum, placentis erectis.

MEXICO, Zimapan (*Coulter*, 203). Hb. Kew.

- ✓ 7. **Manettia**, sp.

GUATEMALA (*Friedrichsthal*). Hb. Kew.

6. ALSEIS.

Alseis, Schott in Spreng. Syst. Cur. Post. p. 404; Benth. et Hook. Gen. Plant. ii. p. 38.

Two South-American species besides *A. blackiana*.

- ✓ 1. **Alseis blackiana**, Hemsley, Diag. Pl. Nov. pars alt. p. 30. (Tab. XXXVII.)

Glabrescens, ramis teretibus, foliis leviter puberulis et subtus in axillis venarum barbatis obovato-oblongis utrinque attenuatis obtusiusculis, floribus hermaphroditis dimorphis supremis staminibus inclusis, calyce subinæqualiter 5-dentato, dentibus triangularibus acutis vel obtusiusculis, corolla glabrescente breviter 5-dentata, dentibus rotundatis, filamentis basi ad medium squamuloso-barbatis, ovario puberulo multiovulato.

Arbor 40-50-pedalis, ramis teretibus, glabris. *Folia* petiolata, fere membranacea, obovato-oblonga, suprema 3-4-pollicaria, utrinque attenuata, obtusiuscula, sparse puberula, et subtus in axillis venarum lateralium parallelarum conspicuarum barbata, petiolo semipollicari; stipulæ lanceolato-subulatæ, 4-5 lin. longæ, cito deciduæ. *Flores* hermaphroditi, bracteati; bracteæ subulatæ, deciduæ; calyx subinæqualiter 5-dentatus, dentibus triangularibus, acutis vel obtusiusculis; corolla glabrescens, breviter 5-dentata, dentibus rotundatis; stamina florum inferiorum longe exserta, superiorum inclusa; filamenta sursum usque ad medium squamuloso-barbata; antheræ dorso affixæ; ovarium puberulum, multiovulatum.

PANAMA, in dense woods (*Hayes*, 665). Hb. Kew.

EXPLANATION OF TAB. XXXVII.

Fig. 1, a flower from the lower part of the inflorescence; 2, the same laid open, showing the hairy filaments; 3, ovary and calyx; 4, a flower from the upper part of the inflorescence; 5, a section of an ovary showing the pendulous placentas. All enlarged.

7. CALYCOPHYLLUM.

Calycophyllum, DC. Prodr. iv. p. 367 (excl. sp. 2 et 3); Benth. et Hook. Gen. Plant. ii. p. 38.

Two or three arboreous species inhabiting Tropical America, from Mexico to the Amazons river.

√ 1. **Calycophyllum candidissimum**, DC. Prodr. iv. p. 367.

Macrocnemum candidissimum, Vahl, Symb. ii. p. 38, t. 30.

SOUTH MEXICO, Chacalapa Estata (*Liebmann*); SAN SALVADOR, Conchagua (*Hinds*); HONDURAS, Gulf of Fonseca (*Sinclair*); NICARAGUA (*Ersted*); PANAMA, Paraiso railway-station (*S. Hayes*, 441).—COLOMBIA, GUIANA, CUBA. Hb. Kew.

8. RAVNIA.

Ravnia, Ærst. in Vidensk. Meddel. 1852, p. 49; Benth. et Hook. Gen. Plant. ii. p. 40.

Limited to the following species, which is an epiphytal shrub.

√ 1. **Ravnia triflora**, Ærst. in Vidensk. Meddel. 1852, p. 49.

COSTA RICA, Candelaria, at 7000 to 8000 feet (*Ersted*). Hb. Kew.

9. COSMIBUENA.

Cosmibuena, Ruiz et Pav. Fl. Peruv. iii. p. 3, t. 226; Benth. et Hook. Gen. Plant. ii. p. 40.

A Tropical-American genus of about six shrubby species.

√ 1. **Cosmibuena macrocarpa**, Kl. ex Walp. Rep. vi. p. 69.

Buena macrocarpa, Benth. Bot. Voy. 'Sulphur,' p. 104, t. 38.

PANAMA, Aspinwall (*S. Hayes*, 371), Chagres (*Fendler*, 296).—COLOMBIA. Hb. Kew.

√ 2. **Cosmibuena skinneri**, Hemsley.

Buena skinneri, Ærst. in Vidensk. Meddel. 1852, p. 26.

NICARAGUA, Volcan de Masaya (*Ersted*). Hb. Kew.

This species differs from all the others in the calyx-tube being truncate and entire or very minutely toothed.

10. COUTAREA.

Coutarea, Aubl. Pl. Gui. i. p. 314, t. 122; Benth. et Hook. Gen. Plant. ii. p. 42.

Six shrubby and arboreous species, all restricted to Tropical America.

1. **Coutarea flavescens**, DC. Prodr. iv. p. 350; Calques des Dess. Fl. Mex. 459. SOUTH MEXICO (*Moçino & Sessé*).

2. **Coutarea latiflora**, DC. Prodr. iv. p. 350; Calques des Dess. Fl. Mex. 458. SOUTH MEXICO (*Moçino & Sessé*), Puebla (*Andrieux*, 337)? Hb. Kew.

3. **Coutarea mexicana**, Zucc. et Mart. ex DC. Prodr. iv. p. 350.

MEXICO.

This is probably the *Portlandia mexicana* described below.√4. **Coutarea speciosa**, Aubl. Pl. Gui. i. p. 314, t. 122.PANAMA, on the beach near Panama (*S. Hayes*, 181).—COLOMBIA; VENEZEALA; TRINIDAD; GUIANA; BRAZIL. Hb. Kew.5. **Coutarea**, sp.SOUTH MEXICO, Vera Cruz (*Gouin*), Yucatan (*Linden*, 1263 bis). Hb. Kew.Both of these specimens may belong to the widely dispersed *C. speciosa*.

11. EXOSTEMMA.

Exostemma, Rich. in Humb. et Bonpl. Pl. Æquin. i. p. 131, t. 38 (*Exostema*); Benth. et Hook. Gen. Plant. ii. p. 42.

Shrubs or small trees. About twenty species, chiefly concentrated in the West Indies, but extending from Florida and Mexico southward.

√1. **Exostemma canescens**, Bartl. ex DC. Prodr. iv. p. 359.MEXICO; GUATEMALA (*Skinner*)? Hb. Kew.√2. **Exostemma caribæum**, Rœm. et Schult. Syst. v. p. 18.*Cinchona caribæa*, Jacq. Amer. t. 179. fig. 65; Obs. ii. t. 17.FLORIDA.—SOUTH MEXICO, Zimapan (*Coulter*, 224); NICARAGUA, west side (*Ersted*).—And common in the WEST INDIES. Hb. Kew.3. **Exostemma coulteri**, Hook. fil. in Hemsl. Diag. Pl. Nov. pars altera, p. 32.

Glabrum, ramis gracilibus teretibus, foliis confertis coriaceis nitidis ovato-oblongis acuminatis basi cuneatis, floribus parvis cymoso-corymbosis brevissime pedicellatis, cymis paucifloris terminalibus, calycis dentibus subulatis persistentibus, corolla fere cylindrica brevissime lobata, lobis rotundatis vix patentibus, staminibus inclusis, capsula oblonga dentibus calycinis coronata, seminibus utrinque alatis.

Frutex glaberrimus, ramis gracilibus, dense foliatis. *Folia* petiolata, coriacea, nitida, ovato-oblonga, 2–2½-pollicaria, acuminata, acutiuscula, basi cuneata, petiolo gracili, circiter 3 lin. longo; stipulæ subulatæ, deciduæ. *Flores* parvi, brevissime pedicellati, cymoso-corymbosi, bracteati; corymbi pauciflori, folia vix æquantes, terminales; bracteæ minutissimæ; calycis dentes subulati, persistentes; corolla fere cylindrica, 6–8 lin. longa, brevissime lobata, lobis rotundatis, erectis vel vix patentibus; stamina inclusa. *Capsula* oblonga, 2–3 lin. longa, calycis dentibus coronata, seminibus utrinque alatis.MEXICO, Zimapan (*Coulter*, 209). Hb. Kew.

Easily distinguished from all previously described species by its shortly lobed corolla and included stamens.

√4. **Exostemma longicuspe**, Ersted in Vidensk. Meddel. 1852, p. 26.COSTA RICA, near Puntarenas (*Ersted*). Hb. Kew.

5. **Exostemma mexicanum**, A. Gray, in Proc. Am. Acad. v. p. 180.

SOUTH MEXICO, near Tantoyuca, Huasteca (*Ervendberg*, 125), Sierra San Pedro Nolasco (*Jurgensen*, 517). Hb. Kew.

Tribe III. HENRIQUEZIEÆ.

Henriqueziea, Benth. et Hook. Gen. Plant. ii. pp. 8, 12.

A South-American tribe of two genera and five species, extending from North Brazil to Venezuela, but not hitherto found within the limits of our flora.

Tribe IV. CONDAMINEÆ.

Condaminea, Benth. et Hook. Gen. Plant. ii. pp. 8, 12.

Nine genera are referred to this tribe, seven of which are American, and two peculiar to the Pacific and Molucca Islands.

12. CONDAMINEA.

Condaminea, DC. Prodr. iv. p. 402; Benth. et Hook. Gen. Plant. ii. p. 44.

Five or six species of small trees or shrubs, inhabiting western Tropical America, from Bolivia to Panama.

√ 1. **Condaminea corymbosa**, DC. Prodr. iv. p. 402.

Macrocnemum corymbosum, Ruiz et Pav. Fl. Peruv. ii. p. 48, t. 189.

PANAMA, Veraguas (*Hinds*), Boquete (*Seemann*, 1593).—Southward to BOLIVIA. Hb. Kew.

13. RUSTIA.

Rustia, Kl. in Hayne Arzneigew. xiv. sub tab. 15; Benth. et Hook. Gen. Plant. ii. p. 45 (*Tresanthera* et *Henlea*, Karst. Fl. Colomb. i. p. 37, t. 19, et p. 157, t. 78).

A wholly New-World genus of six or seven arboreous species, extending from Guatemala to Brazil.

1. **Rustia occidentalis**, Hemsley.

Exostemma occidentale, Benth. Bot. Voy. 'Sulphur,' p. 104.

GUATEMALA (*Friedrichsthal*); PANAMA, Chagres (*Fendler*, 289).—COLOMBIA. Hb. Kew.
The Panama specimens differ from the others in having much smaller leaves.

14. PORTLANDIA.

Portlandia, P. Br. Hist. Jam. p. 164, t. 11; Benth. et Hook. Gen. Plant. ii. p. 45.

About eight shrubby and small arboreous species, inhabiting the West Indies and Mexico.

1. **Portlandia mexicana**, Hemsley, Diag. Pl. Nov. pars altera, p. 31.

Glaberrima, ramis teretibus vel obsolete angulatis, foliis confertis crasse coriaceis nitidis oblongis,

floribus amplis axillaribus solitariis breviter pedunculatis, calycis lobis lineari-oblongis acutiusculis persistentibus, corolla late infundibuliformi, lobis triangulari-rotundatis, staminibus inclusis, capsula turbinata, seminibus numerosissimis minute granulatis.

Frutex glaberrimus, ramis teretibus vel obsolete angulatis. *Folia* petiolata, crasse coriacea, nitida, oblonga, 2–3-pollicaria, mucronata, margine recurva, petiolo crasso circiter $1\frac{1}{2}$ –2 lin. longo; stipulæ triangulares, subulatæ. *Flores* solitarii, axillares, pedunculati, pedunculis 4–6 lin. longis, basi bibracteatis; bracteæ minutæ, persistentes; calycis lobi lineari-oblongi, 4–6 lin. longi, acutiusculi, persistentes; corolla late infundibuliformis, $2\frac{1}{2}$ –3-pollicaris, intus basi hirsuta, lobi triangulati, rotundati; stamina inclusa; filamenta filiformia; antheræ angustæ, æquilongæ. *Capsula* turbinata, circiter 9 lin. longa, lobis calycinis coronata; semina numerosissima, minuta, granulata.—*Coutarea mexicana*, Zucc. et Mart. in DC. Prod. iv. p. 350?

SOUTH MEXICO, Zimapan (*Coulter*, 225). Hb. Kew.

There is little doubt that this is the *Coutarea mexicana* of the 'Prodromus;' but the description there given is too meagre to decide the question.

15. POGONOPUS.

Pogonopus, Kl. in Monatsber. Akad. Wiss. Berlin, 1853, p. 500; Benth. et Hook. Gen. Plant. ii. p. 47.

Howardia, Wedd. in Ann. Sc. Nat. sér. 4, i. p. 66, t. 10.

About six shrubby and arboreous species, restricted to Tropical America.

✓ 1. ***Pogonopus exsertus***, Ærst. Act. Soc. Hist. Nat. Havn. 1852, p. 45; L'Amér. Centr. p. 17, t. 13.

Howardia caracasensis, Wedd. in Ann. Sc. Nat. sér. 4, i. p. 71, t. 10. figg. 4–7; Bot. Mag. t. 5110.

Calycophyllum tubulosum, Seem. Bot. Voy. 'Herald,' p. 135, nec DC.

COSTA RICA (*Ærsted*); PANAMA, Mamei railway-station (*S. Hayes*, 164).—VENEZUELA; COLOMBIA. Hb. Kew.

Tribe V. RONDELETIÆ.

Rondeletia, Benth. et Hook. Gen. Plant. ii. pp. 8, 12.

There are sixteen genera of this tribe, all American except one (Madagascar), and all except two limited to America.

16. WARSCEWICZIA.

Warscewiczia, Kl. in Monatsber. Akad. Wiss. Berlin, 1853, p. 496; Benth. et Hook. Gen. Plant. ii. p. 48.

Three or four shrubby or small arboreous species, confined to Tropical America.

✓ 1. ***Warscewiczia coccinea***, Kl. in Monatsber. Akad. Wiss. Berlin, 1853, p. 496.

Calycophyllum coccineum, DC. Prodr. iv. p. 367.

Macrocnemum coccineum, Vahl, Symb. ii. p. 38, t. 29.

PANAMA, Falls of the Obispo (*S. Hayes*, 102; *Salvin*).—COLOMBIA; PERU; TRINIDAD. Hb. Kew.

√ 2. **Warscewiczia pulcherrima**, Kl. in Monatsber. Akad. Wiss. Berlin, 1853, p. 496.

PANAMA, Chiriqui (*Warscewicz*). Hb. Kew.

This does not appear to differ specifically from *W. coccinea*.

17. RONDELETIA.

Rondeletia, Linn. Gen. Plant. n. 224; Benth. et Hook. Gen. Plant. ii. p. 48.

Lightfootia, Schreb. Gen. Plant. p. 122.

Willdenovia, Gmel. Syst. ii. p. 362.

Arachnimorpha, Desv. in Ham. Prodr. Fl. Ind. Occ. p. 28.

Stevensia, Poit. in Ann. Mus. Par. iv. p. 235, t. 60.

Arachnothryx, Planch. in Flore des Serres, v. sub tab. 442.

Rogiera, Planch. in Flore des Serres, v. t. 442.

A genus of sixty or seventy species of shrubs and trees, confined to Tropical America and the West Indies, but most numerous in Mexico, Central America, and Colombia. We give descriptions of all the Mexican and Central-American species known up to the present time.

√ 1. **Rondeletia affinis**, Hemsley, Diag. Pl. Nov. pars altera, p. 28.

Foliis lanceolato-oblongis utrinque valde attenuatis discoloribus subtus cano-pubescentibus, floribus parvis tetrameris pubescentibus cymoso-confertis sessilibus vel brevissime pedicellatis, cymis breviter pedunculatis in paniculas spiciformes dispositis, calycis lobis oblongis obtusis inæqualibus reflexis, corollæ tubo brevi superne paulo dilatato, lobis rotundatis undulatis, ore nudo, ovario lanato, capsula glabra parva oblonga, seminibus minutis numerosissimis.

Frutex, ramis obscure quadrangulatis, junioribus cano- vel rufo-pubescentibus. *Folia* petiolata, lanceolato-oblonga, $2\frac{1}{2}$ –5-pollicaria, utrinque attenuata, acuta, discoloria, supra parce pilosula, dense reticulato-venosa, subtus cano-lanata, nervis lateralibus prominentibus, petiolo $1\frac{1}{2}$ –3 lin. longo; stipulæ 2–3 lin. longæ. *Flores* tetrameri, cano-pubescentes, cymoso-conferti, sessiles vel brevissime pedicellati, cymis sæpissime 6–12-floris, breviter pedunculatis, in paniculas angustas spiciformes terminales et laterales dispositis; calycis lobi oblongi, obtusi, inæquales, circiter $\frac{1}{2}$ lin. longi, reflexi; corollæ tubus 2–3 lin. longus, gracilis, sursum leviter et sensim ampliatus, intus basi hirsutus, limbus lobis circiter lineam longis, rotundatis, undulatis, os nudum; ovarium lanatum. *Capsula* oblonga, $1\frac{1}{2}$ lin. longa, seminibus numerosissimis, minutis, punctulatis.

MEXICO, Chiapas (*Ghiesbreght*, 686), Sierra de Zongolica (*Botteri*, 1017); COSTA RICA (*Endres*, 226); PANAMA, Boquete (*Seemann*, 1594). Hb. Kew.

This species is allied to *R. laniflora* and *R. villosa*, differing in its smaller flowers &c. Both long- and short-styled forms exist. The specimens from Costa Rica and Veraguas have leaves twice the size of the Mexican.

√ 2. **Rondeletia amœna**, Hemsley, Diag. Pl. Nov. pars altera, p. 26.

Ramis teretibus superioribus compressis crassiusculis foliisque plus minusve hirsutis, foliis amplis ovato-ellipticis, stipulis maximis, floribus pentameris pubescentibus cymoso-corymbosis, calycis

lobis obovato-oblongis inæqualibus, corollæ tubo circiter 6 lin. longo superne paulum dilatato, lobis rotundatis, ore villosa, capsula hirsuta, seminibus alatis.

Frutex pluripedalis, ramis teretibus vel compressis, crassiusculis, foliisque plus minusve villosa-hirsutis. *Folia* petiolata vel fere sessilia, ovato-elliptica, 4-6-pollicaria, acute acuminata, basi rotundata, supra glabrescentia, subtus dense hirsuta, petiolo 1-3 lin. longo; stipulæ ex oblongis usque ad late ovato-ellipticas, 6-8 lineas longæ. *Flores* pentameri, hirsuti, cymosocorymbosi, breviter pedicellati; corymbi ampli, terminales, trichotomi; bracteæ minutæ; calycis lobi inæquales, oblongo-obovati; corollæ tubus 5-8 lin. longus, superne paulum dilatatus, intus villosus, limbus lobis rotundis, patentibus, quam tubus dimidio brevioribus, os villosum. *Capsula* didymo-globosa, 3 lin. diametro, hirsuta, lobis calycinis coronata; semina pauca, compressa, testa irregulariter alata.—*Rogiera amæna*, Planch. in Fl. des Serres, v. (1849), p. et t. 442; *Rogiera menechma*, Planch. loc. cit.; Paxt. Fl. Gard. ii. p. 41, cum ic. xylogr.; *Rondeletia versicolor*, Hook. Bot. Mag. t. 4579; *Rogiera versicolor*, Lem. Jard.-Fleur. ii. t. 112; *Rogiera latifolia*, Ærst. in Vidensk. Meddel. 1852, p. 21; *Rogiera rugosa*, Benth. loc. cit.; *Rogiera latifolia*, Dcne. in Rev. Hort. 1853, p. 121, t. 7; *Rondeletia macrophylla* hort.

NICARAGUA, Segovia (Ærsted, 76); COSTA RICA, Cartago (Ærsted, 61); PANAMA, Boquete (Seemann, 1182; Bridges). Hb. Kew.

There are both long- and short-styled flowers.

3. *Rondeletia buddleoides*, Benth. (Char. reform.)

Ramis teretibus gracilibus glabris, foliis lanceolatis acuminatis acutis discoloribus supra nitidis subtus albo-tomentosis, floribus parvis tetrameris plus minusve albo-tomentosis sessilibus cymoso-paniculatis, paniculis angustis thyrsoidis terminalibus, calycis lobis parvis inæqualibus lineari-oblongis obtusis, corollæ tubo gracili circiter 3 lin. longo, lobis rotundatis, ore nudo, capsula subglobosa vix 2 lin. diametro.

Frutex 4-5-pedalis, ramis teretibus, gracilibus, cito glabris. *Folia* petiolata, subcoriacea, lanceolata, 3-4-pollicaria, longe acuminata, acuta, margine revoluta, discoloria, supra glaberrima, nitida, subtus albo-tomentosa, petiolo gracili, 2-3 lin. longo; stipulæ ovato-lanceolatae. *Flores* tetrameris, sessiles, cymoso-paniculati; paniculæ angustæ, thyrsoidæ, terminales, 3-4-pollicares; calycis lanati lobi lineari-oblongi, obtusi, circiter semilineam longi, reflexi; corollæ tubus plus minusve tomentosus, tenuis, cylindricus, 3-4 lin. longus, intus hirsutus, limbus lobis rotundatis, os nudum. *Capsula* parva, globosa.—Benth. Pl. Hartw. p. 69. *Arachnothryx buddleoides*, Planch. in Fl. des Serres, v. p. 442.

SOUTH MEXICO, Llano Verde (Hartweg). Hb. Kew.

4. *Rondeletia capitellata*, Hemsley, Diag. Pl. Nov. pars altera, p. 28.

Strigilloso-pilosa, ramis teretibus vel infra nodos tetragonis, foliis membranaceis lanceolato-oblongis utrinque attenuatis nervis lateralibus subtus conspicuis, floribus parvis tetrameris subsessilibus sæpe capitellatis, capitellis breviter pedunculatis in paniculas angustas terminales dispositis, calycis lobis ovato-oblongis obtusis reflexis, corollæ tubo gracili 3-4 lin. longo, lobis rotundatis undulatis, ore nudo.

Frutex, ramis teretibus vel infra nodos tetragonis, junioribus cinereo-strigillosis. *Folia* petiolata, submembranacea, lanceolato-oblonga, 3-5-pollicaria, utrinque attenuata, acuta, præcipue subtus strigilloso-pilosa, et nervis lateralibus conspicuis, petiolo 2-4 lin. longo; stipulæ lanceolato-subulatae, 3-4 lin. longæ. *Flores* tetrameris, plus minusve cinereo-strigillosi, subsessiles, sæpe capitellati, capitellis breviter pedunculatis; calycis lobi ovato-oblongi, obtusi, $\frac{1}{2}$ - $\frac{3}{4}$ lin. longi, reflexi; corollæ tubus gracilis, cylindricus, 3-4 lin. longus, limbus lobis rotundatis, undulatis, os nudum. *Capsula* ignota.

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SOUTH MEXICO, Sierra de San Pedro Nolasco (*Jurgensen*, 355, 376), Joya, Oaxaca (*Liebmann*, 202). Hb. Kew.

√ 5. **Rondeletia cordata**, Benth. (Char. reform.)

Glabrescens, ramis teretibus vel inflorescentiæ ramulis quadrangulatis, foliis subsessilibus subcoriaceis amplis cordato-oblongis vel cordato-ovatis acuminatis, stipulis foliaceis, floribus pentameris obscure puberulis cymoso-corymbosis pedicellatis, corymbis terminalibus pyramidatis, calycis lobis parvis triangularibus obtusissimis, corollæ tubo 3-5 lin. longo crassiusculo intus hirsuto, lobis rotundatis farinaceis, ore villosobarbato.

Frutex 4-8-pedalis (*Hartweg*), *arbor* formosa (*Salvin*), ramis teretibus vel supremis quadrangulatis. *Folia* subsessilia, cordato-ovata vel cordato-oblonga, 4-8-pollicaria, acuminata, obtusa, subcoriacea, primo parce puberula, dein glabra, petiolo brevissimo, crasso; stipulæ foliaceæ, circiter 6 lin. longæ, reflexæ. *Flores* roseo-albi, pentameri, plus minusve puberuli, cymoso-corymbosi, breviter pedicellati, corymbis terminalibus, pyramidatis; calycis viridis lobi subinæquales, triangulari-rotundati, circiter $\frac{1}{4}$ lin. longi; corollæ tubus crassiusculus, 3-5 lin. longus, superne leviter dilatatus, intus hirsutus, limbus lobis parvis, rotundatis, farinaceis, os villosobarbatum. *Capsula* globosa, $1\frac{1}{2}$ lin. diametro.—*Rondeletia cordata*, Benth. Pl. Hartw. p. 85; *Rogiæra cordata*, Planch. in Fl. des Serres, série 1, v. p. 442 a, viii. t. 754.

GUATEMALA, declivities near the city of Guatemala (*Hartweg*), Volcan de Fuego, 6500 feet (*Salvin*). Hb. Kew.

The flowers of this species are dimorphic in the relative length of the style and stamens.

6. **Rondeletia dubia**, Hemsley, Diag. Pl. Nov. pars altera, p. 28.

Ramis supremis subtetragonis, foliis petiolatis ovatis junioribus supra dense pubescentibus subtus saltem junioribus albo-lanatis, floribus lanatis tetrameris dense cymoso-corymbosis, corymbis interdum capituliformibus, calycis lobis lineari-lanceolatis acutis vel obtusis tubo longioribus, corollæ tubo cylindrico vel sursum leviter dilatato, lobis oblongo-rotundatis undulatis, ore nudo.

Frutex plus minusve lanatus, ramis supremis subtetragonis. *Folia* breviter petiolata, ovata, circiter bipollicaria, acuminata, acuta, discoloria, supra pubescentia, subtus, saltem juniora, albo-lanata, petiolo $1\frac{1}{2}$ -3 lin. longo; stipulæ subscariosæ, lanceolato-subulatæ, 4-5 lin. longæ. *Flores* lanati, tetrameri, breviter pedicellati, dense cymoso-corymbosi; corymbi bracteati, interdum capituliformes; calycis lobi lineari-lanceolati, obtusi vel acuti, $1\frac{1}{2}$ -2 lin. longi; corollæ tubus cylindricus vel sursum leviter dilatatus, 4-6 lin. longus, extus lanatus, intus puberulus, limbus lobis oblongo-rotundatis, undulatis, os nudum; ovarium dense lanatum, multiovulatum.—*Bouvardia discolor*, Hook. et Arn. Bot. Beech. Voy. p. 428.

NORTH MEXICO, Sierra Madre (*Seemann*, 2057); SOUTH MEXICO, between Tehuantepec and Boca del Monte (*Andrieux*, 334). Hb. Kew.

This is closely allied to *R. leucophylla*, of which some botanists might consider it a variety; but it differs in its stouter branches, relatively broad leaves much more hairy above, and in the shorter more densely woolly flowers.

7. **Rondeletia elongata**, Bartl.

“Foliis elliptico-oblongis utrinque acuminatis, supra pubescentibus, subtus albido-tomentosis demum calvescentibus, stipulis lanceolatis petiolos æquantibus, paniculis terminalibus longe pedunculatis, floribus congestis, lobis calycinis linearibus tubo corollino triplo brevioribus.

Media fere inter *R. pubescentem* et *leucophyllum*."—DC. *Prodr.* iv. p. 409. *Arachnothryx elongata*, Planch. in Fl. des Serres, v. p. 442.

SOUTH MEXICO, Acapulco (*Hænke*).

8. **Rondeletia gracilis**, Hemsley, *Diag. Pl. Nov. pars tertia*, p. 53.

Glabrescens, ramulis gracilibus, foliis membranaceis graciliter petiolatis oblongo-lanceolatis utrinque attenuatis fere omnino glabris, floribus parvis tetrameris parce arachnoideo-pubescentibus subsessilibus capitellatis, capitellis breviter pedunculatis in racemos terminales dispositis, calycis lobis lineari-lanceolatis inæqualibus, corollæ lobis undulatis, ore nudo, capsula minus lineam diametro.

Frutex, ramulis gracilibus, teretibus, cito glabrescentibus. *Folia* membranacea, graciliter petiolata, oblongo-lanceolata, 4–6-pollicaria, utrinque attenuata, apice obtusiuscula, supra glaberrima, nitida, subtus cito glabrescentia et demum glaberrima, venis lateralibus distantibus, latiusculis, prominulis; petiolus circiter semipollicaris; stipulæ e basi latiore acuminatæ, acutæ, $1\frac{1}{2}$ –2 lineas longæ. *Flores* parvi (4–5 lineas longi), parce arachnoideo-pubescentes, tetrameri, subsessiles, capitellati; capitella 2–6-flora, breviter pedunculata, in racemos terminales 4–6 poll. longes disposita; calycis lobi parvi, lineari-lanceolati, inæquales; corollæ tubus gracilis, lobi breves, rotundati, undulati, os nudum. *Capsula* minus quam lineam diametro; semina non visa.

GUATEMALA, Alta Vera Paz, 3600 feet (*Türckheim*, 404). Hb. Kew.

9. **Rondeletia gratissima**, Hemsley, *Diag. Pl. Nov. pars altera*, p. 25.

Glabrescens, ramis teretibus crassiusculis, foliis valde coriaceis oblongo-ellipticis breviter acuminatis mucronulatis, floribus leviter puberulis pentameris pedicellatis cymoso-corymbosis, corymbis amplis terminalibus hemisphæricis, calycis lobis minutis inæqualibus, corollæ tubo fere cylindrico intus hirsuto, lobis parvis rotundatis planis farinaceis, ore dense villosobarbato.

Frutex, præter flores, glaber ("glabrescens, ramulis tantum inflorescentiæ, ramis petiolis floribusque puberulis," *Planchon*, loc. inf. cit.). *Folia* petiolata, oblongo-elliptica, 2–2½-pollicaria, mucronulata, basi rotundata, valde coriacea, opaca, glabra, petiolo crasso, circiter 2 lin. longo; stipulæ triangulari-subulatae, 2–3 lin. longæ. *Flores* roseo-albi, intus flavi, pentameri, extus leviter puberuli, pedicellati, cymoso-corymbosi; corymbi terminales, densi, hemisphærici, 2–4 poll. diametro, bracteis minutissimis suffulti; calycis rubescentis lobi inæquales, minus quam $\frac{1}{2}$ lin. longi; corollæ tubus gracilis, fere cylindricus, circiter 6 lin. longus, extus puberulus, intus hirsutus, limbus lobis rotundatis, 1 lin. diametro, farinaceis, os dense barbato-villosum; ovarium $\frac{1}{2}$ lin. diametro, ovulis numerosissimis.—*Rogiera gratissima*, Planch. in Fl. des Serres, t. 1570, 1571; *R. elegantissima*, Regel, *Gartenflora*, t. 490.

SOUTH MEXICO, Chiapas (*Ghiesbreght*).

Our description was drawn up from a cultivated specimen, in which the styles were less than half the length of the tube of the corolla, and the stamens inserted near the mouth.

10. **Rondeletia intermedia**, Hemsley, *Diag. Pl. Nov. pars altera*, p. 26.

Foliis glabrescentibus breviter petiolatis ovato-ellipticis acuminatis obtusis vel subacutis, stipulis amplis reflexis, floribus pentameris cano-pubescentibus laxè cymoso-corymbosis breviter pedicellatis, calycis lobis ovato-oblongis subacutis, corollæ tubo subcylindrico intus squamuloso-villoso, lobis rotundatis, ore squamuloso-villoso.

Frutex, ramis teretibus aut supremis quadrangulatis et puberulis. *Folia* breviter petiolata, ovato-elliptica vel fere rotundata, 3–4-pollicaria, obtusa vel subacuta, basi rotundata vel leviter

cordata, vix coriacea, juniora tamen puberula, petiolo 1–2 lin. longo; stipulæ oblongæ, obtusæ, 3–4 lin. longæ, reflexæ. Flores roseo-albi, pentameri, cano-pubescentes, laxè cymoso-corymbosi, breviter pedicellati; corymbi terminales, trichotomi; calycis lobi ovato-oblongi, subacuti, colorati (ut videtur), subinæquales, $\frac{1}{2}$ –1 lin. longi; corollæ tubus subcylindricus, 4–5 lin. longus, intus squamuloso-villosus, limbus lobis rotundatis, os villososquamulosum; ovarium circiter 1 lin. diametro, multiovulatum.

SOUTH MEXICO, Chiapas (*Linden*, 1659 & 1661), Sierra de San Pedro Nolasco (*Jurgensen*, 798). Hb. Kew.

Intermediate between *R. cordata* and *R. amoena*, and also having dimorphic flowers.

11. **Rondeletia jurgensenii**, Hemsley, Diag. Pl. Nov. pars altera, p. 29.

Foliis petiolatis membranaceis ovato-lanceolatis acuminatis glabris ad apices ramulorum confertis, floribus glabris tetrameris cymosis, cymis axillaribus et terminalibus paucifloris, calycis lobis linearibus obtusis, corollæ tubo gracili sursum leviter ampliato intus puberulo, lobis rotundatis undulatis, ore nudo.

Frutex glaber, ramis teretibus. *Folia* ad apices ramulorum conferta, petiolata, membranacea, ovato-lanceolata, 2–2 $\frac{1}{2}$ -pollicaria, acuminata, acuta, basi cuneata, petiolo 2–3 lin. longo; stipulæ parvæ, deciduæ. Flores glabri, tetrameri, pedicellati, cymosi; cymæ axillares vel terminales, paucifloræ, 1 $\frac{1}{2}$ –2-pollicares; calycis lobi lineares, obtusi, 1 lin. longi; corollæ tubus gracilis, sursum leviter ampliatus, 6–8 lin. longus, intus puberulus, limbus lobis rotundatis, undulatis, os nudum; ovula numerosissima. *Capsula* valvæ demum usque ad basin fissæ, ita ut 4-valvis evadit; semina?

SOUTH MEXICO, Sierra de San Pedro Nolasco (*Jurgensen*, 248). Hb. Kew.

12. **Rondeletia laniflora**, Benth. (Char. reform.)

Foliis amplis lanceolato-oblongis ellipticisve utrinque attenuatis supra glabris subtus incanis, floribus tetrameris extus arachnoideo-pubescentibus anguste cymoso-paniculatis brevissime pedicellatis, calycis lobis brevibus valde inæqualibus, corollæ tubo angusto superne paullo dilatato, lobis brevibus suborbicularibus undulatis, ore nudo, capsula hirsuta oblonga, seminibus numerosissimis angulatis punctulatis.

Frutex 8–10-pedalis, ramis teretibus, junioribus incanis. *Folia* petiolata, lanceolato-oblonga vel elliptica, 4–7-pollicaria, utrinque acuminata, acuta vel obtusa, discoloria, supra cito glabrescentia, subtus cano vel fulvo arachnoideo-lanata, petiolo 3–6 lin. longo; stipulæ ovato-lanceolatæ, 2–4 lin. longæ, valde acuminatæ. Flores tetrameri, extus arachnoideo-pubescentes, cymoso-paniculati, conferti, brevissime pedicellati; paniculæ terminales vel laterales, 4–8-pollicares; cymæ pedunculatæ, multifloræ; bractæ minutæ; calycis lobi inæquales, 1–2 $\frac{1}{2}$ lin. longi, persistentes; corollæ tubus fere cylindricus, vel sursum leviter et sensim ampliatus, gracilis, circiter 6 lin. longus, limbus lobis brevibus, suborbicularibus, valde undulatis, os nudum. *Capsula* hirsuta, oblonga, compressa, 3 lin. longa, calycis lobis coronata; semina numerosissima, parva, irregulariter cubica, scrobiculata.—*Benth. Pl. Hartw.* p. 85. *Arachnothryx laniflora*, Planch. in *Fl. des Serres*, v. p. 442.

SOUTH MEXICO, Orizaba (*Bourgeau*, 2618), Sierra de San Pedro Nolasco (*Jurgensen*, 918), Orizaba (*Botteri*, 1016, 1071); GUATEMALA, Sierra de Las Nubes (*Hartweg*). Hb. Kew.

The Mexican specimens we have referred to this species have broader leaves than the type, and rather smaller flowers with long styles, the original specimens having short styles.

13. **Rondeletia leucophylla**, H. B. K. (Char. reform.)

Ramis teretibus gracilibus, foliis membranaceis lineari-lanceolatis acutis discoloribus subtus canolanatis, floribus tetrameris lanatis breviter pedicellatis dense cymoso-corymbosis, corymbis terminalibus axillaribusve pedunculatis sæpe capitiformibus, calycis lobis lineari-lanceolatis acutis, corollæ tubo gracili cylindrico, lobis rotundatis planis, ore nudo.

Frutex plus minusve lanatus, ramis teretibus, gracilibus. *Folia* breviter petiolata, membranacea, lineari-lanceolata, 2-3-pollicaria, utrinque attenuata, acuta, discoloria, supra pilosula, subtus albo-lanata, petiolo circiter 1 lin. longo; stipulæ lanceolato-subulatæ, 3-4 lin. longæ. *Flores* lanati, tetrameri, breviter pedicellati, dense cymoso-corymbosi; corymbi terminales vel axillares, pedunculati, sæpe capitiformes; calycis lobi lineari-lanceolati, circiter 2 lin. longi, acuti, erecti; corollæ tubus gracilis, cylindricus, 6-8 lin. longus, extus albo-lanceolatus, intus puberulus, limbus lobis rotundatis, planis, os nudum; ovarium lanatum, multiovulatum. "Capsula subglobosa, calyce coronata, albo-tomentosa, magnitudine baccæ Piperis nigri, loculicido-bivalva; semina creberrima, minutissima, subrotunda, ovata aut angulata, fuscescentia, reticulato-scabriuscula."—H. B. K. *Nov. Gen. et Sp.* iii. p. 395, t. 290. *Arachnothryx leucophylla*, Planch. in *Fl. des Serres*, v. p. 442.

SOUTH MEXICO, between Alto del Peregrino and the Rio Papagallo (*Humboldt & Bonpland*), Guatulco (*Liebmann*, 30), Sierra de San Pedro Nolasco (*Jurgensen*, 149). Hb. Kew.

14. **Rondeletia ligustroides**, Hemsley, *Diag. Pl. Nov. pars altera*, p. 26.

Ramis elongatis gracillimis, foliis petiolatis ovato-lanceolatis oblongisve insigniter acuminatis obtusis vel acutis, floribus parvis extus sæpissime omnino glabris (sed calyce interdum puberula) pentameris trichotomo-cymosis pedicellatis, cymis parvis ramulis fere filiformibus, calyce parvo minute 5-dentato, corollæ tubo cylindrico circiter 3-4 lin. longo, lobis brevibus rotundatis, ore flavo-villoso, capsula globosa parva, seminibus lenticularibus punctatis.

Frutex omnino glaberrimus, vel floribus interdum leviter puberulis, ramis elongatis, gracillimis. *Folia* petiolata, ovato-lanceolata vel oblonga, insigniter acuminata, obtusa vel acuta, 2-4-pollicaria, chartacea, subtus in axillis venarum leviter barbata, petiolo gracili 2-4 lin. longo; stipulæ parvæ, triangulari-acutæ. *Flores* (rosei?) pentameri, extus sæpissime glaberrimi, pedicellati, trichotomo-cymosi; cymæ parvæ, terminales vel laterales, ramulis fere filiformibus; bractæ minutissimæ; calyx interdum puberulus, vix 1 lin. longus, brevissime 5-dentatus, dentibus æqualibus, triangularibus; corollæ tubus cylindricus, 3-4 lin. longus, intus pubescens, limbus lobis parvis, rotundatis, os valde barbato-villosum, flavum. *Capsula* globosa, 1½ lin. diametro, glabra vel interdum leviter puberula; semina numerosissima, lenticularia, punctata.

SOUTH MEXICO, Orizaba (*Botteri*, 474, 971, 951; *Müller*, 969, 1308; *Bourgeau*, 2622, 2518). Hb. Kew.

A very distinct species in its slender branches, glabrous acuminate leaves, and small flowers.

✓ 15. **Rondeletia linguiformis**, Hemsley, *Diag. Pl. Nov. pars altera*, p. 29.

Ramis glaberrimis teretibus, foliis glaberrimis ovato-oblongis acuminatis, stipulis amplis linguiformibus, floribus sericeis tetrameris numerosissimis dense hemisphærico-corymbosis subsessilibus, calycis lobis inæqualibus, corollæ lobis subquadratis farinosis, ore nec villosa nec annulosa, capsula globosa polysperma, seminibus angulatis.

Frutex, ramis teretibus, glaberrimis. *Folia* glaberrima, petiolata, elliptico-oblonga, 3-4-pollicaria,

acuminata, obtusa vel acutiuscula, basi attenuata, petiolo 2–4 lin. longo; stipulæ 3–6 lin. longæ, obovato-spathulatæ, mucronatæ. *Flores* sericei, mediocres, numerosissimi, corymbosi, subsessiles; corymbi terminales, densi, ampli, subhemisphærici; bracteæ et bracteolæ lineares; calycis lobi inæquales, oblongo-obovati, $\frac{1}{4}$ – $\frac{1}{2}$ lin. longi; corollæ tubus circiter 4 lin. longus, sursum leviter et sensim ampliatus, extus pubescens, intus glaber, limbus lobis patentibus, circiter 2 lin. longis, subquadrato-oblongis, obtusis, supra farinosis, os nudum; ovarium sericeum. *Capsula* subglobosa, ad 3 lin. diametro, polysperma; semina irregulariter angulata, reticulato-tuberculata.

GUATEMALA (*Skinner*). Hb. Kew.

We have seen only one specimen of this, in which the style is about half as long as the corolla-tube, and the stamens are inserted just within the throat.

✓ 16. **Rondeletia nicaraguensis**, *Erst.*

“*Ramis* teretibus puberulis, foliis brevissime petiolatis oblongis coriaceis supra hirsutiusculis violaceo-viridibus subtus villosiusculis pallidis, cymis lateralibus parvis contractis, calycis laciniis tubo longioribus acutiusculis, corollæ pentameræ villosissimæ tubo supra medium ampliato. Folia 2 poll. longa, $1\frac{1}{2}$ poll. lata, petiolis 2–3-linearibus, nervis primariis distinctis parallelis, secundariis vix ullis. Stipulæ 3–4 lin. longæ acuminatæ hirsutæ. Corollæ 5 lin. longæ.”—*Ersted in Vidensk. Meddel.* 1852, p. 21.

NICARAGUA, Segovia (*Ersted*); PANAMA (*Hænke*).

We have not seen any specimens of this species.

17. **Rondeletia nitida**, *Hemsley*, *Diag. Pl. Nov. pars altera*, p. 29.

Ramis gracilibus, foliis discoloribus subtus incanis supra nitidis lanceolatis, stipulis ovato-lanceolatis longe acuminatis, floribus cymoso-paniculatis cano-ramentaceis tetrameris, paniculis paucifloris, calycis lobis inæqualibus orbiculari-oblongis, corollæ tubo cylindrico, lobis orbicularibus undulatis, ore nudo.

Frutex, ramis teretibus, gracilibus, glabris. *Folia* petiolata, anguste lanceolata, 2–4-pollicaria, utrinque valde acuminata, vix acuta, margine recurva, discoloria, supra nitida, infra inter nervos secundarios distantes incana, petiolo 2–3 lin. longo; stipulæ ovato-lanceolatæ, acuminatæ, ad 2 lin. longæ. *Flores* (rosei, *Linden*) cano-ramentacei, mediocres, cymoso-paniculati, breviter pedicellati; paniculæ terminales, paucifloræ, bracteis linearibus obtusis munitæ; calycis lobi inæquales, orbiculari-oblongi, $\frac{1}{4}$ – $\frac{3}{4}$ lin. longi; corollæ tubus cylindricus, circiter 6 lin. longus, intus basin versus sparse pilosulus, limbus lobis patentibus, orbicularibus undulatis, os nudum; ovarium parvum, subglobosum; ovula numerosissima.

SOUTH MEXICO, Chiapas (*Linden*, 1660; *Ghiesbreght*, 728). Hb. Kew.

The flowers are dimorphic, those of *Linden*'s specimen having a style as long as the tube of the corolla and the stamens attached about halfway down; whilst in *Ghiesbreght*'s specimen the style is less than half the length of the tube and the stamens are attached near its summit. Both forms appear to be fertile; but there are no mature seed-vessels.

[18. **Rondeletia odorata**, *Jacq.* *Amer.* p. 59, t. 42.

R. speciosa, *Lodd. Bot. Cab.* t. 1893, is a native of Cuba, and also of Mexico, according to *DC. Prodr.* iv. p. 408; but we have only seen Cuban specimens.]

✓ 19. **Rondeletia panamensis**, DC. (Char. reform.)

Ramis teretibus junioribus villosis, foliis amplis ovato-oblongis ovato-lanceolatisve sparse puberulis minute reticulato-venosis, floribus pentameris villosis breviter pedicellatis trichotomo-cymosis, calycis lobis ovato-lanceolatis acutis, corollæ tubo cylindrico, lobis orbicularibus, ore annulo cincto, capsula villosa lobis calycinis coronata, seminibus numerosis alatis.

Frutex 12–15-pedalis (*S. Hayes*), ramis crassiusculis, junioribus tamen villosis. *Folia* petiolata, subcoriacea, ovato-lanceolata vel ovato-oblonga, sæpe 3–5-pollicaria, interdum longiora, utrinque attenuata, obtusiuscula, juniora puberula, sed cito glabra, minute insigniterque reticulato-venosa, petiolo 2–3 lin. longo; stipulæ triangulares, acutæ, 2–3 lin. longæ, patentes, persistentes. *Flores* villosi, pentameri, breviter pedicellati, cymoso-aggregati; cymæ densæ, trichotomæ, bracteis amplis munitæ; calycis lobi lanceolati, acuti, 2–3 lin. longi; corollæ tubus sursum leviter dilatatus, 5–6 lin. longus, crassiusculus, extus villosus, intus glaber, limbus lobis orbicularibus planis, glabris, os annulo cinctum. *Capsula* villosa, subglobosa, circiter 3 lin. diametro, calycis lobis coronata; semina numerosa, alata.—*DC. Prodr.* iv. p. 408.

PANAMA (*S. Hayes*, 183), Darien (*Seemann*). Hb. Kew.

Seemann (*Bot. Voy. 'Herald,'* p. 136) reduces *R. eriantha*, Benth., to this; but it differs widely in the venation of the leaves, in the calyx-lobes, seeds, &c.

✓ 20. **Rondeletia roezlii**, Hemsley.

“Foliis oblongis (1–4 poll. longis) acuminatis chartaceis (haud crassis); laciniis calycinis lanceolato-linearibus acutiusculis tubo sesquolongioribus; corollæ tubo sursum leviter et sensim ampliato; filamentis supra tubi corollini medium insertis, quam antheræ e fauce semiexsertæ paululum longioribus; polline flavescenti-albido; stylo dimidium tubi parum superante; divisuris stigmaticis linearibus.”—*Rogiera roezlii*, Planch. in *Fl. des Serres*, v. p. 442. *R. elegans*, Planch. l. c. “Foliis et inflorescentia *R. roezlii*; divisuris calycinis tubo brevioribus; filamentis medio tubi corollini insertis; stylo exserto; divisuris stigmaticis linearibus.”

GUATEMALA.

21. **Rondeletia scabra**, Hemsley, *Diag. Pl. Nov. pars altera*, p. 29.

Ramis teretibus junioribus hispido-pilosis, foliis ovato-oblongis utrinque attenuatis acutis supra scabridis subtus præcipue in nervis lateralibus prominentibus hispido-pilosis, floribus tetrameris strigillosis breviter pedicellatis in cymas breviter pedunculatas subtrifloras dispositis, calycis laciniis lanceolato-subulatis corollæ æquilongis, corollæ tubo cylindrico, lobis rotundatis undulatis, ore nudo.

Frutex vel *arbor*, ramis teretibus, junioribus hispido-pilosis. *Folia* petiolata, subcoriacea, ovato-oblonga, 3–4-pollicaria, utrinque attenuata, acuta, supra scabrida, subtus præcipue in nervis lateralibus conspicuis piloso-hispida, petiolo 3–6 lin. longo; stipulæ lanceolato-subulatæ, 3–4 lin. longæ. *Flores* tetrameri, strigillosi, breviter pedicellati, in cymas breviter pedunculatas subtrifloras dispositi; calycis lobi lanceolato-subulati, circiter 6 lin. longi, extus intusque strigillosi; corollæ tubus cylindricus, extus strigilloso-pilosus, intus puberulus, 6 lin. longus, limbus lobis rotundatis, undulatis, os nudum; ovarium multiovulatum. *Capsula* a nobis ignota.

SOUTH MEXICO, Sierra de San Pedro Nolasco &c. (*Jurgensen*, 926). Hb. Kew.

This is near *R. pilosa*, differing in its shortly pedunculate cymes &c.

22. *Rondeletia stenosphon*, Hemsley, Diag. Pl. Nov. pars altera, p. 26.

Ramis quadrangulatis junioribus parce strigulosis, foliis amplis coriaceis late ovato-ellipticis subtus præcipue secus costam strigulosis, stipulis lanceolatis acuminatis, floribus pentameris cano-vel fulvo-pubescentibus laxè cymoso-corymbosis brevissime pedicellatis, calycis lobis minutis inæqualibus, corollæ tubo fere filiformi, lobis brevibus oblongis, ore valde squamuloso-villoso.

Frutex vel *arbor*, ramis quadrangulatis, junioribus strigulosis. *Folia* petiolata, coriacea, late ovato-elliptica, circiter 5-pollicaria (inferiora fortasse grandiora), suprema multo minora, obtusiuscula, concoloria, infra secus costam strigulosa, cæterum glabra, petiolo 3-6 lin. longo; stipulæ lanceolatae, longè acuminatæ. *Flores* pentameri, cano-vel cymoso-corymbosi, fulvo-pubescentes, laxè brevissime pedicellati; corymbi terminales, ternatim ramosi; bracteæ minutissimæ; calycis lobi minuti, inæquales; corollæ tubus filiformis, 4-5 lin. longus, intus squamuloso-villosus, limbus lobis parvis, oblongis, os valde squamuloso-villosum; ovarium globosum, $\frac{1}{2}$ lin. diametro. *Capsula* ignota.

SOUTH MEXICO, Yucatan and Tabasco (*Johnson*). Hb. Kew.

The only specimen we have seen has an exerted style, and the stamens nearly reach the mouth of the tube of the corolla.

✓ 23. *Rondeletia strigosa*, Hemsley.

Ramis teretibus rigidis corrugatis trichotomis, foliis subsessilibus ternatim verticillatis lanceolato-ovatis valde acuminatis acutis strigillosis, floribus pentameris paucis ad apices ramulorum congestis, calycis lobis lineari-lanceolatis acutis quam tubus corollinus dimidio brevioribus, corollæ tubo leviter strigilloso fere cylindrico, lobis obovato-spathulatis, ore flavo-villoso, capsula globosa ad 3 lin. diametro.

Frutex, ramis rigidis, teretibus, corrugatis, glabris, trichotomis. *Folia* subsessilia, subcoriacea, ternatim verticillata, lanceolata, ovata vel fere elliptica, 1-2-pollicaria, acuminata, acuta, utrinque plus minusve strigillosa, nervis lateralibus conspicuis. *Flores* pentameri, strigilloso-pilosi, pauci in apices ramulorum congesti, breviter pedicellati; calycis lobi lineares, lanceolati, acuti, 4-5 lin. longi, patentes; corollæ tubus fere cylindricus, 9-12 lin. longus, limbus lobis obovato-spathulatis vel fere orbicularibus, os flavo-villosum. *Capsula* globosa, 3 lin. diametro; semina?—*Bouvardia strigosa*, Benth. Pl. Hartw. p. 75.

GUATEMALA, Zunil (*Hartweg*), Volcan de Fuego, 6000 to 6400 feet (*Salvin*). Hb. Kew.

24. *Rondeletia villosa*, Hemsley, Diag. Pl. Nov. pars altera, p. 27.

Novellis plus minusve villosis, foliis membranaceis amplis oblongo-ellipticis discoloribus subtus incanis, floribus parvis tetrameris cano-sericeis et strigillosis sessilibus vel brevissime pedicellatis in cymas paucifloras breviter pedunculatas aggregatis, cymis in paniculas angustas elongatas spiciformes dispositis, calycis lobis oblongis obtusis inæqualibus tubo longioribus, corollæ tubo tenui, lobis rotundatis undulatis, ore nudo, capsula subglobosa, seminibus angulatis punctulatis.

Frutex, novellis plus minusve villosis. *Folia* petiolata, membranacea, oblongo-elliptica, 4-6-pollicaria, utrinque acuminata, discoloria, supra parce villosula, subtus in costa nervisque strigilloso-villosa, inter nervos cano arachnoideo-lanata, petiolo villosa, 2-4 lineas longo; stipulæ ovato-lanceolatae, acutæ, circiter 6 lin. longæ. *Flores* (albi, *Linden*) parvi, tetrameris, extus cano-lanati, simul plus minusve strigillosi, sessiles vel brevissime pedicellati, in cymas paucifloras conferti, bracteis parvis interspersi; cymæ brevissime pedunculatæ, in paniculas angustas elongatas

(6–8 poll.) spiciformes terminales et laterales dispositæ ; calycis lobi oblongi, obtusi, inæquales, tubo longiores ; corollæ tubus tenuis, cylindricus, 4–5 lin. longus, intus glaber, limbus lobis parvis, rotundatis, undulatis, os nudum. *Capsula* glabrescens, subglobosa, circiter 2 lin. diametro ; semina numerosissima, parva, angulata, punctulata.

SOUTH MEXICO, San Pedro Nolasco &c. (*Jurgensen*, 806), Tabasco (*Linden*, 145), Trápiche de la Concepcion (*Liebmann*, 70). Hb. Kew.

Among the specimens at Kew are both long- and short-styled flowers.

The following is an arrangement of the species of *Rondeletia* according to their affinities:—

§ 1. Flores pentameri, corollæ ore annulo cincto.

R. panamensis et *odorata*.

§ 2. Flores pentameri, corollæ ore plus minusve villosa.

A. Foliis oppositis.

R. gratissima, *roezlii*, *stenosiphon*, *amaena*, *intermedia*, *cordata*, *ligustroides* et *nicaraguensis*.

B. Foliis ternatim verticillatis.

R. strigosa.

§ 3. Flores tetrameri, corollæ ore nec annulo cincto nec villosa-barbato.

A. Floribus plus minusve arachnoideo-pubescentibus cymosis, cymis sæpissime in paniculas angustas elongatas spiciformes dispositis, interdum capitiformibus.

R. villosa, *laniflora*, *affinis*, *capitellata*, *gracilis*, *buddleoides*, *dubia*, *leucophylla*, *elongata* et *nitida*.

B. Floribus glabris vel saltem haud arachnoideo-pubescentibus, inflorescentia varia, sed non anguste paniculata.

R. jurgenseni, *scabra* et *linguiformis*.

18. ELÆAGIA.

Elæagia, Wedd. Monogr. Cinch. p. 94 ; Benth. et Hook. Gen. Plant. ii. p. 50.

Three species of tall trees, inhabiting the Andes of Colombia and Peru, and Costa Rica.

✓ 1. ***Elæagia auriculata***, Hemsley, Diag. Pl. Nov. pars altera, p. 32.

Ramis crassis tetragonis, foliis puberulis amplis late ellipticis basi auriculatis, floribus pedicellatis racemoso-paniculatis, paniculis amplis laxis, ramis lateralibus patentibus, corolla alte 5-partita squamuloso-barbata, segmentis recurvo-revolutis, filamentis infra medium squamuloso-barbatis, stylo bifido ramulis crassiusculis.

Arbor, ramis ultimis crassis, tetragonis, puberulis. *Folia* brevissime petiolata, puberula, subcoriacea, ovato-elliptica vel fere obovata, suprema 5–7-pollicaria, basi auriculata, venis lateralibus paral-
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lelis conspicuis ; stipulæ amplæ, intrapetiolares. *Flores* albi (*Endres*), pedicellati, racemoso-paniculati ; paniculæ amplæ, laxæ, ramulis lateralibus patentibus ; calycis limbus cupularis, vix lobatus ; corolla alte 5-partita, segmentis oblongis, recurvo-revolutis, intus squamuloso-barbatis ; stamina exserta, filamentis infra medium squamuloso-barbatis ; ovarium biloculare, multiovulatum, stylo bifido ramis crassiusculis. *Capsula* non visa.

COSTA RICA, at 4500 feet (*Endres*, 95). Hb. Kew.

19. LINDENIA.

Lindenia, Benth. Pl. Hartw. pp. 84, 351 ; Benth. et Hook. Gen. Plant. ii. p. 51.

Besides the following shrubby species, there is another, which inhabits New Caledonia and the Fiji Islands.

1. *Lindenia acutiflora*, Hook. Ic. Pl. t. 475.

SOUTH MEXICO, near rivulets, Vera Cruz, at 800 to 2000 feet, and Oaxaca (*Galeotti*, 1572, 1573), Puente Nacional, Vera Cruz (*Linden*, 358). Hb. Kew.

√ 2. *Lindenia rivalis*, Benth. Pl. Hartw. pp. 84, 351 ; Hook. Ic. Pl. t. 476 ; Bot. Mag. t. 5258.

SOUTH MEXICO, Parra del Correa (*Liebmann*, 5), banks of the Rio Teapa (*Linden*, 331) ; GUATEMALA, Vera Paz (*Hartweg*) ; SAN SALVADOR, Libertad (*Barclay*) ; NICARAGUA, between Segovia and Tortuga (*Ersted*) ; COSTA RICA, Guanacaste (*Ersted*). Hb. Kew.

20. DEPPEA.

Deppea, Ch. et Schl. in Linnæa, xix. p. 747 ; Benth. et Hook. Gen. Plant. ii. p. 52. (*Choristes*, Benth. Pl. Hartw. p. 63.

This genus consists of slender-branched shrubs, restricted to Mexico and Central America.

1. *Deppea cornifolia*, Benth. Pl. Hartw. p. 349.

Choristes cornifolia, Benth. Pl. Hartw. p. 64, in adnot.

Rondeletia cornifolia, Benth. Pl. Hartw. p. 39.

SOUTH MEXICO, copse wood, Morelia (*Hartweg*), Sierra de San Pedro Nolasco (*Jurgen sen*, 828). Hb. Kew.

√ 2. *Deppea costa-ricensis*, Polak. in Linnæa, xli. p. 566.

COSTA RICA, Desengaño, near Alajuela (*Polakowsky*).

3. *Deppea erythrorhiza*, Ch. et Schl. in Linnæa, v. p. 168.

Deppea hedyotideae, DC. Prodr. iv. p. 618 ; Endl. Atakta, p. 25, t. 24.

SOUTH MEXICO, Barranca de Tioselo (*Schiede & Deppe*). Hb. Kew.

4. **Deppea floribunda**, Hemsley, Diag. Pl. Nov. pars altera, p. 31. (Tab. XXXVIII. figg. 7-10.)

Glabrescens, novellis sparse puberulis, internodiis longiusculis, foliis pro genere magnis longe petiolatis membranaceis nitidis lanceolato-oblongis longe acuminatis basi valde attenuatis, floribus tetrameris pedicellatis cymosis, cymis amplis multifloris terminalibus axillaribusque, calycis tubo 8-costato, corollæ lobis ovato-oblongis obtusis quam tubus duplo longioribus, capsula clavato-pyriformi, seminibus minutis punctatis.

Frutex glabrescens, ramis elongatis, internodiis longiusculis. *Folia* adulta glabra, petiolata, membranacea, nitida, lanceolato-oblonga, 3-6-pollicaria vel interdum longiora, longe acuminata, obtusiuscula, basi valde attenuata, petiolo 6-9 lin. longo, gracili; stipulæ parvæ cito deciduæ. *Flores* tetrameri, pedicellati, unilateri cymosi; cymæ sæpissime terminales, multifloræ, ebracteatae; calyx puberulus, 1 lin. longus, tubo 8-costato, dentibus subinæqualibus, triangularibus acutis vel obtusis, quam tubus brevioribus; corolla 3-4 lin. longa, segmentis ovato-oblongis, obtusis, quam tubus duplo longioribus; stamina fauci tubi inserta. *Capsula* clavato-pyriformis, 2 lin. longa; semina minuta, punctulata.

SOUTH MEXICO, Orizaba (*Botteri*, 937, 894, in part), Cordillera of Vera Cruz, 4000 feet (*Galeotti*, 7008), Chiapas (*Ghiesbreght*, 515). Hb. Kew.

EXPLANATION OF TAB. XXXVIII. FIGS. 7-10.

Fig. 7, flowering branch, natural size; 8, a flower, enlarged; 9, the same laid open; 10, fruit, natural size.

5. **Deppea grandiflora**, Schl. in Linnæa, xix. p. 748.

SOUTH MEXICO, temperate region (*Leibold*).

6. **Deppea obtusiflora**, Benth. Pl. Hartw. p. 349.

Choristes obtusiflora, Benth. Pl. Hartw. p. 63.

SOUTH MEXICO, Llano Verde (*Hartweg*), damp woods at 5000 to 6000 feet in the Cordillera of Oaxaca (*Galeotti*, 7005), Sierra de San Pedro Nolasco (*Jurgensen*, 360). Hb. Kew.

7. **Deppea pubescens**, Hemsley, Diag. Pl. Nov. pars altera, p. 31.

Pubescens, ramis teretibus, foliis ovato-lanceolatis, floribus tetrameris pedicellatis cymosis, cymis di-, trichotomis foliis æquilongis ramulis filiformibus, calyce ecostato, corolla rotata 2-3 lin. diametro, capsula pubescente oblonga.

Frutex, ramis teretibus. *Folia* petiolata, chartacea, ovato-lanceolata, 2-3-pollicaria, acuminata, obtusiuscula, basi cuneata, adulta utrinque pubescentia, venis lateralibus curvatis subtus conspicuis, petiolo gracili, 3-9 lin. longo; stipulæ parvæ, triangulares, persistentes. *Flores* tetrameri, pedicellati, cymosi; cymæ di-, trichotomæ laxæ, axillares terminalesque, foliis subæquilongæ, ramulis pedicellisque filiformibus; calycis tubus ecostatus, dentes parvi, persistentes; corolla rotata, 2-3 lin. diametro. *Capsula* oblonga, pubescens; semina minuta, punctulata.

SOUTH MEXICO, Santa Gertrudis (*Liebmann*, 65). Hb. Kew.

8. **Deppea tenuiflora**, Benth. Pl. Hartw. p. 349.

SOUTH MEXICO, San Bartolo, Chiapas (*Ghiesbreght*). Hb. Kew.

9. **Deppea umbellata**, Hemsley, *Diag. Pl. Nov. pars altera*, p. 31. (Tab. XXXVIII. figg. 1-6.)

Ramis teretibus gracillimis junioribus puberulis, foliis petiolatis membranaceis puberulis lanceolatis vel ovatis acuminatis, floribus tetrameris minimis pedicellatis umbellatim cymosis, cymis pedunculatis axillaribus foliis multoties brevioribus ebracteatis, pedunculis pedicellisque fere filiformibus, corolla rotata, capsula turbinata 8-costata, seminibus minutis, testa laxa.

Frutex, ramis teretibus, gracillimis, junioribus puberulis. *Folia* petiolata, membranacea, plus minusve puberula, et subtus in axillis venarum sæpe barbata, lanceolata vel ovata, $2\frac{1}{2}$ - $3\frac{1}{2}$ -policaria, longe acuminata, obtusiuscula, basi cuneata, petiolo gracili, 3-12 lin. longo; stipulæ parvæ, deciduæ. *Flores* tetrameri, pedicellati, umbellatim cymosi; cymæ axillares, pedicellatæ, 3-6 lin. longæ, pedunculis pedicellisque filiformibus; calycis tubo 8-costato, dentibus obtusis vel acutis; corolla rotata, 3 lin. diametro, segmentis ovato-oblongis, obtusis; filamenta brevina; antheræ magnæ. *Capsula* turbinata, costata, circiter 1 lin. diametro, dentibus calycinis coronata; semina minuta, testa laxa.

SOUTH MEXICO, Orizaba (*Botteri*, 894 in part; *Bourgeau*, 2428); Mirador (*Liebmann*, 64). Hb. Kew.

EXPLANATION OF TAB. XXXVIII. FIGG. 1-6.

Fig. 1, flowering branch, natural size; 2, a flower; 3, ditto, fully expanded; 4, ovary; 5, anther, front view; 6, anther seen from behind: all enlarged.

10. **Deppea**, sp. ?

SOUTH MEXICO, Colipa (*Liebmann*, 139, 140). Hb. Kew.

11. **Deppea**, sp. ?

SOUTH MEXICO, Sierra de San Pedro Nolasco (*Jurgensen*, 586). Hb. Kew.

21. LIMNOSIPANIA.

Limnosipania, Hook. fil. in Hook. Ic. Pl. t. 1050; Benth. et Hook. Gen. Plant. ii. p. 53.

Four herbaceous species, inhabiting Tropical America from Panama through Colombia to Guiana and Brazil.

✓ 1. **Limnosipania palustris**, Hook. fil. in Hook. Ic. Pl. sub tab. 1050.

Sipania palustris, Seem. Bot. Voy. 'Herald,' p. 136.

PANAMA, in meadows (*Seemann*, 347).—COLOMBIA. Hb. Kew.

Tribe VI. HEDYOTIDEÆ.

Hedyotideæ, Benth. et Hook. Gen. Plant. ii. pp. 8, 13.

Herbs or, more rarely, shrubs. Twenty-six genera, several of them very numerous in species.

22. OLDENLANDIA.

Oldenlandia, Linn. Gen. Plant. n. 154; Benth. et Hook. Gen. Plant. ii. p. 58. (*Gerontogea*, Ch. et Schl. in Linnæa, v. p. 169.)

About seventy species of slender herbs, generally dispersed in tropical and subtropical regions, but most numerous in Asia.

1. *Oldenlandia deppeana*, DC. Prodr. iv. p. 428.

Gerontogea deppeana, Ch. et Schl. in Linnæa, v. p. 169; Neue Abbild. t. 36.

SOUTH MEXICO, San Andres (*Schiede & Deppe*).

✓ 2. *Oldenlandia halei*, Chapm. Fl. S. States, p. 181.

Hedyotis halei, Torr. & Gray, Fl. N. Amer. ii. p. 42.

FLORIDA.—NICARAGUA (*Lévy*, 208)?—CUBA. Hb. Kew.

✓ 3. *Oldenlandia herbacea*, DC. Prodr. iv. p. 425.

Hedyotis herbacea, L. Fl. Zeyl. p. 65.

SOUTH MEXICO, Jecaltepec (*Liebmann*, 145); GUATEMALA (*Friedrichsthal*); NICARAGUA, Javali (*Tate*, 191); PANAMA, Empire railway-station (*S. Hayes*), Chagres (*Fendler*).—A common weed in TROPICAL COUNTRIES. Hb. Kew.

O. corymbosa, Linn., is perhaps the correct name of this species.

4. *Oldenlandia latifolia*, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 235.

SOUTH MEXICO, Jalapa, at 3000 feet (*Galeotti*, 2556). Hb. Kew.

This appears to be the same as the next.

5. *Oldenlandia microtheca*, Ch. et Schl. in Linnæa, vi. p. 414.

Gerontogea microtheca, Ch. et Schl. in Linnæa, v. p. 169.

SOUTH MEXICO, Papantla (*Schiede*), valley of Cordova (*Bourgeau*, 1572), region of Orizaba (*Bourgeau*, 2936; *Botteri*, 602), Yecoatla (*Liebmann*, 142), Mirador (*Linden*, 1258). Hb. Kew.

6. *Oldenlandia umbellata*, Linn. ex DC. Prodr. iv. p. 426.

This doubtful species is recorded by DeCandolle from MEXICO, TROPICAL AFRICA, and ASIA.

23. HOUSTONIA.

Houstonia, Linn. Gen. Plant. n. 124; Benth. et Hook. Gen. Plant. ii. p. 60.

About twenty species of dwarf herbs, restricted to North America and Mexico.

1. *Houstonia angustifolia*, Michx. Fl. Bor.-Amer. i. p. 85.

Hedyotis stenophylla, Torr. & Gray, Fl. N. Amer. ii. p. 41.

Oldenlandia angustifolia, A. Gray, Pl. Wright. ii. p. 68.

MISSOURI southward to FLORIDA and TEXAS.—NORTH MEXICO, Sonora (*Wright*). Hb. Kew.

- √ 2. **Houstonia bouvardioides**, Benth. et Hook. Gen. Plant. ii. p. 60.
Hedyotis bouvardioides, Seem. Bot. Voy. 'Herald,' p. 296, t. 64.
 NORTH MEXICO, Sierra Madre (*Seemann*); GUATEMALA, Volcan de Fuego, 6500 feet (*Salvin*)? Hb. Kew.
3. **Houstonia cærulea**, Linn. Sp. Pl. p. 152; Bot. Mag. t. 370.
Hedyotis cærulea, Hook. Fl. Bor.-Am. i. p. 286.
 CANADA southward through the EASTERN STATES.—MEXICO, Orizaba (*Botteri*). Hb. Kew.
4. **Houstonia humifusa**, Hemsley.
Hedyotis humifusa, A. Gray, Pl. Lindh. ii. p. 216.
 TEXAS.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 301). Hb. Kew.
5. **Houstonia longiflora**, A. Gray in Proc. Amer. Acad. iv. p. 314.
Bouvardia longiflora, H. B. K. Nov. Gen. et Sp. iii. p. 386; Bot. Mag. t. 4223.
Æginetia longiflora, Cav. Ic. vi. t. 572. fig. 1.
 NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 573); SOUTH MEXICO, Tehuacan and Morelia, at 7000 feet (*Galeotti*, 2637, 2652), San Felipe (*Liebmann*), near Oaxaca (*Andrieux*, 336), plain of Actopan (*Hartweg*), Santa Anita, &c., at 7000 feet (*Humboldt & Bonpland*), Chiapas (*Ghiesbreght*), without localities (*Schaffner*, *Bates*, *Keerl*, and others); GUATEMALA (*Skinner*); COSTA RICA (*Endres*). Hb. Kew.
6. **Houstonia purpurea**, Linn. Sp. Pl. i. p. 105; Lodd. Bot. Cab. t. 1621; Torr. & Gray, Fl. N. Amer. ii. p. 40.
 PENNSYLVANIA to ILLINOIS and southward.—MEXICO, without locality (*Gregg*, 66). Hb. Kew.
7. **Houstonia rubra**, Cav. Ic. v. p. 48, t. 474. fig. 1.
 NEW MEXICO; TEXAS.—NORTH MEXICO, in the region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 300); SOUTH MEXICO, Aguas Calientes (*Hartweg*), without localities (*Coulter*, 196; *Halsted*). Hb. Kew.
8. **Houstonia triflora**, A. Gray in Proc. Amer. Acad. iv. p. 314.
Bouvardia triflora, H. B. K. Nov. Gen. et Sp. iii. p. 386, t. 288.
Anotis longiflora, Benth. Pl. Hartw. p. 23.
 SOUTH MEXICO, near Puente de la Madre de Dios and the village of Atotonilco el Grande, at 5400 feet (*Humboldt & Bonpland*), Aguas Calientes (*Hartweg*), Zimapan (*Coulter*, 219). Hb. Kew.

9. **Houstonia**, sp.

SOUTH MEXICO, Vera Cruz to Orizaba (*Müller*, 1342). Hb. Kew.

10. **Houstonia**, sp.

SOUTH MEXICO, Jalapa (*Coulter*, 194). Hb. Kew.

24. MALLOSTOMA.

Mallostoma, Karst. Fl. Colomb. ii. p. 9, t. 105 ; Benth. et Hook. Gen. Plant. ii. p. 60.

About twenty species of shrubs and undershrubs, inhabiting the mountains of America from Texas to Peru.

1. **Mallostoma acerosa**, Hemsley.

Hedyotis (Ereicotis) acerosa, A. Gray, Pl. Wright. i. p. 81.

TEXAS.—NORTH MEXICO, Buena Vista (*Gregg*, 72), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 302). Hb. Kew.

2. **Mallostoma**, sp.

SOUTH MEXICO, Ciudad Real (*Linden*, 539). Hb. Kew.

Tribe VII. MUSSÆNDEÆ.

Mussændeæ, Benth. et Hook. Gen. Plant. ii. pp. 8, 15.

There are thirty-six genera of this tribe, generally dispersed in tropical countries. The species are shrubby or arboreous, rarely herbaceous.

25. ISERTIA.

Isertia, Schreb. Gen. Plant. p. 234 ; Benth. et Hook. Gen. Plant. ii. p. 65.

Fifteen or more shrubby and arboreous species, inhabiting Tropical America from Mexico (?) and Central America, through Colombia and Guiana, to Brazil.

1. **Isertia hænkeana**, DC. Prodr. iv. p. 437.

MEXICO (*Hænke*).

2. **Isertia spicæformis**, DC. Prodr. iv. p. 437.

PANAMA, outskirts of woods near the city of Panama (*Seemann*, 352 ; *S. Hayes*, 557).—COLOMBIA. Hb. Kew.

26. GONZALEA.

Gonzalea, Pers. Syn. i. p. 132 ; Benth. et Hook. Gen. Plant. ii. p. 65.

Gonzalagunia, Ruiz et Pav. Prodr. p. 12, t. 3 ; Fl. Peruv. i. p. 56, t. 86.

About a dozen shrubby species, restricted to Tropical America.

1. **Gonzolea nivea**, Bartl. ex DC. Prodr. iv. p. 436.

MEXICO.

- √ 2. **Gonzalea panamensis**, Pers. Ench. i. p. 132.

SOUTH MEXICO, Mirador (*Liebmann*, 66), Vera Cruz, 2500 feet (*Galeotti*, 1756; *Linden*, 409); COSTA RICA, Aguacate (*Ersted*); PANAMA, near the city of Panama (*Seemann*, 351), Chagres (*Fendler*, 288), Mamei railway-station (*S. Hayes*, 664).—COLOMBIA to GUIANA and PERU. Hb. Kew.

3. **Gonzalea parviflora**, Ch. et Schl. in Linnæa, vi. p. 414.

SOUTH MEXICO, Cuesta Grande de Jalacingo (*Schiede & Deppe*), Sierra de San Pedro Nolasco (*Jurgensen*, 776, 935)? Hb. Kew.

4. **Gonzalea? secunda**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 235.

SOUTH MEXICO, moist woods of Jalapa, at 4000 feet (*Galeotti*, 7077).

- √ 5. **Gonzalea spicata**, DC. Prodr. iv. p. 437.

Lygistum spicatum, Lam. Ill. n. 1477.

Coccocypselum spicatum, H. B. K. Nov. Gen. et Sp. iii. p. 406.

SOUTH MEXICO, Zacuapan (*Galeotti*); COSTA RICA, Aguacate (*Ersted*).—North part of SOUTH AMERICA, and generally dispersed in the WEST INDIES. Hb. Kew.

6. **Gonzalea**, sp.

SOUTH MEXICO, Orizaba (*Müller*, 638; *Botteri*, 1015). Hb. Kew.

7. **Gonzalea**, sp.

SOUTH MEXICO, humid forests of Zulusuchiapas (*Linden*, 149). Hb. Kew.

27. XEROCOCCUS.

Xerococcus, *Erst.* in Vidensk. Meddel. 1852, p. 52; Benth. et Hook. Gen. Plant. ii. p. 70.

Limited to the following species, which is an undershrub.

- √ 1. **Xerococcus congestus**, *Erst.* in Vidensk. Meddel. 1852, p. 52.

COSTA RICA, Turrialva, at 3000 feet (*Ersted*). Hb. Kew.

28. OPHRYOCOCCUS.

Ophryococcus, *Erst.* in Vidensk. Meddel. 1852, p. 52; Benth. et Hook. Gen. Plant. ii. p. 70.

One Central-American and (?) one Mexican species; both shrubs.

- √ 1. **Ophryococcus gesnerioides**, *Erst.* in Vidensk. Meddel. 1852, p. 53.

NICARAGUA, near Segovia (*Ersted*). Hb. Kew.

2. **Ophryococcus**, sp.?

SOUTH MEXICO, Chiapas (*Linden*, 1638). Hb. Kew.

29. SABICEA.

Sabicea, Aubl. Pl. Gui. i. p. 192, tt. 75, 76; Benth. et Hook. Gen. Plant. ii. p. 72.

Twining or trailing shrubs, inhabiting Tropical America, Tropical Africa, and Madagascar. About twenty species are known.

✓ 1. **Sabicea glabrescens**, Benth. in Hook. Kew Journ. Bot. iii. p. 219.

Sabicea edulis, Seem. in Hook. Kew Journ. Bot. iii. p. 266?

SOUTH MEXICO, Lacoba (*Liebmann*, 43); PANAMA (*Seemann*), Chagres (*Fendler*, 180)?
Hb. Kew.

2. **Sabicea hirsuta**, H. B. K. Nov. Gen. et Sp. iii. 417; DC. Prodr. iv. p. 439.

MEXICO (*Hænke*).—PERU.

✓ 3. **Sabicea hirta**, Sw. Prodr. i. p. 46; DC. Prodr. iv. p. 439; Calques des Dess.
Fl. Mex. 456.

SOUTH MEXICO (*Moçino & Sessé*); NICARAGUA, Chontales (*Tate*, 212; *Seemann*, 128).
—JAMAICA; TRINIDAD. Hb. Kew.

There may be more than one species included under this name.

✓ 4. **Sabicea**, sp.

PANAMA, Chagres (*Fendler*, 181). Hb. Kew.

30. COCCOCYPSELUM.

Coccocypselum, P. Br. Hist. Jam. p. 144, t. 6. fig. 2; Benth. et Hook. Gen. Plant. ii. p. 73.

About sixteen species of trailing herbs, restricted to Tropical America.

✓ 1. **Coccocypselum canescens**, Willd. ex Ch. et Schl. in Linnæa, iv. p. 139;
DC. Prodr. iv. p. 397.

SOUTH MEXICO, Sierra de San Pedro Nolasco (*Jurgensen*, 748); COSTA RICA, Cartago,
at 6000 feet (*Ersted*); PANAMA (*Seemann*, 17).—COLOMBIA; PERU; GUIANA. Hb. Kew.

2. **Coccocypselum ciliatum**, Ch. et Schl. in Linnæa, vi. p. 414.

SOUTH MEXICO, between Huitamalco and Cuapa (*Schiede & Deppe*).

✓ 3. **Coccocypselum glabrum**, Bartl. in DC. Prodr. iv. p. 397.

PANAMA (*Hænke*).

✓ 4. **Coccocypselum hirsutum**, Bartl. in DC. Prodr. iv. p. 396.

SOUTH MEXICO, Mirador (*Liebmann*, 49), valley of Cordova (*Bourgeau*, 1844); NICA-
RAGUA, Segovia (*Ersted*).—TRINIDAD; CUBA. Hb. Kew.

5. **Coccocypselum nummularifolium**, Ch. et Schl. in Linnæa, iv. p. 145.

SOUTH MEXICO, Cordillera of Oaxaca, at 3000 to 4000 feet (*Galeotti*, 2614), without
localities (*Ehrenberg*, *Hahn*).—BRAZIL. Hb. Kew.

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✓ 6. **Coccocypselum repens**, Sw. Fl. Ind. Occ. i. p. 245; DC. Prodr. iv. p. 396.
NICARAGUA, Chontales (*Tate*); COSTA RICA (*Polakowsky*).—Eastern and northern
SOUTH AMERICA and WEST INDIES.

7. **Coccocypselum**, sp.
SOUTH MEXICO, Jalapa (*Linden*, 509). Hb. Kew.

Tribe VIII. HAMELIEÆ.

Hamelieæ, Benth. et Hook. Gen. Plant. ii. pp. 8, 17.

There are only six genera of this tribe, the species of which are mostly Tropical-American; a few occur in Tropical Africa and the Sandwich Islands.

31. HAMELIA.

Hamelia, Jacq. Stirp. Amer. p. 71, t. 50; Benth. et Hook. Gen. Plant. ii. p. 75.

Duhamelia, Pers. Syn. i. p. 203.

Eight or ten shrubby species, inhabiting Tropical America.

1. **Hamelia chrysantha**, Sw. Prodr. p. 46; DC. Prodr. iv. p. 442.
MEXICO (*Hænke*).—JAMAICA; VENEZUELA.

2. **Hamelia lanuginosa**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 233.
SOUTH MEXICO, Jalapa, Mirador, and several other places on the Atlantic side, at
2000 to 4000 feet (*Galeotti*, 2615). Hb. Kew.

3. **Hamelia nodosa**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 234.
SOUTH MEXICO, near Mirador, at 3000 feet (*Galeotti*, 2581). Hb. Kew.

^J 4. **Hamelia patens**, Jacq. Stirp. Amer. p. 72, t. 50; DC. Prodr. iv. p. 441.
Duhamelia patens, Pers. Ench. i. p. 203.

FLORIDA.—SOUTH MEXICO, between Tehuantepec and Guichilona, Oaxaca (*Andrieux*,
330), Jecaltepec and Mirador (*Liebmann*, 55, 56), Vera Cruz (*Gouin*); NICARAGUA,
Chontales (*Seemann*, 136; *Tate*, 198), Granada (*Ersted*); PANAMA (*Hinds*).—Southward
to PERU and BRAZIL and in the WEST INDIES. Hb. Kew.

Var. ? **quinifolia**, DC. Prodr. iv. p. 442; Calques des Dess. Fl. Mex. 489.
SOUTH MEXICO, mountains of Mahatlan (*Moçino & Sessé*).

5. **Hamelia rostrata**, Bartl. in DC. Prodr. iv. p. 442.
MEXICO, Acapulco (*Hænke*).

6. **Hamelia ventricosa**, Sw. Prodr. p. 46; DC. Prodr. iv. p. 442; Bot. Reg.
t. 1195.

Hamelia grandiflora, L'Hérit. Sert. Angl. p. 4, t. 7; Salisb. Parad. Lond. t. 55.

SOUTH MEXICO, Real del Monte (*Hænke*), Vera Cruz (*Galeotti*, 2612)? Hb. Kew.

7. **Hamelia xorullensis**, H. B. K. Nov. Gen. et Sp. iii. p. 414.
SOUTH MEXICO, Jorullo (*Humboldt & Bonpland*).
- ✓ 8. **Hamelia**, sp.
COSTA RICA (*Endres*, 130). Hb. Kew.
- ✓ 9. **Hamelia**, sp.
NICARAGUA, Chontales (*Seemann*, 120). Hb. Kew.
- ✓ 10. **Hamelia**, sp.
NICARAGUA, Chontales (*Tate*, 332). Hb. Kew.
- ✓ 11. **Hamelia**, sp.
NICARAGUA (*Tate*, 222). Hb. Kew.
- ✓ 12. **Hamelia**, sp.
NICARAGUA, Chontales (*Tate*, 193). Hb. Kew.

32. HOFFMANNIA.

- Hoffmannia*, Sw. Prodr. p. 30; Benth. et Hook. Gen. Plant. ii. p. 76.
Ohigginsia, Ruiz et Pav. Fl. Peruv. i. p. 55, t. 85.
Higginsia, Pers. Syn. i. p. 133.
Campylobotrys, Lem. Flore des Serres, iii. Misc. n. 37.

Herbs or shrubs. Upwards of twenty species, confined to Tropical America.

- ✓ 1. **Hoffmannia affinis**, Hemsley, Diag. Pl. Nov. pars altera, p. 31.
Fruticosa novellis puberulis, ramis teretibus, foliis subcoriaceis ovato-oblongis acuminatis obtusiusculis, floribus puberulis tetrameris umbellatim cymosis, cymis ad nodos fasciculatis, calycis limbo distincte 4-dentato, dentibus rotundatis, corollæ tubo latiusculo lobis brevioribus, ovario biloculari.
Frutex, ramis teretibus, junioribus puberulis. *Folia* opposita, petiolata, subcoriacea, ovato-oblonga, 4-5-pollicaria, acuminata, obtusa, basi attenuata, subtus minute puberula, costa venisque prominulis, petiolo circiter 3 lin. longo. *Flores* puberuli, tetrameri, graciliter pedicellati, 3-4 lin. longi, umbellatim cymosi; cymæ pedunculatæ, ad nodos fasciculatæ, circiter 6-floræ; pedunculi graciles, 4-8 lin. longi; pedicelli 1-2 lin. longi; calycis limbus distincte 4-dentatus, dentibus rotundatis persistentibus; corollæ tubus latiusculus, lobis paulo brevioribus; ovarium biloculare, loculis multiovulatis. *Capsula* ignota.
COSTA RICA (*Endres*, 150). Hb. Kew.

This species is closely allied to *H. lenticellata*, differing in the consistence of the leaves, the prominently toothed calyx, &c.

- ✓ 2. **Hoffmannia cauliflora**, Hemsley, Diag. Pl. Nov. pars altera, p. 30.
(Tab. XXXIX.)
Ramis crassiusculis, foliis amplis in apicibus ramorum confertis junioribus præcipue subtus puberulis ovato-ellipticis basi in petiolum brevissimum attenuatis, floribus tetrameris glabris pedicellatis in trunco ramisque infra folia cymoso-fasciculatis, cymis plurifloris ramulis pedicellisque gracilibus ebracteatis, corolla tubuloso-infundibuliformi pollicari lobis tubo multoties brevioribus, ovario 3-4-loculare.

Frutex vel *suffrutex*, ramis crassiusculis, glabris. *Folia* in apicibus ramorum conferta, subcarnosa, subsessilia, late ovato-elliptica, 6–9-pollicaria vel ultra, acuminata, obtusa, basi valde attenuata, juniora plus minusve ferrugineo-puberula, venis lateralibus curvatis prominentibus. *Flores* tetrameri, glabri, pedicellati, in trunco ramisque infra folia cymoso-fasciculati; cymæ breves, plurifloræ, ramulis pedicellisque gracilibus, ebracteatae; calyx vix 2 lin. longus, brevissime 4-dentatus; corolla tubuloso-infundibuliformis, pollicaris, tubo sursum sensim ampliato, lobis ovatis, acutis, vix patentibus, circiter 2 lin. longis; stamina inclusa; stylus breviter exsertus; ovarium 3–4-loculare, loculis multiovulis. *Fructus* maturus ignotus.

GUATEMALA (*Skinner*). Hb. Kew.

EXPLANATION OF TAB. XXXIX.

Flowering and fruiting branches. Natural size.

Fig. 1, a flower; 2, the same, with corolla laid open; 3, vertical section of an ovary; 4, an anther. All enlarged.

3. *Hoffmannia discolor*, Hemsley.

Campylobotrys discolor, Lem. Flore des Serres, iii. Misc. n. 37. p. 260, v. t. 427; Bot. Mag. t. 4530.

Higginsia discolor, Planch. in Flore des Serres, v. Misc. 226, p. 482 d.

MEXICO, introduced into European gardens (*Galeotti*).

4. *Hoffmannia ghiesbreghtii*, Hemsley.

Campylobotrys ghiesbreghtii, Lem. Ill. Hort. t. 279.

Higginsia ghiesbreghtii (*ghiesbechtii*), Hook. Bot. Mag. t. 5383.

SOUTH MEXICO (*Ghiesbreght*). Hb. Kew.

5. *Hoffmannia lenticellata*, Hemsley, Diag. Pl. Nov. pars altera, p. 30.

Fruticosa, ramis teretibus minute et densissime lenticellatis, foliis ovato-oblongis vel obovatis acuminatis, floribus parvis glabris tetrameris longiuscule pedicellatis fasciculato-cymosis, cymis densis brevibus ebracteatis, ramulis gracilibus, calycis limbo brevissime 4-dentato vel fere truncato, corollæ lobis ovato-oblongis obtusis quam tubus subduplo longioribus, fructu baccato biloculari.

Frutex, ramis teretibus, crassiusculis, petiolo costaque minute et densissime lenticellatis. *Folia* petiolata, crassiuscula, fortasse subcarnosa, ovato-oblonga vel obovata, 6–9-pollicaria, acuminata, obtusa, basi valde attenuata, subtus farinacea, costa venisque lateralibus crassiusculis, subtus elevatis, petiolo $2\frac{1}{2}$ –5 lin. longo; stipulæ parvæ, cito deciduæ. *Flores* glabri, tetrameri, circiter 3 lin. longi, longiuscule pedicellati, fasciculato-cymosi; cymæ densæ, plurifloræ, subumbelliformes, ebracteatae, vix pollicares, ramulis gracilibus; calycis limbus brevissime 4-dentatus vel fere truncatus, persistens; corollæ lobi ovato-oblongi, obtusi, tubus fere dimidio brevior; stamina ori corollæ inserta, filamentis brevissimis, antheris magnis; ovarium biloculare, stylo exserto. *Fructus* baccatus, bilocularis, bisulcatus, circiter 1 lin. diametro; semina numerosa, minuta, angulata, punctulata.

SOUTH MEXICO, Orizaba (*Botteri*, 974; *Bourgeau*, 2992), Jalapa (*Linden*, 1). Hb. Kew.

6. *Hoffmannia longepetiolata*, Polak. in Linnæa, xli. p. 567.

NICARAGUA, Chontales (*Seemann*, 112)?; COSTA RICA, Carpintera (*Polakowsky*). Hb. Kew.

✓ 7. **Hoffmannia macrophylla**, Planch. in Flore des Serres, v. Misc. n. 226, p. 482*d*.

GUATEMALA.

8. **Hoffmannia mexicana**, Hemsley.

Higginsia mexicana, Kl. in Link, Kl. et Otto, Ic. Pl. Rar. Hort. Ber. i. p. 57, t. 23.

SOUTH MEXICO, Mirador (*Liebmann*, 134, 135), Jalapa (*Galeotti*, 7072; *Linden*, 4), region of Orizaba (*Bourgeau*, 2429; *Botteri*, 1029). Hb. Kew.

✓ 9. **Hoffmannia psychotriæfolia**, Hemsley.

Higginsia psychotriæfolia, Benth. in Vedensk. Meddel. 1852, p. 28.

SOUTH MEXICO (*Liebmann*, 126; *Jurgensen*, 986); COSTA RICA, Volcan de Barba (*Ersted*). Hb. Kew.

10. **Hoffmannia refulgens**, Hemsley.

Higginsia refulgens, Hook. Bot. Mag. t. 5346.

SOUTH MEXICO (*Liebmann*, 90). Hb. Kew.

11. **Hoffmannia regalis**, Hemsley.

Higginsia regalis, Hook. Bot. Mag. t. 5280.

MEXICO?

12. **Hoffmannia strigillosa**, Hemsley, Diag. Pl. Nov. pars altera, p. 31.

Fruticosa, ramis elongatis compressis glabris, foliis oppositis longe petiolatis membranaceis ovato-oblongis subtus præcipue in venis strigillosis, floribus tetrameris glabris pedicellatis, calycis lobis oblongis obtusis interdum inæqualibus, corollæ lobis linearibus quam tubus paulo longioribus, ovario biloculare.

Frutex, ramis elongatis, crassiusculis, compressis, glabris. *Folia* petiolata, membranacea, ovato-oblonga, 6–8-pollicaria, utrinque longe attenuata, subtus præcipue in venis prominentibus strigillosa, petiolo brevi primum strigilloso; stipulæ caducæ. *Flores* glabri, tetrameri, vix 3 lin. longi, pedicellati, cymosi; cymæ breves, axillares, paucifloræ, ebracteatae; calycis lobi oblongi, obtusi, interdum inæquales, circiter semilineam longi, tubo æquilongi; corollæ lobi lineares, tubo paulo longiores; stamina ori corollæ inserta, filamentis brevissimis, antheris lobos corollinos æquantibus; ovarium biloculare, multiovulatum. *Fructus* non visus.

MEXICO (*Sallé*). Hb. Kew.

13. **Hoffmannia**, sp.

SOUTH MEXICO (*Jurgensen*, 736; *Liebmann*, 88). Hb. Kew.

33. BERTIERA.

Bertiera, Aubl. Pl. Gui. i. p. 180, t. 69; Benth. et Hook. Gen. Plant. ii. p. 77.

Pomatium, Gærtn. Fruct. iii. p. 252, t. 225.

A genus of about sixteen species of shrubs and small trees, natives of Tropical Africa and America.

1. **Bertiera angustifolia**, Benth. Bot. Voy. 'Sulphur,' p. 103.

COCOS ISLAND (*Barclay*). Hb. Kew.

✓ 2. **Bertiera**, sp. ?

NICARAGUA, Chontales (*Tate*). Hb. Kew.

Tribe IX. CATESBÆEÆ.

Catesbæa, Benth. et Hook. Gen. Plant. ii. pp. 8, 17.

Limited to Tropical America, and consisting of five genera and about twenty species.

34. CATESBÆA.

Catesbæa, Linn. Gen. Plant. n. 130; Benth. et Hook. Gen. Plant. ii. p. 78.

There are six West-Indian species besides the following doubtful one.

1. **Catesbæa erecta**, DC. Prodr. iv. p. 401; Calques des Dess. Fl. Mex. 460.
MEXICO (*Moçino & Sessé*).

35. PENTAGONIA.

Pentagonia, Benth. Bot. Voy. 'Sulphur,' p. 105, t. 39; Benth. et Hook. Gen. Plant. ii. p. 78.

Eight shrubby species, inhabiting Tropical America.

- ✓ 1. **Pentagonia macrophylla**, Benth. Bot. Voy. 'Sulphur,' p. 105, t. 39.
PANAMA, Chagres (*Fendler*, 208), Cruces &c. (*Seemann*), no locality (*Hinds*).—
COLOMBIA. Hb. Kew.

- ✓ 2. **Pentagonia tinajita**, Seem. Bot. Voy. 'Herald,' p. 134, t. 28.
PANAMA, near the town of David, Veraguas (*Seemann*, 1595). Hb. Kew.

3. **Pentagonia wendlandii**, Hook. Bot. Mag. t. 5230.
CENTRAL MEXICO, without locality (*Wendland*). Hb. Kew.

36. SOMMERA.

Sommerera, Schl. in Linnæa, ix. p. 602; Benth. et Hook. Gen. Plant. ii. p. 79.

Four or five shrubby or small arboreous species, extending from Mexico to the Amazons.

- ✓ 1. **Sommerera arborescens**, Schl. in Linnæa, ix. p. 602.

Petesia grandis, Bartl. in DC. Prodr. iv. p. 395?

Petesia minor, Griseb. in Bonplandia, 1858, p. 8?

SOUTH MEXICO, Mirador (*Linden*, 1256; *Liebmann*, 84), Orizaba (*Botteri*, 997), near Jalapa, 1500 to 3000 feet (*Galeotti*, 7112), Jova (*Liebmann*, 85); PANAMA, Boquete (*Seemann*, 1179). Hb. Kew.

Tribe X. GARDENIÆ.

Gardenia, Benth. et Hook. Gen. Plant. ii. pp. 9, 17.

Forty-five genera widely dispersed in tropical regions, a few extending into sub-tropical countries.

37. ALIBERTIA.

Alibertia, A. Rich. in Mém. Soc. Hist. Nat. Par. v. p. 234, t. 21; Benth. et Hook. Gen. Plant. ii. p. 81.

About twenty shrubby and arboreous species in Tropical America.

- ✓ 1. **Alibertia edulis**, Rich. in Mém. Soc. Hist. Nat. Par. v. p. 234, t. 21. fig. 1.
SOUTH MEXICO, Colipa (*Liebmann*, 3), Potrero (*Bourgeau*, 1716), Lacoba (*Liebmann*, 117), Tabasco (*Linden*, 530); GUATEMALA (*Friedrichsthal*); NICARAGUA (*Tate*, 353); COSTA RICA, Aguacate (*Ersted*); PANAMA (*Seemann*, 342).—GUIANA. Hb. Kew.
Linden's 530 and Tate's 353 may belong to different species.

38. AMAIOUA.

Amaioua, Aubl. Pl. Gui. Suppl. p. 13, t. 375; Benth. et Hook. Gen. Plant. ii. p. 81.

About eight arboreous and shrubby species in Tropical America.

- ✓ 1. **Amaioua guianensis**, Aubl. Pl. Gui. Suppl. p. 13, t. 375.
PANAMA, Isle of Taboga (*Seemann*, 1596).—GUIANA. Hb. Kew.

39. BASANACANTHA.

Basanacantha, Hook. fil. in Benth. et Hook. Gen. Plant. ii. p. 82.

A genus of about twenty shrubby species restricted to Tropical America.

- ✓ 1. **Basanacantha monantha**, Hook. fil. in Benth. et Hook. Gen. Plant. ii. p. 83.
Randia monantha, Benth. Pl. Hartw. p. 84.
GUATEMALA, Rio de los Esclavos (*Hartweg*); COSTA RICA (*Ersted*); PANAMA, Veraguas (*Seemann*). Hb. Kew.

40. POSOQUERIA.

Posoqueria, Aubl. Pl. Gui. i. p. 133, t. 51; Benth. et Hook. Gen. Plant. ii. p. 83.

An exclusively Tropical-American genus of about twelve species of shrubs and trees.

1. **Posoqueria coriacea**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 240.
SOUTH MEXICO, Chinantla, Eastern Cordillera of Oaxaca, 2000 to 3000 feet (*Galeotti*, 1580). Hb. Kew.
- ✓ 2. **Posoqueria latifolia**, Rœm. et Schult. Syst. v. p. 227; DC. Prodr. iv. p. 375.
Solena latifolia, Rudge, Pl. Gui. i. p. 26, t. 40.
Tocoyena latifolia, Lam. Ill. t. 163. fig. 2.
Stannia panamensis, Walp. et Duchas. in Linnæa, xxiii. p. 755.
Posoqueria panamensis, Walp. Ann. ii. p. 797.
PANAMA, Chagres (*Fendler*, 293), Empire railway-station (*S. Hayes*), without locality (*Seemann*).—COLOMBIA; GUIANA. Hb. Kew.
- ✓ 3. **Posoqueria macrophylla**, Hemsley.
Tocoyena macrophylla, H. B. K. Nov. Gen. et Sp. iii. p. 412.
COSTA RICA (*Warscewicz*).—COLOMBIA. Hb. Kew.

41. RANDIA.

Randia, Linn. Gen. Plant. n. 211; Benth. et Hook. Gen. Plant. ii. p. 88.

There are nearly or quite a hundred species belonging to this genus. They are trees or shrubs, and generally dispersed in the tropics, though most numerous in the Old World.

1. ***Randia echinocarpa***, DC. Prodr. iv. p. 385; Calques des Dess. Fl. Mex. 469. MEXICO (*Moçino & Sessé*).

✓ 2. ***Randia karstenii***, Polak. in Linnæa, xli. p. 568. COSTA RICA, San José (*Polakowsky*).

3. ***Randia latifolia***, Lam. Dict. iii. p. 24; Ill. t. 156. fig. 1; DC. Prodr. iv. p. 385.

SOUTH MEXICO, Papantla (*Liebmann*, 291 and 304?).—WEST INDIES. Hb. Kew.

✓ 4. ***Randia mussændæ***, DC. Prodr. iv. p. 388.

Mussænda formosa, Jacq. Amer. p. 70, t. 48.

MEXICO (ex DC.); PANAMA, Mamei railway-station (*S. Hayes*, 411).—COLOMBIA; VENEZUELA; PERU. Hb. Kew.

The Panama specimen is doubtful.

✓ 5. ***Randia obovata***, H. B. K. Nov. Gen. et Sp. iii. p. 409.

PANAMA, Chagres (*Fendler*, 139), Aspinwall (*S. Hayes*, 567). Hb. Kew.

✓ 6. ***Randia ovata***, Duchass. in Bonplandia, 1858, p. 8.

PANAMA (*Duchassaing*).

7. ***Randia xalapensis***, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 239.

SOUTH MEXICO, near Jalapa and Puente Nacional, at 1000 to 4000 feet (*Galeotti*, 7116), Orizaba (*Botteri*, 905), valley of Cordova (*Bourgeau*, 1576). Hb. Kew.

8. ***Randia***, sp.

SOUTH MEXICO, Jalapa (*Linden*, 518). Hb. Kew.

9. ***Randia***, sp.

SOUTH MEXICO, forests of Puente Nacional, near Vera Cruz, at 500 to 1000 feet (*Galeotti*, 7115). Hb. Kew.

(*Coffea rosea*, DC. Prodr. iv. p. 499; Calques des Dess. Fl. Mex. 479, is a doubtful Mexican plant.)

42. GENIPA.

Genipa, Linn. Gen. Plant. n. 240; Benth. et Hook. Gen. Plant. ii. p. 90.

An exclusively Tropical-American genus, comprising about six small arboreous species.

✓ 1. **Genipa caruto**, H. B. K. Nov. Gen. et Sp. iii. p. 407.

SOUTH MEXICO, Guatulco (*Liebmann*), Tabasco (*Linden*, 1619); NICARAGUA, Granada (*Ersted*); PANAMA, Veraguas (*Seemann*).—North part of SOUTH AMERICA and the WEST INDIES. Hb. Kew.

Tribe XI. CRUCKSHANKSIEÆ.

Cruckshanksia, Benth. et Hook. Gen. Plant. ii. pp. 9, 20.

This small tribe is limited to Chili. It consists of two genera and five species of herbs and undershrubs.

Tribe XII. RETINIPHYLLEÆ.

Retiniphylla, Benth. et Hook. Gen. Plant. ii. pp. 9, 20.

Only three genera and eight species of shrubs and trees. Two of the genera are limited to eastern Tropical South America; and the other, a monotype, extends from Ceylon through the archipelago to Australia.

Tribe XIII. GUETTARDEÆ.

Guettardea, Benth. et Hook. Gen. Plant. ii. pp. 9, 20.

This tribe is generally dispersed in the tropics, and comprises eleven genera, whereof two or three are numerous in species.

43. GUETTARDA.

Guettarda, Linn. Gen. Plant. n. 1064; Benth. et Hook. Gen. Plant. ii. p. 99.

A genus of nearly fifty species of shrubs and trees, the greater part Tropical American. One occurs on nearly all tropical sea-shores.

1. **Guettarda conferta**, Benth. Bot. Voy. 'Sulphur,' p. 106.

COCOS ISLAND (*Barclay*). Hb. Kew.

2. **Guettarda dealbata**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 232.

SOUTH MEXICO, dense, humid forests of Llano Verde and Tanetze, at 4000 to 6000 feet, in the Eastern Cordillera of Oaxaca (*Galeotti*, 7131).

3. **Guettarda dichotoma**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 233.

SOUTH MEXICO, savannas near Zacuapan and Mirador, 1500 to 2000 feet (*Galeotti*, 2601).

✓ 4. **Guettarda odorata**, Lam. Ill. t. 154. fig. 4; DC. Prodr. iv. p. 456.

SOUTH MEXICO, Pochutla (*Liebmann*, 71); PANAMA, common (*S. Hayes*, 94, 637).—CUBA; JAMAICA; TRINIDAD. Hb. Kew.

5. **Guettarda parviflora**, Vahl, Ecl. Am. ii. p. 26; DC. Prodr. iv. p. 456.

SOUTH MEXICO, Acapulco (*Hænke*).—WEST INDIES.

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✓ 6. **Guettarda ramuliflora**, Beurling in Kong. Vet. Handl. 1854, p. 132.
PANAMA (*Billberg*).

7. **Guettarda scabra**, Lam. Ill. t. 154. fig. 3; DC. Prodr. iv. p. 456.
SOUTH MEXICO, Yucatan (*Linden*, 89).—WEST INDIES. Hb. Kew.

✓ 8. **Guettarda viscosa**, Duchass. et Walp. in Linnæa, xxiii. p. 754.
PANAMA (*Duchassaing*).

✓ 9. **Guettarda**, sp.
GUATEMALA (*Friedrichsthal*); PANAMA, Barbacoas (*S. Hayes*, 167). Hb. Kew.

✓ 10. **Guettarda**, sp.?
PANAMA, Aspinwall (*S. Hayes*, 569). Hb. Kew.

11. **Guettarda**, sp.?
SOUTH MEXICO (*Liebmann*, 63). Hb. Kew.

44. ANTIRRHŒA.

Antirrhœa, Comm. in Jus. Gen. Plant. p. 204, et in Mém. Mus. vi. p. 377; Benth. et Hook. Gen. Plant. ii. p. 100.

About twenty species of trees and shrubs, chiefly American, the rest being from Mauritius, China, and Tropical Australia.

1. **Antirrhœa? dichotoma**, Hemsley.

Stenostomum? dichotomum, DC. Prodr. iv. p. 112; Calques des Dess. Fl. Mex. 482.
MEXICO (*Moçino & Sessé*).

2. **Antirrhœa protracta**, Hemsley.

Guettarda? prostrata, Bartl. in DC. Prodr. iv. p. 457.
Pittoniotis protracta, Griseb. in Bonplandia, 1858, p. 8.

SOUTH MEXICO, Acapulco (*Hænke*), Trapiche (*Liebmann*, 114), in the woods of Tona-guia and near the Villa Alta, in the Eastern Cordillera of Oaxaca, at 3000 to 4000 feet (*Galeotti*, 7175). Hb. Kew.

✓ 3. **Antirrhœa trichantha**, Hemsley.

Pittoniotis trichantha, Griseb. in Bonplandia, 1858, p. 8.
PANAMA (*Duchassaing*).

45. MACHAONIA.

Machaonia, Humb. et Bonpl. Pl. Æquin. i. p. 101, t. 29; Benth. et Hook. Gen. Plant. ii. p. 102.

Shrubs and trees. About ten species, inhabiting Tropical America.

1. **Machaonia galeottiana**, Baill. in Bull. Soc. Linn. de Paris, 1879, p. 204.
SOUTH MEXICO, Cordillera of Vera Cruz (*Galeotti*).

2. **Machaonia hahniana**, Baill. in Bull. Soc. Linn. de Paris, 1879, p. 204.
SOUTH MEXICO, Acatlan (*Hahn*).

3. **Machaonia lindeniana**, Baill. in Bull. Soc. Linn. de Paris, 1879, p. 204.
SOUTH MEXICO, Yucatan (*Linden*). Hb. Kew.

4. **Machaonia velutina**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 134.
Machaonia veracruziana, Baill. in Bull. Soc. Linn. de Paris, 1879, p. 204.
SOUTH MEXICO, Cordillera of Vera Cruz (*Galeotti*, 7104). Hb. Kew.

5. **Machaonia**, sp.
SOUTH MEXICO (*Liebmann*, 115); NICARAGUA, Chontales (*Tate*, 425). Hb. Kew.

✓ 6. **Machaonia**, sp.
PANAMA, very common (*S. Hayes*, 87). Hb. Kew.

46. CHOMELIA.

Chomelia, Jacq. Stirp. Amer. p. 18, t. 113; Benth. et Hook. Gen. Plant. ii. p. 103.

A Tropical-American genus of about twenty shrubby species.

✓ 1. **Chomelia filipes**, Benth. in Vidensk. Meddel. 1852, p. 19.
Guettarda? armata, Bartl. in DC. Prodr. iv. p. 457, ex Griseb. MS. in hb. Kew.
MEXICO (*Hænke*); NICARAGUA, Granada (*Ersted*). Hb. Kew.

✓ 2. **Chomelia tenuiflora**, Benth. in Hook. Journ. Bot. iii. p. 235.
PANAMA, near the city of Panama (*Seemann*, 341).—COLOMBIA to GUIANA. Hb. Kew.
Possibly only one species.

47. MALANEA.

Malanea, Aubl. Pl. Gui. i. p. 106, t. 41; Benth. et Hook. Gen. Plant. ii. p. 103.

An exclusively Tropical-American genus, comprising about a dozen species of climbing, twining, trailing, or erect shrubs.

✓ 1. **Malanea erecta**, Seem. Bot. Voy. 'Herald,' p. 136.
PANAMA, Isle of Tobago (*Seemann*). Hb. Kew.

Tribe XIV. KNOXIEÆ.

Knoxieæ, Benth. et Hook. Gen. Plant. ii. pp. 9, 21.

A very small tribe, not represented in America.

Tribe XV. CHIOCOCCEÆ.

Chiococceæ, Benth. et Hook. Gen. Plant. ii. pp. 9, 21.

Eleven small genera are referred to this tribe; and they are exclusively Tropical American, with the exception of the monotypical Australian *Hodgkinsonia*.

48. ERITHALIS.

Erithalis, Linn. Gen. Plant. n. 238; Benth. et Hook. Gen. Plant. ii. p. 105.

Five or six shrubby species.

1. **Erithalis fruticosa**, Linn. Sp. Pl. p. 251; DC. Prodr. iv. p. 465; Browne, Hist. Jam. t. 17. fig. 3.

Erithalis odorifera, Jacq. Stirp. Amer. p. 72, t. 173. fig. 23.

HONDURAS, without collector's name.—FLORIDA, and common in the WEST INDIES. Hb. Kew.

49. CHIOCOCCA.

Chiococca, Linn. Gen. Plant. n. 231; Benth. et Hook. Gen. Plant. ii. p. 105.

Siphonandra, Turcz. in Bull. Soc. Nat. Mosc. 1848, i. p. 581.

Six or eight shrubby species, chiefly climbers.

Margaris, DC., doubtfully referred to this genus by Bentham and Hooker, appears to be *Symphoricarpus*.

1. **Chiococca coriacea**, Mart. et Gall. in Bull. Acad. Brux. xi. 1, p. 231.

SOUTH MEXICO, Chilotepec, near Vera Cruz (*Linden*, 423). Hb. Kew.

2. **Chiococca macrocarpa**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 230.

SOUTH MEXICO, Mirador, at 3000 feet (*Galeotti*, 7064).

3. **Chiococca phænostemon**, Schl. in Linnæa, ix. p. 594.

SOUTH MEXICO, woods near Jalapa (*Schiede & Deppe*).—COLOMBIA.

Perhaps the same as *C. racemosa*, Jacq.

4. **Chiococca racemosa**, Jacq. Stirp. Amer. p. 68; DC. Prodr. iv. p. 482.

A common plant from FLORIDA and MEXICO through the WEST INDIES to BRAZIL and PERU. Hb. Kew.

5. **Chiococca staminea**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 231.

SOUTH MEXICO, Jalapa, at 4000 feet (*Linden*, 48). Hb. Kew.

✓ 6. **Chiococca**, sp.

PANAMA, Chagres (*Fendler*, 138). Hb. Kew.

✓ 7. **Chiococca**, sp.

GUATEMALA (*Friedrichsthal*). Hb. Kew.

50. ASEMNaNTHA.

Asemnantha, Hook. fil. in Benth. et Hook. Gen. Plant. ii. p. 106.

One shrubby species.

1. **Asemnantha pubescens**, Hook. fil. in Hook. Ic. Pl. xii. t. 1145 (*Asemnanthe*).

SOUTH MEXICO, humid forests of Yucatan (*Linden*, 1264 bis). Hb. Kew.

51. CHIONE.

Chione, DC. Prodr. iv. p. 461; Benth. et Hook. Gen. Plant. ii. p. 107.

Three or four shrubby or small arboreous species, inhabiting the West Indies, and one of them extending to Mexico.

1. *Chione glabra*, DC. Prodr. iv. p. 461.

Crusea glabra, A. Rich. in Mém. Soc. Hist. Nat. Par. v. p. 204, t. 19. f. 1.

SOUTH MEXICO, Mirador, San Pablo and Paso del Correo (*Liebmann*, 77, 282, 283, 284, 285, 286).—CUBA; DOMINICA; JAMAICA. Hb. Kew.

52. PLACOCARPA.

Placocarpa, Hook. fil. in Benth. et Hook. Gen. Plant. ii. p. 107.

One shrubby species.

1. *Placocarpa mexicana*, Hook. fil. in Hemsl. Diag. Pl. Nov. pars altera, p. 30. (Tab. XXXVI. figg. 6–14.)

Frutex ramosissimus, glaberrimus, ramis brevibus tortuosis. *Folia* opposita, breviter petiolata vel fere sessilia, creberrima, subcoriacea, lanceolata, oblonga vel obovata, 4–8 lin. longa, acuta vel obtusa, basi valde attenuata, subtus interdum glauca. *Flores* tetrameri, breviter pedicellati, axillares vel terminales, solitarii vel pedunculis trifloris; calycis lobi obovato-spathulati, obtusi, coriacei, persistentes, circiter 2 lin. longi; corolla infundibularis, lente curva, 5–8 lin. longa, lobis brevibus, rotundatis, subinæqualibus. *Fructus* obovatus, a latere compressus, lobis calycinis coronatus, bilocularis, loculis 1-spermis.

SOUTH MEXICO, Orizaba (*Botteri*, 316, 913; *Bourgeau*, 3022). Hb. Kew.

EXPLANATION OF TAB. XXXVI. FIGG. 6–14.

Fig. 6, portion of a plant, natural size; 7, a flower; 8, a corolla, laid open; 9, an ovary; 10, vertical section of the same; 11, a young fruit; 12, an ovule; 13, cross section of young fruit: all enlarged. Fig. 14, young fruit, natural size.

Tribe XVI. ALBERTEÆ.

Alberteæ, Benth. et Hook. Gen. Plant. ii. pp. 9, 22.

There are seven genera of this tribe, all restricted to Africa and Madagascar.

Tribe XVII. VANGUERIEÆ.

Vanguerieæ, Benth. et Hook. Gen. Plant. ii. pp. 9, 22.

This tribe also comprises only seven genera; but two or three of them have numerous species. It is not represented in America.

Tribe XVIII. IXOREÆ.

Ixoreæ, Benth. et Hook. Gen. Plant. ii. pp. 9, 22.

Nine or ten genera, embracing about 200 species, belong here. The greater part of the species inhabit the Old World.

53. IXORA.

Ixora, Linn. Gen. Plant. n. 131; Benth. et Hook. Gen. Plant. ii. p. 113.

A genus of probably upwards of 100 species of shrubs and small trees, chiefly Asiatic and African.

✓ 1. ***Ixora ferrea***, Benth. in Linnæa, xxiii. p. 447.

Siderodendron ferreum, Lam. Ill. p. 282.

Sideroxyloides ferreum, Jacq. Stirp. Amer. p. 19, t. 175. fig. 9.

Siderodendron triflorum, Vahl, Ecl. i. p. 10.

NICARAGUA, Segovia (*Ersted*); PANAMA, Veraguas (ex *Grisebach*).—VENEZUELA to GUIANA and the WEST INDIES. Hb. Kew.

✓ 2. ***Ixora floribunda***, Griseb. Cat. Pl. Cub. p. 134.

Siderodendron floribundum, A. Rich. in Mém. Soc. Hist. Nat. Par. v. p. 184.

NICARAGUA, near Sapoa (*Ersted*).—GUIANA; CUBA. Hb. Kew.

Tribe XIX. MORINDEÆ.

Morindeæ, Benth. et Hook. Gen. Plant. ii. pp. 9, 23.

Ten genera of trees and shrubs, all confined to the Old World, except *Morinda* itself.

54. MORINDA.

Morinda, Linn. Gen. Plant. n. 235; Benth. et Hook. Gen. Plant. ii. p. 117.

About forty species, chiefly Asiatic.

✓ 1. ***Morinda panamensis***, Seem. Bot. Voy. 'Herald,' p. 136.

PANAMA, Chagres (*Fendler*, 148). Hb. Kew.

✓ 2. ***Morinda roioc***, Linn. Sp. Pl. p. 250; DC. Prodr. iv. p. 448; Jacq. Hort. Vindob. t. 16.

FLORIDA.—BRITISH HONDURAS (*Mrs. Macdonnel*); PANAMA, Aspinwall (*S. Hayes*, 566).—WEST INDIES. Hb. Kew.

Tribe XX. COUSSAREEÆ.

Coussareeæ, Benth. et Hook. Gen. Plant. ii. pp. 9, 24.

A wholly Tropical-American tribe, comprising about sixty species, referred to three genera.

55. COUSSAREA.

Coussarea, Aubl. Pl. Gui. i. p. 98, t. 38; Benth. et Hook. Gen. Plant. ii. p. 120.

About twenty species of shrubs and trees, principally Brazilian.

✓1. **Coussarea pentamera**, Karst. Fl. Colomb. ii. t. 107.

COSTA RICA (*Warscewicz*).—VENEZUELA.

✓2. **Coussarea**, sp.?

PANAMA, Rio Grande railway-station (*S. Hayes*, 175). Hb. Kew.

56. FARAMEA.

Faramea, Aubl. Pl. Gui. p. 102, t. 40; Benth. et Hook. Gen. Plant. ii. p. 121.

Shrubs or small trees, chiefly Brazilian. About forty species.

✓1. **Faramea odoratissima**, DC. Prodr. iv. p. 496.

Coffea occidentalis, Jacq. Stirp. Amer. t. 47.

Tetramerium odoratissimum, Gærtn. fil. Fruct. iii. p. 90, t. 196.

SOUTH MEXICO, valley of Cordova (*Bourgeau*, 2235), Jalapa (*Galeotti*, 1578), without locality (*Liebmann*, 209); GUATEMALA (*Friedrichsthal*); PANAMA, Rio Obispo (*S. Hayes*, 66).—Common in the northern part of SOUTH AMERICA and the WEST INDIES. Hb. Kew.

✓2. **Faramea suaveolens**, Duchass. in Bonplandia, 1858, p. 8.

PANAMA (*Duchassaing*).

✓3. **Faramea**, sp.

PANAMA, Chagres (*Fendler*, 104). Hb. Kew.

Tribe XXI. PSYCHOTRIEÆ.

Psychotrieæ, Benth. et Hook. Gen. Plant. ii. pp. 9, 24.

Twenty-seven genera are referred to this tribe, which is generally dispersed in the tropics. Several of the genera, notably *Psychotria* itself, are very numerous in species, which are nearly all shrubby or arboreous.

57. PSYCHOTRIA.

Psychotria, Linn. Gen. Plant. n. 229; Benth. et Hook. Gen. Plant. ii. p. 123.

A genus of upwards of 500 species, generally dispersed in the tropics, but having their greatest concentration in America. The American species are greatly in need of revision. We have departed from our practice of giving the unnamed species in Kew herbarium, because so few of the published names are therein represented by named specimens, though of the forty or so unnamed species, probably twenty are undescribed.

- ✓ 1. **Psychotria acuminata**, Benth. Bot. Voy. 'Sulphur,' p. 107.
SOUTH MEXICO, Tintalcingo (*Liebmann*, 96); NICARAGUA, Chontales (*Tate*, 175), without locality (*Ersted*); PANAMA, thick woods, Lion-Hill railway-station (*S. Hayes*, 669). Hb. Kew.
- ✓ 2. **Psychotria alba**, Ruiz et Pav. Fl. Peruv. ii. p. 58, t. 205, fig. *a*.
Psychotria ardisiæfolia, H. B. K. Nov. Gen. et Sp. iii. p. 359.
√ Var. **mexicana**, *Erst.* in Vidensk. Meddel. 1852, p. 12.
SOUTH MEXICO, Pital, Cazadera and Jecaltepec (*Liebmann*, 23, 18, 17); COSTA RICA, Guanacaste (*Ersted*). Hb. Kew.
The typical plant is widely dispersed in SOUTH AMERICA.
3. **Psychotria aureola**, Bartl. in DC. Prodr. iv. p. 513.
MEXICO (*Hænke*).
4. **Psychotria barbiflora**, DC. Prodr. iv. p. 509.
SOUTH MEXICO, Cordillera of Oaxaca, at 3000 feet (*Galeotti*, 7182).—BRAZIL. Hb. Kew.
5. **Psychotria biaristata**, Bartl. in DC. Prodr. iv. p. 513; Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 229.
SOUTH MEXICO (*Hænke*), forests of Chinantla, at 3000 feet (*Galeotti*, 7180).
6. **Psychotria bracteolata**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 228.
SOUTH MEXICO, Sierra de Capulalpan, Eastern Cordillera of Oaxaca, at 7000 to 8000 feet (*Galeotti*, 7226). Hb. Kew.
- √ 7. **Psychotria concolor**, Benth. in Vidensk. Meddel. 1852, p. 9.
NICARAGUA, Volcan de Mombacho (*Ersted*). Hb. Kew.
- √ 8. **Psychotria costaricensis**, Polak. in Linnæa, xli. p. 571.
COSTA RICA, Angostura (*Polakowsky*).
- √ 9. **Psychotria elongata**, Benth. in Vidensk. Meddel. 1852, p. 10.
NICARAGUA, Volcan de Mombacho (*Ersted*). Hb. Kew.
10. **Psychotria erythrocarpa**, Schl. in Linnæa, ix. p. 595.
SOUTH MEXICO, Hacienda de la Laguna (*Scheide*), Papantla (*Liebmann*, 806). Hb. Kew.
11. **Psychotria (?) excelsa**, H. B. K. Nov. Gen. et Sp. iii. p. 355, t. 282.
SOUTH MEXICO, Jalapa, at 4000 to 5000 feet (*Humboldt & Bonpland*, *Galeotti*, 7072). Hb. Kew.
- √ 12. **Psychotria flexuosa**, Willd. Sp. Pl. i. p. 966; DC. Prodr. iv. p. 510.
Nonatelia paniculata, Aubl. Pl. Gui. p. 181, t. 70, fig. 2.
COSTA RICA, Aguacate, at 2000 feet (*Ersted*)? Hb. Kew.
The original plant is a native of Guiana.

- ✓13. **Psychotria furcata**, DC. Prodr. iv. p. 512.
PANAMA (*Hænke*).
- ✓14. **Psychotria glauca**, Polak. in Linnæa, xli. p. 569.
COSTA RICA, San José (*Polakowsky*).
- ✓15. **Psychotria graciliflora**, Benth. in Vidensk. Meddel. 1852, p. 13; Ærst. L'Amér. Cent. t. 14. fig. 6.
COSTA RICA, Naranjo, 4500 feet (*Ærsted*).
- ✓16. **Psychotria granadensis**, Benth. in Vidensk. Meddel. 1852, p. 12.
NICARAGUA, Granada (*Ærsted*). Hb. Kew.
17. **Psychotria grandis**, Sw. Prodr. p. 43; DC. Prodr. iv. p. 517.
MEXICO (*Hænke*).—JAMAICA. Hb. Kew.
18. **Psychotria hænkeana**, DC. Prodr. iv. p. 507.
MEXICO? (ex *De Candolle*).—ECUADOR.
- ✓19. **Psychotria hebeclada**, DC. Prodr. iv. p. 513.
SOUTH MEXICO (*Hænke*); BRITISH HONDURAS (*Armstrong*); NICARAGUA, Chontales (*Tate*, 383); COSTA RICA, Aguacate (*Ærsted*). Hb. Kew.
All except Hænke's original are doubtful.
20. **Psychotria justicioides**, Schl. in Linnæa, ix. p. 596.
SOUTH MEXICO, Mirador (*Liebmann*, 39; *Linden*, 1259 bis), Barranca de Tioselo (*Schiede & Deppe*).—COLOMBIA. Hb. Kew.
- ✓21. **Psychotria lævis**, DC. Prodr. iv. p. 505; Ærst. in Vidensk. Meddel. 1852, p. 15.
NICARAGUA, Chontales (*Tate*, 155), Pantasmo, near Segovia, 3000 to 4000 feet (*Ærsted*).
—PORTO RICO. Hb. Kew.
- ✓22. **Psychotria longicollis**, Benth. in Vidensk. Meddel. 1852, p. 11.
COSTA RICA, San Lucas, Puntarenas and Aguacate, up to 2000 feet (*Ærsted*). Hb. Kew.
- ✓23. **Psychotria marginata**, Sw. Prodr. p. 43; DC. Prodr. iv. p. 516.
MEXICO; PANAMA (ex *De Candolle*).—JAMAICA.
24. **Psychotria mexicana**, Willd. in Roem. et Schult. Syst. v. p. 189; DC. Prodr. iv. p. 513.
MEXICO (*Humboldt & Bonpland*).
- ✓25. **Psychotria microdesmia**, Ærst. in Vidensk. Meddel. 1852, p. 14; Polakowsky in Linnæa, xli. p. 569.
COSTA RICA, Jaris (*Ærsted*), Angostura (*Polakowsky*). Hb. Kew.

26. **Psychotria miradorensis**, Ærst. L'Amér. Centr. p. 17, t. 14. fig. 9 (sub *Mapouria*).

SOUTH MEXICO, near Mirador (*Liebmann*).

27. **Psychotria mollis**, Poir. ?, DC. Prodr. iv. p. 513.

MEXICO (*Hænke*).

√ 28. **Psychotria moræ**, Polak. in Linnæa, xli. p. 570.

COSTA RICA, San José (*Polakowsky*).

√ 29. **Psychotria nicaraguensis**, Benth. in Vidensk. Meddel. 1852, p. 12.

NICARAGUA, San Juan river (*Ærsted*); COSTA RICA, Jaris (*Ærsted*). Hb. Kew.

30. **Psychotria ? nicotianæfolia**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 229.

SOUTH MEXICO, woods near Mirador, at 3000 feet (*Galeotti*, 7066).

31. **Psychotria obovata**, Ærst. L'Amér. Centr. p. 17, t. 14. figg. 3, 4 (sub *Mapouria*).

MEXICO (*Liebmann*).

32. **Psychotria padifolia**, Willd. in Rœm. et Schult. Syst. v. p. 189; DC. Prodr. iv. p. 513.

SOUTH MEXICO, Jalapa (*Humboldt & Bonpland*).

33. **Psychotria papantlensis**, Ærst. L'Amér. Centr. p. 17, t. 14. fig. 5 (sub *Mapouria*).

SOUTH MEXICO, Papantla (*Liebmann*).

√ 34. **Psychotria parvifolia**, Benth. in Vidensk. Meddel. 1852, p. 13.

NICARAGUA, Chontales (*Lévy*); COSTA RICA, Volcan de Barba, 6000 feet (*Ærsted*). Hb. Kew.

√ 35. **Psychotria pilosa**, Ruiz et Pav. Fl. Peruv. ii. p. 60, t. 208. fig. *a*.

NICARAGUA, Chontales (*Seemann*, 125).—PERU. Hb. Kew.

√ 36. **Psychotria pubescens**, Sw. Prodr. p. 44; DC. Prodr. iv. p. 515.

NICARAGUA, Granada (*Ærsted*).—WEST INDIES. Hb. Kew.

√ 37. **Psychotria quinqueradiata**, Polak. in Linnæa, xli. p. 570.

COSTA RICA, San José and Carpintera (*Polakowsky*).

38. **Psychotria rufescens**, Spreng. Syst. i. p. 741; DC. Prodr. iv. p. 512.

Var. *α*. **ferruginea**, DC. loc. cit.

NEW SPAIN.

Var. *β*. **hirta**, DC. loc. cit.

COLOMBIA.

Var. γ . **hænkeana**, DC. loc. cit.
MEXICO (*Hænke*).

39. **Psychotria salicifolia**, Ærst. L'Amér. Centr. p. 17, t. 14. fig. 2.
SOUTH MEXICO, Lacoba (*Liebmann*).

40. **Psychotria scabriuscula**, Bartl. in DC. Prodr. iv. p. 513.
SOUTH MEXICO, Acapulco (*Hænke*).

41. **Psychotria sessilifolia**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 228.
SOUTH MEXICO, Mirador and Zacuapan, Vera Cruz, at 2500 to 3500 feet (*Galeotti*, 7078), Tlapacoya (*Liebmann*, 204), Mirador (*Linden*, 787). Hb. Kew.

42. **Psychotria stipulata**, Ærst. L'Amér. Centr. p. 17, t. 14. fig. 7 (sub *Mapouria*).
SOUTH MEXICO, near Papantla (*Liebmann*).

✓ 43. **Psychotria subsessilis**, Benth. in Vidensk. Meddel. 1852, p. 10.
COSTA RICA, Turialva, at 3000 feet (*Ærsted*). Hb. Kew.

44. **Psychotria tomentosa**, Ærst. L'Amér. Centr. p. 17, t. 14. fig. 8 (sub *Mapouria*).
SOUTH MEXICO, near Papantla (*Liebmann*).

45. **Psychotria trichotoma**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 227.
SOUTH MEXICO, in the oak-forests of Jalapa and Mirador, at 3000 to 4000 feet (*Galeotti*, 7092).

✓ 46. **Psychotria uliginosa**, Sw. Prodr. p. 43; Griseb. Fl. Brit. W. Ind. p. 340.
CENTRAL AMERICA (ex *Grisebach*).—CUBA to TRINIDAD and GUIANA.

58. PALICOUREA.

Palicourea, Aubl. Pl. Gui. i. p. 172, t. 66; Benth. et Hook. Gen. Plant. ii. p. 125.

Restricted to Tropical America, and comprising about 100 shrubby species.

✓ 1. **Palicourea costaricensis**, Benth. in Vidensk. Meddel. 1852, p. 16.
SOUTH MEXICO, Mirador (*Liebmann*, 27); COSTA RICA, Volcan de Barba and mountains of Candelaria (*Ærsted*, 64, 68). Hb. Kew.

2. **Palicourea galeottiana**, Mart. in Bull. Acad. Brux. xi. 1, p. 136.
SOUTH MEXICO, dense humid forests between Llano Verde and El Rincon, Oaxaca, and in Chinantla, in the high mountains of the Sierra de Yavesia, at 3000 to 6000 feet (*Galeotti*, 2602, 2636). Hb. Kew.

3. **Palicourea gardenioides**, Benth. et Hook. Gen. Pl. ii. p. 125.

Rhodostoma gardenioides, Schiedw. in Otto & Dietr. Allgem. Gartenz. x. p. 216; Moore, Mag. Bot. 1850, p. 65, cum ic.

SOUTH MEXICO, Vera Cruz to Orizaba (*Müller*, 228), Cazadero (*Liebmann*, 97, 100).
Hb. Kew.

√ 4. **Palicourea intermedia**, Ærst. ex Polak. in Linnæa, xli. p. 571.

COSTA RICA, Carpintera (*Polakowsky*).

√ 5. **Palicourea lanceolata**, Ærst. in Vidensk. Meddel. 1852, p. 17.

COSTA RICA, mountains of Candelaria, at 7000 feet (*Ærsted*).

√ 6. **Palicourea lasiorrhachis**, Ærst. in Vidensk. Meddel. 1852, p. 17.

COSTA RICA, mountains of Candelaria (*Ærsted*, 65, 69). Hb. Kew.

√ 7. **Palicourea mexicana**, Benth. in Vidensk. Meddel. 1852, p. 15.

SOUTH MEXICO, Orizaba (*Botteri*, 1038), Jalapa (*Linden*, 508), Cordillera of Oaxaca, 3000 to 4000 feet (*Galeotti*, 2617), valley of Cordova (*Bourgeau*, 2062); GUATEMALA (*Friedrichsthal*); COSTA RICA, Volcan de Barba and mountains of Candelaria (*Ærsted*); PANAMA, Boquete (*Seemann*, 1151). Hb. Kew.

8. **Palicourea nigrescens**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 136.

SOUTH MEXICO, Jalapa, at 4000 feet (*Galeotti*, 2653).

√ 9. **Palicourea? parviflora**, Benth. Bot. Voy. 'Sulphur,' p. 107.

PANAMA, island off Veraguas (*Sinclair*), without locality (*Seemann*, 353). Hb. Kew.

√ 10. **Palicourea subrubra**, Polak. in Linnæa, xli. p. 571.

COSTA RICA, Carpintera (*Polakowsky*).

√ 11. **Palicourea**, sp.

COSTA RICA (*Endres*, 138). Hb. Kew.

√ 12. **Palicourea**, sp.

COSTA RICA (*Endres*, 171). Hb. Kew.

√ 13. **Palicourea**, sp.

COSTA RICA (*Endres*, 130). Hb. Kew.

√ 14. **Palicourea**, sp.

PANAMA, Chagres (*Fendler*, 65). Hb. Kew.

59. DECLIEUXIA.

Declieuxia, H. B. K. Nov. Gen. et Sp. iii. p. 352, t. 281; Benth. et Hook. Gen. Plant. ii. p. 126.

About twenty-five herbaceous and half-shrubby species, restricted to the mainland of Tropical America.

1. **Declieuxia galeottii**, Mart. in Bull. Acad. Brux. xi. 1, p. 231.

SOUTH MEXICO, in various localities in the Eastern Cordillera of Oaxaca, 5000 to 7000 feet (*Galeotti*, 2603).

✓ 2. **Declieuxia mexicana**, DC. Prodr. iv. p. 479.

MEXICO (*Hænke*); GUATEMALA, between Tocoay and San Gerónimo (*Bernoulli*, 1011); PANAMA (*Seemann*, 349). Hb. Kew.

60. CEPHAELIS.

Cephaelis, Sw. Prodr. p. 45; Benth. et Hook. Gen. Plant. ii. p. 127.

A genus of about seventy species of shrubs and undershrubs, or rarely herbs, inhabiting tropical countries; with a few exceptions in Africa, Asia, and Oceania, they are American.

✓ 1. **Cephaelis discolor**, Polak. in Linnæa, xli. p. 572.

COSTA RICA, Angostura (*Polakowsky*).

2. **Cephaelis hirsuta**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 135.

SOUTH MEXICO, Chinantla, Eastern Cordillera of Oaxaca, at 4000 feet (*Galeotti*, 7185).

✓ 3. **Cephaelis punicea**, Willd. Sp. Pl. i. p. 977; DC. Prodr. iv. p. 533.

SOUTH MEXICO, Hacienda de Jovo (*Liebmann*, 11), without locality (*Hahn*); NICARAGUA, Chontales (*Seemann*, 135; *Tate*, 382); COSTA RICA, Naranjo (*Ersted*).—JAMAICA. Hb. Kew.

✓ 4. **Cephaelis psychotriæfolia**, Seem. Bot. Voy. 'Herald,' p. 138.

PANAMA, shady woods near Cruces (*Seemann*, 482). Hb. Kew.

✓ 5. **Cephaelis tomentosa**, Willd. Sp. Pl. i. p. 977; DC. Prodr. iv. p. 533.

Tapogomea tomentosa, Aubl. Pl. Gui. p. 160, t. 61.

SOUTH MEXICO, Sierra de San Pedro Nolasco (*Jurgensen*, 738), Tintalcingo (*Liebmann*, 15), Tabasco (*Linden*, 1611); BRITISH HONDURAS (*Temple*); NICARAGUA, Chontales (*Seemann*, 134); COSTA RICA (*Polakowsky*); PANAMA, Chagres (*Fendler*, 177), near Cruces (*Seemann*, 481).—Southward to PERU and BRAZIL, and in TRINIDAD. Hb. Kew.

6. **Cephaelis**, sp.

SOUTH MEXICO (*Liebmann*, 111). Hb. Kew.

7. **Cephaelis**, sp.

SOUTH MEXICO, Matlaluca (*Liebmann*, 16). Hb. Kew.

61. GEOPHILA.

Geophila, Don, Prodr. Fl. Nepal. p. 136; Benth. et Hook. Gen. Plant. ii. p. 127.

About ten species of dwarf herbs, widely dispersed in the tropics.

1. **Geophila reniformis**, Don, Prodr. Fl. Nepal. p. 136.*Psychotria herbacea*, Linn. Sp. Pl. p. 245; Jacq. Stirp. Amer. t. 46.*Cephaelis reniformis*, H. B. K. Nov. Gen. et Sp. iii. p. 377.SOUTH MEXICO, Tantoyuca (*Ervendberg*), Oaxaca (*Galeotti*, 2630).—Common in TROPICAL AMERICA, and widely dispersed in the tropics of the OLD WORLD. Hb. Kew.√ 2. **Geophila violacea**, DC. Prodr. iv. p. 537.*Psychotria violacea*, Aubl. Pl. Gui. i. p. 145, t. 55.PANAMA (*Hænke*).—GUIANA.Probably a variety of *G. reniformis*.

Tribe XXII. PÆDERIEÆ.

Pæderieæ, Benth. et Hook. Gen. Plant. ii. pp. 9, 25.

Six genera and about twenty species constitute this tribe, which is generally dispersed, though it does not appear to be represented within our area.

Tribe XXIII. ANTHOSPERMEÆ.

Anthospermeæ, Benth. et Hook. Gen. Plant. ii. pp. 9, 26.

Twenty genera, several of them rather numerous in species, are referred to this tribe, which is represented in most tropical and subtropical regions, some few occurring in temperate regions.

62. MITCHELLA.

Mitchella, Linn. Gen. Plant. n. 134; Benth. et Hook. Gen. Plant. ii. p. 137.

Herbs. The following and one other Japanese species.

1. **Mitchella repens**, Linn. Sp. Pl. p. 161; Lodd. Bot. Cab. t. 979.NORTH AMERICA, from CANADA and NOVA SCOTIA southward through the Eastern States to—MEXICO, between Pueblo Nuevo and Real del Monte (ex *DeCandolle*), near Betaza (*Hartweg*). Hb. Kew.

63. NERTERA.

Nertera, Banks et Sol. in Gærtn. Fruct. i. p. 124, t. 26; Benth. et Hook. Gen. Plant. ii. p. 138.

About six species of very dwarf herbs, inhabiting the mountains of Java, the Philippine and Sandwich Islands, Australia, New Zealand, and the Andes of America.

1. **Nertera depressa**, Banks et Sol. in Gærtn. Fruct. i. p. 124, t. 26; Hook. Fl. N. Zeal. t. 28; Bot. Mag. t. 5799.*Nerteria depressa*, Smith, Ic. ined. ii. t. 28.SOUTH MEXICO, Vera Cruz to Orizaba (*Müller*, 1701).—Southward through the ANDES to FUEGIA. Also in TRISTAN D'ACUNHA, NEW ZEALAND, and AUSTRALIA. Hb. Kew.

Tribe XXIV. SPERMACOCEÆ.

Spermacoceæ, Benth. et Hook. Gen. Plant. ii. pp. 9, 27.

This tribe is represented in all tropical countries, but most numerous in America. It consists of sixteen genera of herbaceous and half-shrubby plants.

64. TRIODON.

Triodon, DC. Prodr. iv. p. 566; Benth. et Hook. Gen. Plant. ii. p. 143.

About half a dozen species of dwarf undershrubs, restricted to Tropical America.

1. *Triodon angulatum*, Benth. Pl. Hartw. p. 70.

SOUTH MEXICO, Teotolingo (*Hartweg*), Orizaba (*Botteri*, 779; *Müller*, 1095), Teosola (*Linden*, 615), valley of Cordova (*Bourgeau*, 1516), Jalapa, 3000 feet (*Galeotti*, 615), Yucatan and Tabasco (*Johnson*, 137). Hb. Kew.

2. *Triodon*, sp.

SOUTH MEXICO, Orizaba (*Botteri*, 780). Hb. Kew.

65. DIODIA.

Diodia, Linn. Gen. Plant. n. 122; Benth. et Hook. Gen. Plant. ii. p. 143.

About twenty species of annual and perennial herbs, inhabiting the warmer parts of America and Tropical Africa.

✓ 1. *Diodia conferta*, DC. Prodr. iv. p. 563?

GUATEMALA (*Friedrichsthal*, 4); PANAMA, meadows near the city of Panama (*Seemann*, 267). Hb. Kew.

The type is from BRAZIL.

2. *Diodia crassifolia*, Benth. Bot. Voy. 'Sulphur,' p. 108.

SOUTH MEXICO, San Blas (*Hinds*), Tepic (*Barclay*). Hb. Kew.

✓ 3. *Diodia prostrata*, Sw. Fl. Ind. Occ. i. p. 218; DC. Prodr. iv. p. 562.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 303); GUATEMALA, sandy hills, Santa Rosa (*Bernoulli*, 689); NICARAGUA, Volcan el Viejo, Granada, &c. (*Ersted*, 41, 42, 45).—JAMAICA. Hb. Kew.

Var. β . *longiseta*, DC. Prodr. iv. p. 562.

MEXICO (*Hænke*).

✓ 4. *Diodia radula*, Ch. et Schl. in Linnæa, iii. p. 342.

Spermacoce radula, Willd. et Hoffmans. in Rœm. et Schult. Syst. iii. p. 531.

PANAMA, Chagres (*Fendler*, 146).—BRAZIL. Hb. Kew.

✓ 5. *Diodia rigida*, Ch. et Schl. in Linnæa, iii. p. 341.

Spermacoce rigida, H. B. K. Nov. Gen. et Sp. iii. p. 342.

GUATEMALA, Barranca de Incensio (*Bernoulli*, 104).—CUBA and VENEZUELA to BRAZIL. Hb. Kew.

√ 6. **Diodia sarmentosa**, Sw. Fl. Ind. Occ. i. p. 231; DC. Prodr. iv. p. 563.

SOUTH MEXICO, Guatulco (*Liebmann*, 174, 175), valley of Cordova (*Bourgeau*); GUATEMALA (*Friedrichsthal*); NICARAGUA (*Tate*, 354).—GUIANA and WEST INDIES. Hb. Kew.

√ 7. **Diodia setigera**, DC. Prodr. iv. p. 563.

SOUTH MEXICO, Vera Cruz (*Gouin*); GUATEMALA, between Intraba and Santa Catarina (*Bernoulli*, 714); NICARAGUA, Segovia (*Ersted*).—BRAZIL. Hb. Kew.

8. **Diodia teres**, Walt. Fl. Carol. p. 87; DC. Prodr. iv. p. 562.

Spermaceoce diodina, Michx. Fl. Bor.-Amer. i. p. 82.

MISSOURI and CAROLINA to FLORIDA and—NORTH MEXICO, Sonora (*Wright*, 1122). Hb. Kew.

9. **Diodia tetracocca**, Hemsley, Diag. Pl. Nov. pars altera, p. 32. (Tab. XL. figg. 10–15.)

Perennis, nana, ramosa, ramis graciliusculis puberulis, foliis coriaceis lineari-lanceolatis apice sparse ciliatis, floribus solitariis vel geminis, lobis calycinis sæpissime 4 ciliatis corollam æquantibus, stylo quadrifido breviter exserto, fructu tetracocco.

Herba perennis, 2–3-pollicaris, ramosa, ramis graciliusculis, puberulis. *Folia* opposita, sessilia, coriacea, lineari-lanceolata, 3–5 lineas longa, acutiuscula, margine revoluta, apicem versus sparse ciliata; stipulæ connatæ, breviter setosæ. *Flores* sessiles, sæpissime tetrameri, solitarii vel geminati; calycis limbus sæpe 4-lobus; lobi subinæquales, unus vel duo eorum interdum desunt, coriacei, lineares, grosse albo-ciliati, 1–1½ lin. longi, persistentes; corollæ tubus gracilis, sursum dilatatus, 1–1¼ lin. longus, lobi ovati, obtusi, semilin. longi, apice leviter barbati; stamina ori corollæ inserta, filamentis brevibus; stylus filiformis, quadrifidus, breviter exsertus. *Fructus* tetracoccus, sulcatus, subglobosus, glaber, lobis calycinis coronatus, 4-spermus.—*Spermaceoce? tetracocca*, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 132.

SOUTH MEXICO, near Cuernavaca (*Schaffner*, 32), Real del Monte (*Coulter*, 197), Morelia, 7000 feet (*Galeotti*, 2587). Hb. Kew.

This plant has been referred to various genera in herbaria; but it certainly is closely allied to *Diodia tricocca*, Torr. & Gray, a Texan species.

EXPLANATION OF TAB. XL. FIGG. 10–15.

Fig. 10, a plant, natural size; 11, portion of branch, showing leaf and stipule; 12, a flower; 13, one lobe of corolla and a stamen; 14, vertical section of pistil; 15, horizontal section of pistil: all enlarged.

10. **Diodia villosa**, DC. Prodr. iv. p. 562; Calques des Dess. Fl. Mex. 494.

SOUTH MEXICO, near Tantoyuca (*Ervendberg*, ex *A. Gray*); NEW SPAIN (ex *DeCandolle*).

66. DASYCEPHALA.

Dasycephala, DC. Prodr. iv. p. 565 (*Diodiæ* sect. 2); Benth. et Hook. Gen. Plant. ii. p. 143.

A Tropical-American genus of three or four herbaceous species.

1. **Dasycephala indecora**, DC. Prodr. iv. p. 565.
MEXICO, Cordillera of Guichilapa (*Berlandier*).

67. CRUSEA.

Crusea, Ch. et Schl. in Linnæa, v. p. 165; Benth. et Hook. Gen. Plant. ii. p. 144.

About a dozen herbaceous species, inhabiting Central America and Mexico.

1. **Crusea brachyphylla**, Ch. et Schl. in Linnæa, v. p. 165.
SOUTH MEXICO, Cerro Colorado (*Schiede & Deppe*), peak of Orizaba, at 7000 feet (*Galeotti*, 2605), without locality (*Graham*). Hb. Kew.
2. **Crusea calocephala**, DC. Prodr. iv. p. 567.
SOUTH MEXICO (*Moçino & Sessé*), Vera Cruz, Oaxaca, Michoacan, &c., at 2500 to 5000 feet (*Galeotti*, 2580, 2591). Hb. Kew.
3. **Crusea coccinea**, Prodr. iv. p. 567.
SOUTH MEXICO, Cordillera of Oaxaca, in woods at 4000 feet (*Galeotti*, 2635).
4. **Crusea hispidula**, Bårtling, Ind. Sem. Hort. Bot. Gotting. 1839.
SOUTH MEXICO, Juquila, western Cordillera of Oaxaca, 6000 to 7000 feet (*Galeotti*, 2628).
- ✓ 5. **Crusea longibracteata**, Benth. in Vidensk. Meddel. 1852, p. 6.
NICARAGUA, Granada (*Ersted*, 39). Hb. Kew.
6. **Crusea lucida**, Benth. Bot. Voy. 'Sulphur,' p. 109.
SOUTH MEXICO (*Hinds*). Hb. Kew.
7. **Crusea parviflora**, Hook. et Arn. Bot. Beech. Voy. p. 430, t. 99 c.
NORTH MEXICO, Cerro de Pinal (*Seemann*, 1495); SOUTH MEXICO, Acapulco (*Sinclair*).
Hb. Kew.
- ✓ 8. **Crusea rubra**, Ch. et Schl. in Linnæa, v. p. 165.
SOUTH MEXICO, Jalapa (*Coulter*, 198; *Galeotti*, 2580), valley of Cordova (*Bourgeau*), Orizaba (*Sallé*), Mirador (*Liebmann*, 194; *Linden*, 521); GUATEMALA, Volcan de Fuego, at 4600 feet (*Salvin*). Hb. Kew.
9. **Crusea subulata**, Hook. et Arn. Bot. Beech. Voy. p. 431.
SOUTH MEXICO, San Blas to Tepic (*Sinclair*). Hb. Kew.
10. **Crusea wrightii**, A. Gray, Pl. Wright. ii. p. 68.
NORTH MEXICO, Sonora (*Wright*, 1121). Hb. Kew.
11. **Crusea**, sp.
SOUTH MEXICO, Cordillera of Oaxaca, woods at 7000 to 9000 feet (*Galeotti*, 2640).
Hb. Kew.

√ 12. **Crusea**, sp.

GUATEMALA, Zapote (*Bernoulli*, 334). Hb. Kew.

13. **Crusea**, sp.

SOUTH MEXICO, region of Orizaba (*Bourgeau*, 3219). Hb. Kew.

68. SPERMACOCE.

Spermacoce, Linn. Gen. n. 119; Benth. et Hook. Gen. Plant. ii. p. 145.

A genus of about 150 species of annual and perennial herbs and undershrubs, scattered throughout the tropics, but most numerous in America. The species are greatly in need of revision. We can only give a rough list of names of those recorded as indigenous in Mexico and Central America.

1. **Spermacoce aspera**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 130 (sub *Borreria*).

SOUTH MEXICO, near Juquila, on the Pacific coast of Oaxaca, at 4000 feet (*Galeotti*, 2625).

2. **Spermacoce asperifolia**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 132.

SOUTH MEXICO, humid places near the Pacific Ocean in the State of Oaxaca (*Galeotti*, 2626). Hb. Kew.

√ 3. **Spermacoce bartlingiana**, DC. Prodr. iv. p. 544 (sub *Borreria*).

MEXICO (*Hænke*); COSTA RICA, Aguacate (*Ersted*).

4. **Spermacoce distans**, H. B. K. Nov. Gen. et Sp. iii. p. 344.

Borreria distans, Ch. et Schl. in Linnæa, iii. p. 340.

SOUTH MEXICO, Volcan de Jorullo, at 3000 feet (*Humboldt & Bonpland*).

In Kew herbarium Galeotti's n. 2606 is referred to this species. See *S. ovalifolia*.

5. **Spermacoce echioides**, H. B. K. Nov. Gen. et Sp. iii. p. 344; Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 131.

SOUTH MEXICO, Campeche (*Humboldt & Bonpland*), savannas of Zacuapan, at 3000 feet (*Galeotti*, 2611 bis).

6. **Spermacoce ferruginea**, St.-Hil. Pl. Us. Bras. t. 13.

Borreria ferruginea, DC. Prodr. iv. p. 547; Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 128.

SOUTH MEXICO, Mirador, at 3000 feet (*Galeotti*, 2608).—BRAZIL. Hb. Kew.

7. **Spermacoce graminifolia**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 129 (sub *Borreria*).

SOUTH MEXICO, oak-forests of El Sabino, near Zimapan, at 6500 feet (*Galeotti*, 2599). Hb. Kew.

✓ 8. **Spermacoce hænkeana**, DC. Prodr. iv. p. 547 (sub *Borreria*).

SOUTH MEXICO (*Hænke*), Morelia (*Galeotti*, 2585); COSTA RICA, Aguacate (*Ersted*, 38). Hb. Kew.

9. **Spermacoce lævigata**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 130 (sub *Borreria*).

SOUTH MEXICO, valley of Morelia, Valladolid de Michoacan, at 5000 feet, and in the plain of Jordana, near Toluca, at 8000 feet (*Galeotti*, 2586).

✓ 10. **Spermacoce lævis**, Lam. Ill. n. 1435, t. 94. f. 2.

Borreria lævis, Griseb. Fl. Brit. W. Ind. p. 349.

SOUTH MEXICO, Yucatan and Tabasco (*Johnson*, 136); GUATEMALA, Mazatenango (*Bernoulli*, 550).—And throughout the WEST INDIES. Hb. Kew.

11. **Spermacoce longiflora**, H. B. K. Nov. Gen. et Sp. iii. p. 347.

SOUTH MEXICO, near Ario and the city of Mexico, 6000 to 7000 feet (*Humboldt & Bonpland*).

12. **Spermacoce longiseta**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 128 (sub *Borreria*).

SOUTH MEXICO, savannas of Zacuapan and Mirador, at 3000 feet (*Galeotti*, 2611). Hb. Kew.

13. **Spermacoce oaxacana**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 130 (sub *Borreria*).

SOUTH MEXICO, near the city of Oaxaca, at 5000 feet (*Galeotti*, 2629). Hb. Kew.

14. **Spermacoce ovalifolia**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 129 (sub *Borreria*).

SOUTH MEXICO, Mirador, at 3000 feet (*Galeotti*, 2606). Hb. Kew.

✓ 15. **Spermacoce parviflora**, G. F. W. Mey. Fl. Esseq. p. 83, t. 1; DC. Prodr. iv. p. 544 (sub *Borreria*).

Borreria ramisparsa, DC. Prodr. iv. p. 544.

SOUTH MEXICO, region of Orizaba (*Bourgeau*, 2624; *Müller*); GUATEMALA, Mazatenango (*Bernoulli*, 528); HONDURAS, Gulf of Fonseca (*Sinclair*); NICARAGUA, Greytown (*Tate*, 47); PANAMA, Chagres (*Fendler*, 147, 262), meadows near the city of Panama (*Seemann*, 243).—Common in Tropical SOUTH AMERICA and the WEST INDIES. Hb. Kew.

16. **Spermacoce patula**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 128 (sub *Borreria*).

SOUTH MEXICO, Mirador, at 3000 feet (*Galeotti*, 2608). Hb. Kew.

17. **Spermacoce podocephala**, DC. Prodr. iv. p. 542 (sub *Borreria*).
 NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 307);
 SOUTH MEXICO, Aguas Calientes (*Hartweg*), common around Tacubaya (*Schaffner*).
 Hb. Kew.
- √ 18. **Spermacoce portoricensis**, Balb. in DC. Prodr. iv. p. 552; Polak. in
 Linnæa, xli. p. 573.
 COSTA RICA, San José (*Polakowsky*)?—PORTO RICO.
19. **Spermacoce procera**, Schl. in Linnæa, ix. p. 593.
 SOUTH MEXICO, Hacienda de la Laguna (*Schiede & Deppe*), Cordillera of Vera Cruz,
 at 3000 feet (*Galeotti*, 2610). Hb. Kew.
20. **Spermacoce psyllioides**, H. B. K. Nov. Gen. et Sp. iii. p. 346, t. 278.
Borreria psyllioides, DC. Prodr. iv. p. 548.
 SOUTH MEXICO, near Ario, 6000 feet (*Humboldt & Bonpland*).
21. **Spermacoce setosa**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 131 (sub
Borreria).
 SOUTH MEXICO, palm-forest on the Pacific coast of Oaxaca (*Galeotti*, 2627).
- √ 22. **Spermacoce spinosa**, Linn. Sp. Pl. p. 148.
Borreria spinosa, Ch. et Schl. in Linnæa, iii. p. 340; DC. Prodr. iv. p. 542.
 PANAMA, Chagres (*Fendler*, 144).—MARTINIQUE; CUBA. Hb. Kew.
23. **Spermacoce subulata**, Pav., ex DC. Prodr. iv. p. 543.
Borreria subulata, DC. loc. cit.
 NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 306);
 SOUTH MEXICO, Eastern Cordillera of Oaxaca, at 6000 to 7000 feet (*Galeotti*, 2654),
 Real del Monte and Zimapan (*Coulter*, 195), Chiapas (*Ghiesbreght*, 611), valley of
 Mexico (*Bourgeau*, 749), Vera Cruz to Orizaba (*Müller*, 291). Hb. Kew.
- √ 24. **Spermacoce suffrutescens**, Jacq. Hort. Schönb. t. 322; DC. Prodr. iv.
 p. 553; Polak. in Linnæa, xli. p. 573.
 COSTA RICA, San José (*Polakowsky*). Patria ignota ex DC.
- √ 25. **Spermacoce tenuior**, Linn. Sp. Pl. p. 147; DC. Prodr. iv. p. 552.
 SOUTHERN STATES of North America.—MEXICO, Cordillera of Oaxaca, 3000 to 4000
 feet (*Galeotti*, 2018), Chinantla (*Hartweg*), Pital (*Liebmann*, 167), region of Orizaba
 (*Bourgeau*, 2935); NICARAGUA, Chontales (*Tate*, 211); PANAMA, Chagres (*Fendler*, 145).
 —And widely dispersed in Tropical SOUTH AMERICA and the WEST INDIES. Hb. Kew.
- √ 26. **Spermacoce verticillata**, Sw., ex DC. Prodr. iv. p. 541.
Borreria verticillata, G. F. W. Mey. Fl. Esseq. p. 83.
 NORTH MEXICO, Cerro de Pinal (*Seemann*); SOUTH MEXICO, valley of Mexico (*Bour-
 geau*, 100), Orizaba (*Bourgeau*, 2850); GUATEMALA, Acatenango (*Hartweg*, 586), without

localities (*Bernoulli, Salvin*); NICARAGUA, between Sapoa and Tortuga (*Ersted*).—Common nearly all over TROPICAL AMERICA and the WEST INDIES. Hb. Kew.

27. **Spermacoce virgata**, Ch. et Schl. in Linnæa, iii. p. 324 (sub *Borreria*); Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 128.

SOUTH MEXICO, Jalapa and Mirador, 3000 to 4000 feet (*Galeotti, 2618*).—BRAZIL. Hb. Kew.

69. HEXASEPALUM.

Hexasepalum, Bartl., ex DC. Prodr. iv. p. 561; Benth. et Hook. Gen. Plant. ii. p. 145.

An obscure genus of one shrubby species.

1. **Hexasepalum angustifolium**, Bartl., ex DC. Prodr. iv. p. 561.

SOUTH MEXICO, Real del Monte (*Hænke*).

70. MITRACARPUM.

Mitracarpum, Zucc. in Schultes's Mant. iii. p. 210; Benth. et Hook. Gen. Plant. ii. p. 146.

Thirty species of herbaceous plants, the greater part Tropical American, the remainder in Tropical and South Africa.

1. **Mitracarpum breviflorum**, A. Gr. Pl. Wright. ii. p. 68.

NORTH MEXICO, Sonora (*Wright, 1120*), Sonoita valley (*Rothrock*).

✓ 2. **Mitracarpum pallidum**, Hook. et Arn. Bot. Beech. Voy. p. 430.

NICARAGUA, Realejo (*Sinclair, Ersted*). Hb. Kew.

✓ 3. **Mitracarpum schizangium**, DC. Prodr. iv. p. 572.

SOUTH MEXICO, Tepic (*Sinclair*), San Augustin (*Liebmann, 157*); NICARAGUA, Volcan el Viejo (*Ersted*). Hb. Kew.

✓ Var. **angustifolium**, Erst. in Vidensk. Meddel. 1852, p. 7.

NICARAGUA, Volcan el Viejo (*Ersted*).

✓ 4. **Mitracarpum villosum**, Ch. et Schl. in Linnæa, iii. p. 363; DC. Prodr. iv. p. 572.

Spermacoce hirta, Jacq. Ic. Rar. t. 308.

SOUTH MEXICO, Cordillera of Vera Cruz, 3000 feet (*Galeotti, 2607*), Mirador (*Linden, 1255*); COSTA RICA, Aguacate, at 2000 feet, and near Cartago, at 4700 feet (*Ersted*).—COLOMBIA to PERU, and in the WEST INDIES. Hb. Kew.

5. **Mitracarpum**, sp.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer, 305*). Hb. Kew.

71. RICHARDSONIA.

Richardsonia, Kunth, in H. B. K. Nov. Gen. et Sp. iii. p. 350, t. 279; Benth. et Hook. Gen. Plant. ii. p. 147.

Richardia, Linn. Gen. Plant. n. 439.

Half a dozen herbaceous species, inhabiting the warmer parts of America.

1. **Richardsonia hænkeana**, DC. Prodr. iv. p. 569.

MEXICO (*Hænke*).

2. **Richardsonia pilosa**, Ruiz et Pav. Fl. Peruv. iii. p. 50; H. B. K. Nov. Gen. et Sp. iii. p. 350, t. 279; Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 134.

SOUTH MEXICO, Jalapa, Mirador, &c., 2800 to 4500 feet (*Galeotti*, 2582).—COLOMBIA; PERU. Hb. Kew.

3. **Richardsonia scabra**, A. St.-Hil. Pl. Us. Bras. t. 8; DC. Prodr. iv. p. 567.

SOUTH MEXICO, Jalapa, at 4000 feet (*Galeotti*, 2582), Mirador, Laguna Salada, Hacienda de Jovo (*Liebmann*, 177, 178, 180, 181), region of Orizaba (*Bourgeau*, 2729), Mirador (*Linden*, 1254); GUATEMALA, Mazatenango (*Bernoulli*, 581); COSTA RICA, Cartago (*Ersted*, 35).—Common nearly throughout Tropical SOUTH AMERICA and in the WEST INDIES. Hb. Kew.

Tribe XXV. GALIÆ.

Galiæ, Benth. et Hook. Gen. Plant. ii. p. 149.

The whole of this tribe is herbaceous. It comprises ten genera and upwards of 400 species, and has nearly the same range as the order, though the species are mostly confined to temperate regions.

72. RELBUNIUM.

Relbunium, Endl. Gen. Plant. p. 523 (*Galii* sect.); Benth. et Hook. Gen. Plant. ii. p. 149.

About twenty species, exclusively American, and extending from subtropical regions in the north to Chili and Buenos Ayres.

Perhaps better as a section of *Galium*.

1. **Relbunium aschenbornii**, Schauer in Linnæa, xx. p. 701.

MEXICO (*Aschenborn*).

2. **Relbunium ciliatum**, Hemsley.

Galium ciliatum, Ruiz et Pav. Fl. Peruv. i. p. 59.

Galium involucratum, H. B. K. Nov. Gen. et Sp. iii. p. 334.

Rubia ciliata, DC. Prodr. iv. p. 591.

SOUTH MEXICO, woods of El Sabino, north of the city of Mexico, at 6500 feet (*Galeotti*, 2596).—COLOMBIA; PERU.

We have not seen the Mexican specimens referred to this species by Martens and Galeotti.

✓ 3. **Relbunium hypocarpium**, Hemsley.

Rubia hypocarpia, DC. Prodr. iv. p. 591.

Valantia hypocarpia, Linn. Sp. Pl. p. 1491.

SOUTH MEXICO, Mirador (*Liebmann*, 225), Cordillera of Oaxaca, at 4000 feet (*Galeotti*, 2622), Vera Cruz to Orizaba (*Müller*, 1551); COSTA RICA, Cartago (*Ersted*); PANAMA, Veraguas (*Seemann*, 1599).—Generally dispersed in Tropical SOUTH AMERICA and the WEST INDIES. Hb. Kew.

4. **Relbunium lævigatum**, Hemsley.

Rubia lævigata, DC. Prodr. iv. p. 591.

MEXICO (*Hænke*); COSTA RICA, Cartago, 5000 feet (*Ersted*)?

5. **Relbunium microphyllum**, Hemsley.

Galium microphyllum, A. Gr. Pl. Wright. i. p. 80.

TEXAS; NEW MEXICO; ARIZONA.—NORTH MEXICO, Sierra Madre (*Seemann*, 2062, 2063), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 309, 310); SOUTH MEXICO, Zimapan (*Coulter*, 186). Hb. Kew.

6. **Relbunium polyplacum**, Hemsley, Diag. Pl. Nov. pars tertia, p. 53.

Herbaceum, repens vel procumbens, omnino hispidulo-pilosum, densissime ramosum, ramis fere filiformibus, internodiis brevibus, foliis parvis quaternis linearibus vel lineari-oblongis vix acutis trinerviis, nervis lateralibus juxta marginem.

Herba annua vel perennis, omnino hispidulo-pilosa (pilis patentissimis albescentibus), densissime et intricatissime ramosa, ramis fere filiformibus, prominenter tetragonis, internodiis foliis æquilongis vel duplo longioribus. *Folia* nitida, duriuscula, arcte sessilia, quaterna, linearia vel anguste lineari-oblonga, 2-3 lineas longa, vix acuta, trinervia, nervis lateralibus marginalibus, costa decurrente. *Flores* in involucri tetraphyllo solitarii, sessiles, pedunculis solitariis quam folia paullo longioribus. *Fructus* albo-granulosus, glabris.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 308); SOUTH MEXICO, Mirador (*Linden*, 516; *Liebmann*, 243, 244). Hb. Kew.

This closely resembles *R. microphyllum*, which, however, is glabrous and less intricately branched.

73. GALIUM.

Galium, Linn. Gen. Plant. n. 125; Benth. et Hook. Gen. Plant. ii. p. 149.

About 253 species have been described; but Bentham and Hooker think they might be reduced to 150. They are spread over all temperate and most subtropical regions.

1. **Galium asperrimum**, A. Gr. Pl. Fendl. p. 60.

NEW MEXICO; ARIZONA.—NORTH MEXICO, Mount Graham, Southern Arizona (*Rothrock*).

2. **Galium canescens**, H. B. K. Nov. Gen. et Sp. iii. p. 203 ?

SOUTH MEXICO, Real del Monte, at 8000 feet, and near Jalapa, at 4000 feet (*Galeotti*, 2598, 2616 bis), Chiapas (*Ghiesbreght*, 886). Hb. Kew.

The typical plant is a native of Peru.

3. **Galium? denticulatum**, Bartl. in DC. Prodr. iv. p. 612.

SOUTH MEXICO, Real del Monte (*Hænke*).

4. **Galium fuscum**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 126.

SOUTH MEXICO, Cerro de San Felipe, near Oaxaca, at 5000 feet, and Cerro de Juquila, at 7000–8500 feet (*Galeotti*, 2633). Hb. Kew.

✓ 5. **Galium geminiflorum**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 126. (Tab. XLI. figg. 1–3.)

SOUTH MEXICO, peak of Orizaba, at 9500 feet (*Galeotti*, 2604), at 10,000 feet (*Liebmann*, 236), Zimapan (*Coulter*, 189); GUATEMALA, Baño de los Padres (*Bernoulli*, 292). Hb. Kew.

EXPLANATION OF TAB. XLI. FIGG. 1–3.

Fig. 1, a portion of plant, natural size; 2, a leaf, and 3, a fruit, enlarged.

6. **Galium glaberrimum**, Hemsley, Diag. Pl. Nov. pars tertia, p. 53.

Omnino glaberrimum, ramis striatulis, foliis ampliusculis septenis (vel supremis oppositis) oblongis vel obovatis cuspidatis glaucis, floribus minutis laxe cymosis, cymarum ramulis pedicellisque filiformibus, fructu lævi subcarnoso.

Herba (perennis?) omnino glaberrima et glauca, ramis graciliusculis, teretibus, striatulis, internodiis distantibus. *Folia* sessilia, membranacea, septena, vel suprema opposita, oblonga vel obovata, usque sesquipollicaria, cuspidata vel aristata, basi cuneata, reticulato-venosa. *Flores* minuti, laxe cymosi, cymarum ramulis pedicellisque filiformibus. *Fructus* immaturus didymus, lævis, subcarnosus.

MEXICO, without locality (*Liebmann*, 220). Hb. Kew.

We have ventured to found this species on very imperfect materials, on account of its distinct character. It is readily distinguished by its glabrous glaucous stems and rather large leaves in whorls of seven, associated with loose inflorescence, thread-like pedicels, and a naked somewhat fleshy fruit.

7. **Galium hirsutum**, Ruiz et Pav. Fl. Peruv. i. p. 59 ?, ex Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 126.

SOUTH MEXICO, Mirador, at 3000 feet (*Galeotti*, 2650).

8. **Galium hypadenium**, Schauer in Linnæa, xx. p. 700.

MEXICO (*Aschenborn*).

9. **Galium jalapense**, Schl. in Linnæa, ix. p. 591.

SOUTH MEXICO, Jalapa (*Schiede & Deppe*).

10. **Galium leucotrichum**, Hemsley, Diag. Pl. Nov. pars tertia, p. 53. (Tab. XLI. figg. 4-6.)

Suffrutescens, valde ramosum, ramis floriferis setosis tetragonis, internodiis brevibus, foliis quaternis sessilibus brevibus oblongo-ellipticis obtusiusculis subtrinerviis subtus dense albo-pilosis, floribus dioicis vel saltem unisexualibus minutis trichotomo-cymosis, fructu parvo longe molli-terque albo-piloso.

Herba suffrutescens, valde ramosum, ramis annotinis sæpe longe repentibus, lævibus, glabris, nitidis, teretibus, lignescentibus, aphyllis, hornotinis vel floriferis erectis vel adscendentibus, robustiusculis, 6-9-pollicaribus, internodiis brevibus aut brevissimis. *Folia* quaterna, crassiuscula, asperula, sessilia, oblongo-elliptica, 3-6 lineas longa, obtusiuscula (in siccis margine plus minusve recurvo), subtrinervia, subtus dense albo-pilosa vel hispidula, supra glabrescentia, nitida. *Flores* unisexuales (dioici?), deuse trichotomo-cymosi, breviter pedicellati, ♂ fere lineam diametro, ♀ semilineam diametro; corolla extus parce et longiuscule pilosa. *Fructus* parvus, longe molliterque albo pilosus.

SOUTH MEXICO, Vera Cruz to Orizaba (*Müller*, 174), San Cristobal, region of Orizaba (*Bourgeau*, 3125), Tehuacan (*Liebmann*, 238), Orizaba (*Sumichrast*, 514). Hb. Kew.

EXPLANATION OF TAB. XLI. FIGG. 4-6.

Fig. 4, portion of a plant, natural size; 5, a fruit, and 6, a leaf, magnified.

11. **Galium mexicanum**, H. B. K. Nov. Gen. et Sp. iii. p. 337.

SOUTH MEXICO, near Guanajuato, 6000 to 7000 feet (*Humboldt & Bonpland*), Mirador, 2500 to 4000 feet (*Galeotti*, 2616; *Linden*, 517; *Liebmann*, 233), Tizapan, valley of Mexico (*Bourgeau*, 699), Orizaba (*Botteri*, 840, 841); PANAMA, Boquete (*Seemann*, 1598)? Hb. Kew.

12. **Galium obstipum**, Schl. in Linnæa, ix. p. 592.

α. **latifolium**, Schl. loc. cit.

SOUTH MEXICO, shady woods, Jalapa (*Schiede & Deppe*), Orizaba (*Botteri*, 835, 837), Real del Monte (*Coulter*, 185), Chinantla (*Liebmann*, 222), woods at Yavezia, Eastern Cordillera of Oaxaca, 7000 to 8000 feet (*Galeotti*, 2656).

β. **angustifolium**, Schl. loc. cit.

SOUTH MEXICO, San Miguel del Soldado (*Schiede & Deppe*). Hb. Kew.

This species may be the same as *G. uncinulatum*, DC.

13. **Galium orizabense**, Hemsley, Diag. Pl. Nov. pars tertia, p. 54.

Herbaceum, hispidulum, vix asperulum, ramis flexilibus usque 5-pedalibus graciliusculis tetragonis, foliis quaternis lineari-lanceolatis obtusiusculis obscure trinerviis tenuibus, floribus parvis numerosissimis trichotomo-cymosis, petalis ovato-oblongis distincte acuminatis, fructu dense uncinato-setuloso, setulis vix rigidis.

Herba perennis, hispidula, vix asperula, valde ramosa, ramis elongatis, usque 5-pedalibus, graciliusculis, tetragonis, flexilibus, debilibus vel interdum robustiusculis, infra sublignosis. *Folia* quaterna, tenuia, subsessilia, lineari-lanceolata vel fere oblonga, 3-10 lineas longa, obtusiuscula, tota sparse hispidulo-pilosa, vix scabrada, obscure trinervia. *Flores* numerosissimi, trichotomo-

cymosi, longiuscule pedicellati, polygami, circiter 1-1½ lin. diametro; corollæ glabræ lobi ovati vel ovato-oblongi, subito acuminati, obtusiusculi. *Fructus* dense uncinato-setulosus, setulis vix rigidis.

SOUTH MEXICO, region of Orizaba (*Botteri*, 838, 839, 836; *Sumichrast*, 1933; *Müller*, 1144, 1326; *Bourgeau*, 2833, 3016), Zimapan (*Coulter*, 188 in part). Hb. Kew.

Easily distinguished from all other Mexican species, having only four leaves in a whorl, by its long rambling stems, and relatively narrow, thin, almost obtuse leaves, scarcely rough to the touch.

14. **Galium proliferum**, A. Gr. Pl. Wright. ii. p. 67.

NORTH MEXICO, along the Rio Grande.

15. **Galium triflorum**, Michx. Fl. Bor.-Amer. i. p. 80.

Throughout NORTH AMERICA to—MEXICO?, without locality (*Harris*).—Also in NORTH-EASTERN EUROPE. Hb. Kew.

16. **Galium uncinatum**, DC. Prodr. iv. p. 600.

SOUTH MEXICO, between Tampico and Real del Monte (*Berlandier*).

17. **Galium uropetalum**, Hemsley. (Tab. XLI. figg. 7-9.)

Rubia acuminata, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 127.

SOUTH MEXICO, pine-forests, peak of Orizaba at 7000 feet, plain of Tehuacan, 5000 feet, Juquila, &c., Western Cordillera of Oaxaca, 4000 to 6000 feet (*Galeotti*, 2631 and 2632). Hb. Kew.

EXPLANATION OF TAB. XLI. FIGG. 7-9.

Fig. 7, portion of a plant, natural size; 8, a leaf, and 9, a flower, enlarged.

18. **Galium wrightii**, A. Gray, Pl. Wright. i. p. 67.

NORTH MEXICO, Santa Cruz, Sonora (*Wright*). Hb. Kew.

74. DIDYMÆA.

Didymæa, Hook. fil. in Benth. et Hook. Gen. Plant. ii. p. 150.

One herbaceous species:—

1. **Didymæa mexicana**, Hook. fil. in Hook. Ic. t. 1271.

SOUTH MEXICO, valley of Mexico (*Schaffner*, 177, 178; *Bourgeau*, 98), region of Orizaba at 10,000 feet (*Liebmann*, 255; *Linden*, 1403; *Galeotti*, 4405; *Bourgeau*, 3050). Hb. Kew.

Order LXXII. VALERIANEÆ.

Valerianeæ, Benth. et Hook. Gen. Plant. ii. p. 151.

Annual or perennial herbs, or rarely shrubby. There are nine genera, embracing about 300 species, the greater part of which inhabit the temperate and cold regions of the northern hemisphere and the Andes of South America. A few occur in Brazil, Guiana, and the West Indies; only one, and that probably introduced, in South Africa; in Tropical Asia they are exceedingly rare; and none are known from Australasia.

1. PHYLLACTIS.

Phyllactis, Pers. Syn. Pl. i. p. 39; Benth. et Hook. Gen. Plant. ii. p. 153.

About thirty species of herbs or dwarf shrubs inhabiting America, chiefly the Andes, from Mexico to Chili, one species occurring in South Brazil.

1. *Phyllactis mexicana*, Benth. et Hook. Gen. Plant. ii. p. 153.

Astrephia mexicana, Hook. et Arn. Bot. Beech. Voy. p. 431.

SOUTH MEXICO, Tepic (*Barclay*). Hb. Kew.

2. *Phyllactis pratensis*, Benth. et Hook. Gen. Plant. ii. p. 153.

Astrephia pratensis, Benth. Pl. Hartw. p. 39.

Valeriana galeottiana, Mart. in Bull. Acad. Brux. xi. 1, p. 124?

SOUTH MEXICO, Morelia (*Hartweg*), at 7000 feet (*Galeotti*, 2547). Hb. Kew.

2. VALERIANA.

Valeriana, Linn. Gen. n. 44 pro parte; Benth. et Hook. Gen. Plant. ii. p. 154.

This genus has nearly the same geographical range as the order. One species is widely dispersed in Europe and Asia, and also occurs in South Africa, where, however, it was probably introduced.

1. *Valeriana affinis*, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 123.

SOUTH MEXICO, oak-forests of the Cerro de San Felipe, near Oaxaca, at 8000 to 9000 feet, and Juquila, Western Cordillera of Oaxaca, at 5000 to 6000 feet (*Galeotti*, 2555). Hb. Kew.

Galeotti's n. 2555 is referred to *V. toluicana* in Kew herbarium.

2. *Valeriana barbareaefolia*, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 121.

SOUTH MEXICO, Real del Monte and Moran, at 7500 to 8500 feet (*Galeotti*, 2549, 2553).

3. *Valeriana candolleana*, Gardn. in Hook. Lond. Journ. Bot. iv. p. 112; Polak. in Linnæa, xli. p. 574.

COSTA RICA, Naranjo (*Polakowsky*).—BRAZIL.

4. **Valeriana ceratophylla**, H. B. K. Nov. Gen. et Sp. iii. p. 333, t. 276.
SOUTH MEXICO, Chapoltepec, 7000 feet (*Humboldt & Bonpland*).
5. **Valeriana densiflora**, Benth. Pl. Hartw. p. 39.
SOUTH MEXICO, in pine-forests Anganguio (*Hartweg*). Hb. Kew.
6. **Valeriana denudata**, Benth. Pl. Hartw. p. 20.
NORTH MEXICO, Zacatecas (*Hartweg*). Hb. Kew.
7. **Valeriana galeottiana**, Mart. in Bull. Acad. Brux. xi. 1, p. 124.
SOUTH MEXICO, Jesus del Monte, near Morelia, 7000 feet (*Galeotti*, 2547).
The plant bearing Galeotti's number 2547 in Kew herbarium is certainly *Phyllactis pratensis*, Benth. et Hook.
8. **Valeriana laciniosa**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 121.
SOUTH MEXICO, near Morelia, 6500 to 7000 feet (*Galeotti*, 2548). Hb. Kew.
This is near, if not the same as, *V. napus*, Lindl.
9. **Valeriana latifolia**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 124.
SOUTH MEXICO, fields of Antigua, near Vera Cruz (*Galeotti*, 2558).
10. **Valeriana mexicana**, DC. Prodr. iv. p. 640.
SOUTH MEXICO, around the city of Mexico (*Berlandier*).
11. **Valeriana napus**, Lindl. Bot. Reg. 1840, Misc. p. 76.
SOUTH MEXICO (*Hartweg, Coulter*, 906). Hb. Kew.
12. **Valeriana phaseoli**, A. Br. in Linnæa, xxv. p. 299.
SOUTH MEXICO, near Huatusco (*Chrismar*).
13. **Valeriana pilosiuscula**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 122.
SOUTH MEXICO, Morelia de Michoacan, at 6000 feet (*Galeotti*, 2551).
14. **Valeriana procera**, H. B. K. Nov. Gen. et Sp. iii. p. 329.
SOUTH MEXICO, near Pazcuaro, at 6000 to 7000 feet (*Humboldt & Bonpland*).
15. **Valeriana pulchella**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 123.
SOUTH MEXICO, Sierra de Yavezia, 7000 feet (*Galeotti*, 2560).
16. **Valeriana ramosissima**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 122.
SOUTH MEXICO, Cerro Ventoso, between Pachuca and Real del Monte, at 8000 feet (*Galeotti*, 2552).
17. **Valeriana scandens**, Linn. Sp. Pl. p. 47; DC. Prodr. iv. p. 634.
FLORIDA.—MEXICO, near Jalapa, at 3000 to 4000 feet (*Galeotti*, 7068), Real del Monte (*Coulter*, 910), region of Orizaba (*Bourgeau*, 3203; *Müller*, 869 bis; *Botteri*, 568), Mirador (*Linden*, 307), valley of Cordova (*Bourgeau*, 1577); NICARAGUA, Chontales (*Tate*, 422); COSTA RICA (*Endres*, 79).—Southward to PERU and BRAZIL, and in CUBA. Hb. Kew.

18. **Valeriana scorpioides**, DC. Prodr. iv. p. 635.

NORTH MEXICO, Sierra Madre (*Seemann*, 2082); SOUTH MEXICO, San Blas to Tepic (*Sinclair*), Cordillera of Oaxaca, at 7500 feet (*Galeotti*, 2074), region of Orizaba (*Bourgeau*, 2945; *Müller*, 173), Anganguio (*Hartweg*). Hb. Kew.

19. **Valeriana sorbifolia**, H. B. K. Nov. Gen. et Sp. iii. p. 332.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 311); SOUTH MEXICO, between Valladolid de Michoacan and Pazcuaro, 6000 to 7000 feet (*Humboldt & Bonpland*), Pazcuaro (*Hartweg*), Chiapas (*Ghiesbreght*, 623 in part). Hb. Kew.

20. **Valeriana subincisa**, Benth. Pl. Hartw. p. 39.

SOUTH MEXICO, Banco (*Hartweg*), Vera Cruz to Orizaba (*Müller*, 648), valley of Mexico (*Schaffner*, 192). Hb. Kew.

21. **Valeriana tolucana**, DC. Prodr. iv. p. 640.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 312); SOUTH MEXICO, Chiapas (*Ghiesbreght*, 623 in part), Santa Fé (*Bourgeau*, 608). Hb. Kew.

22. **Valeriana urticæfolia**, H. B. K. Nov. Gen. et Sp. iii. p. 330, t. 275.

SOUTH MEXICO, Ario, Michoacan, 4000 to 5000 feet (*Galeotti*, 2554); GUATEMALA (*Bernoulli*, 291).—COLOMBIA; PERU. Hb. Kew.

23. **Valeriana vaginata**, H. B. K. Nov. Gen. et Sp. iii. p. 331.

SOUTH MEXICO, near Real del Monte, 8000 to 9000 feet (*Humboldt & Bonpland*).

24. **Valeriana**, sp.

Astrephia mexicana, Seem. Bot. Voy. 'Herald,' p. 297, nec Hook. et Arn.

NORTH MEXICO, Sierra Madre (*Seemann*, 2133), San Luis Potosi to Tampico (*Palmer*, 1071). Hb. Kew.

[DIPSACEÆ is a small order not represented in America; and CALYCEREÆ, an order consisting of three genera and about twenty-five species, is peculiar to South America, chiefly extratropical, though one maritime species extends northwards to Bahia.]

Order LXXIII. COMPOSITÆ.

Composite, Benth. et Hook. Gen. Plant. ii. p. 163.

Shrubs or herbs, rarely trees. Bentham and Hooker estimate the number of species at 9800, which they refer to 766 genera; whilst some authors would raise the number of genera to 1000, and the number of species to 12,000.

Tribe I. VERNONIACEÆ.

Vernoniaceæ, Benth. et Hook. Gen. Plant. ii. pp. 165 et 169.

This tribe consists of forty genera, and is remarkable alike for the number of monotypic genera and for the large number of species belonging to the genus *Vernonia* itself. It is essentially a tropical and subtropical tribe, having its greatest concentration of species in South America. Few of the species are peculiar to Australia; and the tribe is unrepresented in Europe.

1. SPARGANOPHORUS.

Sparganophorus, Vaill. in Gært. Fruct. ii. p. 395, t. 165; Benth. et Hook. Gen. Plant. ii. p. 223.

One annual species:—

√ 1. **Sparganophorus vaillantii**, Gært. Fruct. ii. p. 395, t. 165.

Sparganophorus struchium, Pers.; Jacq. Eclog. t. 131.

PANAMA, Chagres (*Fendler*, 142).—Widely dispersed in Tropical SOUTH AMERICA and the WEST INDIES, as well as in Tropical AFRICA. Hb. Kew.

2. CENTRATHERUM.

Centratherum, Cass. in Bull. Philom. 1817; DC. Prodr. v. p. 70; Benth. et Hook. Gen. Plant. ii. p. 225.

About six herbaceous species, two of which occur in Tropical America, and one of these is also in Australia. The others are Asiatic.

√ 1. **Centratherum punctatum**, Cass. Dict. vii. p. 384; DC. Prodr. v. p. 70.

PANAMA, savannas about Panama (*Seemann*).—VENEZUELA; GUIANA; BRAZIL. Hb. Kew.

3. VERNONIA.

Vernonia, Schreb. Gen. Plant. ii. p. 541; Benth. et Hook. Gen. Plant. ii. p. 227.

A genus of nearly 400 species of herbs and half-shrubs, most numerous in the warmer parts of America, abundant in Tropical Africa, and not rare in Tropical and Subtropical Asia; and one of the Asiatic species extends to Australia.

√ 1. **Vernonia acilepis**, Benth. in Vidensk. Meddel. 1852, p. 68.

NICARAGUA, Volcan de Masaya, 2000 feet (*Ersted*, 2). Hb. Kew.

2. **Vernonia alamani**, DC. Prodr. v. p. 61.

SOUTH MEXICO, San Miguel (*Liebmann*, 477), oak-woods, Banco (*Hartweg*, 332), without localities (*Bates*, *Parkinson*) Hb. Kew.

3. **Vernonia angustifolia**, Michx. Fl. Bor.-Am. ii. p. 94?
 NORTH MEXICO, Cerro de Pinal (*Seemann*, 1483); SOUTH MEXICO, ravines of Guadaluajara, at 5000 feet (*Galeotti*, 2400). Hb. Kew.
 Typical *V. angustifolia*, Michx., grows in dry pine-woods from Carolina to Florida.
4. **Vernonia arborescens**, Sw. Fl. Ind. Occ. ii. p. 1320; DC. Prodr. v. p. 48.
 NICARAGUA, Segovia (*Ersted*), Chontales (*Tate*, 347); GUATEMALA, Volcan de Fuego (*Salvin*)?—WEST INDIES. Hb. Kew.
5. **Vernonia arctioides**, Less. in Linnæa, vi. pp. 400 et 672.
Diazeuxis serrata, Don in Trans. Linn. Soc. xvi. p. 254.
 SOUTH MEXICO, Cuesta Grande de Chiconquiaco (*Schiede & Deppe*), Cordillera of Vera Cruz, at 3000 feet, and Zacuapan (*Linden*, 1159, 2300)!. Hb. Kew.
6. **Vernonia aschenborniana**, Schauer in Linnæa, xix. p. 714.
 SOUTH MEXICO, without locality (*Aschenborn*), Pital (*Liebmann*, 355). Hb. Kew.
7. **Vernonia barbinervis**, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 297.
 NORTH MEXICO, Sierra Madre (*Seemann*, 1998). Hb. Kew.
8. **Vernonia bolleana**, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 297.
 NORTH MEXICO, Sierra Madre (*Seemann*, 1992). Hb. Kew.
9. **Vernonia brachiata**, Benth. in Vidensk. Meddel. 1852, p. 67.
 COSTA RICA, Aguacate, 2000 feet, Naranjo, 5000 feet (*Ersted*, 6). Hb. Kew.
10. **Vernonia bullata**, Benth. in Vidensk. Meddel. 1852, p. 67.
 NICARAGUA, Cartago, 5000 feet (*Ersted*).
11. **Vernonia canescens**, H. B. K. Nov. Gen. et Sp. iv. p. 35, t. 317.
 PANAMA, Chagres (*Fendler*, 160), near the city of Panama (*Seemann*, 435).—PERU.
 Hb. Kew.
12. **Vernonia cordata**, H. B. K. Nov. Gen. et Sp. iv. p. 39.
 SOUTH MEXICO, near the town of Tasco, at 5500 feet (*Humboldt & Bonpland*).
13. **Vernonia corymbiformis**, DC. Prodr. v. p. 62.
 MEXICO (*Karwinski*).
14. **Vernonia deppeana**, Less. in Linnæa, vi. pp. 398 et 655.
 SOUTH MEXICO, Vera Cruz (*Linden*, 1226), valley of Cordova (*Bourgeau*, 1972, 1973), Orizaba (*Bourgeau*, 1085, 1087), Matlaluca (*Liebmann*, 361), Chiapas (*Linden*, 429); GUATEMALA, in the valley of Guatemala (*Hartweg*); COSTA RICA, Volcan de Irazu (*Ersted*, 7). Hb. Kew.
15. **Vernonia ehrenbergiana**, Schz. Bip. in Linnæa, xx. p. 513.
 SOUTH MEXICO, Barranca, near Los Reyes (*Ehrenberg*, 710).

16. **Vernonia foliosa**, Schz. Bip. in Pollichia, 1861, p. 161.
Monosis foliosa, Benth. Pl. Hartw. p. 19.
 SOUTH MEXICO, Bolaños (*Hartweg*, 133). Hb. Kew.
 This should perhaps include both *V. steetzii* and *V. salicifolia*, Schz. Bip.
17. **Vernonia fragrans**, La Llav. et Lex. Nov. Veg. Descr. i. p. 24; DC.
 Prodr. v. p. 64.
 SOUTH MEXICO, near San José del Corral.
18. **Vernonia hypoleuca**, DC. Prodr. v. p. 27.
 MEXICO (*Hænke*).
19. **Vernonia inuloides**, DC. Prodr. v. p. 62.
 MEXICO (*Karwinski*).
20. **Vernonia karwinskiana**, DC. Prodr. v. p. 62.
 MEXICO (*Karwinski*).
21. **Vernonia lanceolaris**, DC. Prodr. v. p. 37.
 SOUTH MEXICO, Yucatan and Tabasco (*Johnson*, 16, 20); GUATEMALA (*Friedrichsthal*);
 NICARAGUA, Realejo (*Sinclair*); COSTA RICA, Cartago (*Ersted*); PANAMA, Chagres
 (*Fendler*, 150), cleared places (*S. Hayes*, 484).—COLOMBIA; PERU. Hb. Kew.
22. **Vernonia leiboldiana**, Schl. in Linnæa, xix. p. 742.
Leiboldia ovata, Schl. loc. cit.
 SOUTH MEXICO, San Augustin (*Liebmann*, 671), valley of Orizaba (*Bourgeau*, 3420;
Botteri, 1079). Hb. Kew.
23. **Vernonia leiocarpa**, DC. Prodr. v. p. 34.
 SOUTH MEXICO, oak-district near Vera Cruz, at 2800 feet (*Galeotti*, 2324), Mirador
 (*Liebmann*, 1), Vera Cruz (*Linden*, 1209). Hb. Kew.
24. **Vernonia liatroides**, DC. Prodr. v. p. 34.
 SOUTH MEXICO, between Tula and Tampico (*Berlandier*), San Luis to Tampico (*Palmer*,
 1081). Hb. Kew.
25. **Vernonia mexicana**, Less. in Linnæa, vi. p. 680.
 SOUTH MEXICO, Cuesta Grande de Chiconquiaco (*Schiede*).
26. **Vernonia monosis**, Schz. Bip. in Linnæa, xx. p. 507.
Monosis? tomentosa, DC. Prodr. v. p. 77.
Turpinia? tomentosa, La Llav. et Lex. Nov. Veg. Descr. i. p. 24.
Fulcaldea? tomentosa, Less. in Linnæa, v. p. 248.
 SOUTH MEXICO, near Vallisoletum (*La Llave*).
 Specimens in Kew herbarium (*e. g.* Liebmann's 51) referred to this species by Schultz
 Bipontinus are undoubtedly the same as the type specimens of *V. paniculata*, DC.

- ✓ 27. **Vernonia odoratissima**, H. B. K. Nov. Gen. et Sp. iv. p. 32?
NICARAGUA (*Tate*, 140). Hb. Kew.

The typical plant grows in Venezuela and Colombia.

28. **Vernonia pallens**, Schz. Bip. in Pollichia, 1861, p. 161.
MEXICO (*Henri de Buren*).

29. **Vernonia paniculata**, DC. Prodr. v. p. 23.
SOUTH MEXICO, San Dionisio, Oaxaca (*Andrieux*, 270), Equitla (*Liebmann*, 51).
Hb. Kew.

This should include *V. monosis*, Schz. Bip., if not *Monosis tomentosa*, DC.

- ✓ 30. **Vernonia patens**, H. B. K. Nov. Gen. et Sp. iv. p. 41; Steetz in Seem. Bot. Voy. 'Herald,' p. 139.

PANAMA, savannas about Panama (*Seemann*).—SOUTH AMERICA.

- ✓ 31. **Vernonia pœppigiana**, DC. Prodr. v. p. 20, nec p. 55?
SOUTH MEXICO, Mirador (*Liebmann*, 352), valley of Cordova (*Bourgeau*, 1850),
Cordillera of Vera Cruz, at 3000 feet (*Galeotti*, 2298), Vera Cruz (*Landen*, 1211);
NICARAGUA, Chontales (*Tate*, 407), Segovia (*Ersted*).—PERU. Hb. Kew.

Schultz Bipontinus, on Liebmann's labels, refers this species to *V. geminiflora*, Pœpp., which does not appear to be a published name. Buek, in his Index to volumes iii. to v. of the Prodrusus, p. v, proposes changing DeCandolle's *V. pœppigiana* (Prod. v. p. 55, nec p. 20) into *V. argyropappa*.

32. **Vernonia punctata**, Sw. ex Griseb. Fl. Brit. W. Ind. p. 353.
BRITISH HONDURAS (*Temple*).—WEST INDIES. Hb. Kew.

33. **Vernonia rubricaulis**, Humb. et Bonpl. Pl. Æquin. ii. p. 66, t. 99.
MEXICO (*ex Schultz Bipontinus*).—COLOMBIA.

34. **Vernonia salicifolia**, Schz. Bip. in Linnæa, xx. p. 507.
Monosis salicifolia, DC. Prodr. v. p. 77.
SOUTH MEXICO, mountains of Cuernavaca (*Berlandier*), region of Orizaba (*Müller*, 860; *Botteri*, 1128). Hb. Kew.

This should, perhaps, include *V. foliosa* and *V. steetzii*, Schz. Bip.

- ✓ 35. **Vernonia salvinæ**, Hemsley, n. sp. (Tab. XLI*.)
Aff. *V. alamani*, foliis elongatis multo longioribus subtus strigilloso-hirsutis, capitulis maximis subsolitariis, involucri bracteis scariosis, exterioribus angustis, intermediis late ovatis, interioribus angustis, corollis elongatis, achæniis tetragonis fere vel omnino eglanulosis.
Herba vel *frutex*, novellis ferrugineo-tomentosis, ramis crassiusculis. *Folia* alterna, petiolata, membranacea, lanceolato-oblonga, usque ad 9-pollicaria, calloso-serrata, utrinque attenuata, apice acutiuscula, supra secus costam puberula, cæterum glabra, subtus strigilloso-hirsuta. *Capitula* subsolitaria, pedunculis quam folia multo brevioribus; involucri bracteæ scariosæ, acutæ vel mucronatæ, laxæ, parte intecta puberulæ, exteriores lineares, breves, intermediæ late ovatæ, interiores lineari-oblongæ, apice tantum coloratæ; receptaculum convexum; corollæ

parce glandulosæ, elongatæ, alte 5-fidæ; antheræ basi sagittatæ. *Achenia* tetragona, obpyramidata, fere vel omnino eglandulosa.

GUATEMALA, Las Nubes, Cerro de Zunil, 4350 feet (*Salvin*). Hb. Kew.

EXPLANATION OF TAB. XLI*.

Fig. 1, portion of a receptacle; 2, a palet; 3, a flower; 4, a bristle of the pappus; 5, a stamen; 6, upper portion of a style; 7, an achene: all enlarged.

36. **Vernonia scabra**, Pers. Ench. ii. p. 44; DC. Prodr. v. p. 39?

SOUTH MEXICO, Desierto Viejo (*Bourgeau*, 1229).—BRAZIL. Hb. Kew.

37. **Vernonia schiedeana**, Less. in Linnæa, vi. p. 399.

SOUTH MEXICO, Papantla and Misantla (*Schiede*), Colipa (*Liebmann*, 364), near Tantoyuca (*Ervendberg*, 51), skirting woods near Jalapa, at 3000 feet (*Galeotti*, 2305), Mirador (*Liebmann*, 363; *Linden*, 1167), Sierra de San Pedro Nolasco (*Jurgensen*), Yucatan and Tabasco (*Johnson*, 15). Hb. Kew.

✓ 38. **Vernonia seemanniana**, Steetz in Seem. Bot. Voy. 'Herald,' p. 139.

PANAMA, Boquete (*Seemann*, 1589; *Bridges*). Hb. Kew.

39. **Vernonia serratuloides**, H. B. K. Nov. Gen. et Sp. iv. p. 33, t. 316.

SOUTH MEXICO, Valladolid, Michoacan (*Humboldt & Bonpland*), Leon (*Mendez*).

40. **Vernonia sinclairii**, Benth. Bot. Voy. 'Sulphur,' p. 109.

SOUTH MEXICO, San Blas to Tepic (*Sinclair*). Hb. Kew.

41. **Vernonia steetzii**, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 297.

NORTH MEXICO, Sierra Madre (*Seemann*, 1997 in part). Hb. Kew.

Var. **collilepis**, Schz. Bip. loc. cit.

NORTH MEXICO, Sierra Madre (*Seemann*, 1997 in part). Hb. Kew.

See remarks under *V. salicifolia* and *V. foliosa*.

42. **Vernonia stellaris**, La Llav. et Lex. Nov. Veg. Descr. i. p. 23.

SOUTH MEXICO, San José del Corral (*La Llave*).

43. **Vernonia tarchonanthifolia**, Schz. Bip. in Linnæa, xx. p. 507.

Monosis tarchonanthifolia, DC. Prodr. v. p. 77.

MEXICO (*Karwinski*).

44. **Vernonia toluccana**, DC. Prodr. v. p. 30.

SOUTH MEXICO, around Toluca (*Andrieux*, 273), without locality (*Christy*). Hb. Kew.

45. **Vernonia triantha**, Schauer in Linnæa, xix. p. 714.

SOUTH MEXICO, Zimapan (*Aschenborn*).

46. **Vernonia triflosculosa**, H. B. K. Nov. Gen. et Sp. iv. p. 40.

SOUTH MEXICO, Acaguitsola and Vera Cruz, at 3000 feet (*Humboldt & Bonpland*).

47. **Vernonia uniflora**, Schz. Bip. in Linnæa, xx. p. 506.

MEXICO (*Aschenborn*).

✓ 48. **Vernonia**, sp. (aff. *V. virentis*, Schz. Bip.).

GUATEMALA (*Friedrichsthal*). Hb. Kew.

✓ 49. **Vernonia**, sp. (aff. *V. arborescentis*, Sw.).

GUATEMALA, Volcan de Fuego, 6500 feet (*Salvin*). Hb. Kew.

✓ 50. **Vernonia**, sp.

PANAMA, Empire railway-station (*S. Hayes*, 481). Hb. Kew.

✓ 51. **Vernonia**, sp.

GUATEMALA, Dueñas (*Fraser*, 7). Hb. Kew.

52. **Vernonia**, sp. (*V. angustifolia*, var. ?).

NORTH MEXICO, Cerro de Pinal (*Seemann*, 1483). Hb. Kew.

4. PIPTOCARPHA.

Piptocarpa, R. Br. in Trans. Linn. Soc. xii. p. 121; Benth. et Hook. Gen. Plant. ii. p. 231.

Carphobolus, Schott in Spreng. Syst. Cur. Post. p. 409.

A Tropical-American (chiefly Brazilian) genus, consisting of about twenty-five shrubby species.

✓ 1. **Piptocarpa chontalensis**, Baker in Mart. Fl. Bras. fasc. lxii. p. 132.

NICARAGUA, Chontales (*Seemann*, 110; *Tate*, 428). Hb. Kew.

5. BOLANOSA.

Bolanosa, A. Gr. Pl. Wright. i. p. 82; Benth. et Hook. Gen. Plant. ii. p. 232.

One shrubby species.

1. **Bolanosa coulteri**, A. Gr. Pl. Wright. i. p. 82.

SOUTH MEXICO, Bolaños (*Coulter*, 238). Hb. Kew.

6. OLIGANTHES.

Oliganthes, Cass. Dict. xxxvi. p. 18; Benth. et Hook. Gen. Plant. ii. p. 233.

An exclusively Tropical-American genus of about eight species, extending from Mexico to Colombia, Guiana, and Brazil.

✓ 1. **Oliganthes discolor**, Schz. Bip. in Linnæa, xx. p. 502.

Dialestā discolor, H. B. K. Nov. Gen. et Sp. iv. p. 44, t. 320.

PANAMA, Volcan de Chiriqui (*Seemann*, 1585).—COLOMBIA. Hb. Kew.

2. **Oliganthes karwinskii**, Schz. Bip. in Linnæa, xx. p. 505.

SOUTH MEXICO, Capalalpan (*Karwinski*).

3. **Oliganthes oxylepis**, Benth. et Hook. Gen. Plant. ii. p. 233.
SOUTH MEXICO, Yucatan and Tabasco (*Johnson*, 21). Hb. Kew.

7. ELEPHANTOPUS.

Elephantopus, Linn. Gen. Plant. n. 237; Benth. et Hook. Gen. Plant. ii. p. 237.

Perennial herbs. A dozen or more species widely dispersed in tropical regions.

- ✓ 1. **Elephantopus angustifolius**, Sw. Prodr. Fl. Ind. Occ. p. 115; Griseb. Fl. Brit. W. Ind. p. 355.

Elephantosis angustifolia, DC. Prodr. v. p. 87.

SOUTH MEXICO, Mirador (*Liebmann*, 292); NICARAGUA, Granada (*Ersted*); PANAMA, in pastures among shrubs (*Seemann*, 60).—General in TROPICAL SOUTH AMERICA and the WEST INDIES. Hb. Kew.

- ✓ 2. **Elephantopus spicatus**, B. Juss. in Aubl. Pl. Guian. p. 808.

Distreptus spicatus, Cass. et Less., ex DC. Prodr. v. p. 87.

Matamoria spicata, La Llav. et Lex. Nov. Veg. Descr. i. p. 8.

SOUTH MEXICO, Mirador (*Linden*, 1176), near Vera Cruz, at 2000 feet (*Galeotti*, 2220), valley of Cordova (*Bourgeau*, 1638), Orizaba (*Botteri*, 1151); GUATEMALA (*Friedrichsthal*); NICARAGUA, Chontales (*Tate*, 300); COSTA RICA (*Endres*); PANAMA, Chagres (*Fendler*, 175).—And northern part of SOUTH AMERICA and the WEST INDIES. Hb. Kew.

3. **Elephantopus scaber**, Linn. Sp. Pl. p. 1313; DC. Prodr. v. p. 86; Baker in Mart. Fl. Bras. fasc. lxii. p. 173.

Elephantopus tomentosus, Linn. Sp. Pl. p. 1314.

Elephantopus martii, Grah. in Edinb. New Phil. Journ. 1830, p. 2.

Elephantopus mollis, H. B. K. Nov. Gen. et Sp. iv. p. 26.

Elephantopus carolinianus, Willd. Sp. Pl. iii. p. 2390.

A variable species, common and widely dispersed in TROPICAL and SUBTROPICAL AMERICA, as well as in the OLD WORLD. Hb. Kew.

8. ROLANDRA.

Rolandra, Rottb. in Soc. Med. Havn. Collect. ii. p. 256; Benth. et Hook. Gen. Plant. ii. p. 237.

Only one shrubby or subshrubby species known:—

- ✓ 1. **Rolandra argentea**, Rottb. Coll. Havn. ii. p. 256, ex DC. Prodr. v. p. 90; Sw. Fl. Ind. Occ. p. 1388, t. 27.

PANAMA, Chagres (*Fendler*, 143).—GUIANA, BRAZIL, and WEST INDIES. Hb. Kew.

9. SPIRACANTHA.

Spiracantha, H. B. K. Nov. Gen. et Sp. iv. p. 28; Benth. et Hook. Gen. Plant. ii. p. 237.

A shrubby monotype.

✓ 1. ***Spiracantha cornifolia***, H. B. K. Nov. Gen. et Sp. iv. p. 28, t. 313.

GUATEMALA (*Friedrichsthal*).—VENEZUELA. Hb. Kew.

Tribe II. EUPATORIACEÆ.

Eupatoriaceæ, Benth. et Hook. Gen. Plant. ii. pp. 165 et 171.

Thirty-four genera are referred to this tribe; and several of them are very numerous in species, especially *Eupatorium*. A very large proportion of the genera are peculiar to America, as well as the majority of the species of the genera having a wider range.

10. PIQUERIA.

Piqueria, Cav. Ic. iii. p. 18, t. 25; Benth. et Hook. Gen. Plant. ii. p. 238.

About twelve shrubby and herbaceous species in Tropical America, from Mexico to Bolivia.

1. ***Piqueria pilosa***, H. B. K. Nov. Gen. et Sp. iv. p. 153.

SOUTH MEXICO, Desierto Viejo (*Bourgeau*, 824, 825), Tacubaya (*Schaffner*), between Capula and Pazcuaro, at 6600 feet (*Humboldt & Bonpland*). Hb. Kew.

2. ***Piqueria serrata***, A. Gr. in Proc. Am. Acad. xv. p. 25.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 496). Hb. Kew.

3. ***Piqueria triflora***, Hemsley, n. sp.

Foliis anguste lanceolatis obtusis basi cuneatis primum utrinque pubescentibus, capitulis trifloris, involucri bracteis 3 extus omnino hirsutis, corollæ tubo extus villosus, acheniis clavatis 5-costatis basi attenuatis callosis.

Herba erecta, 2-3-pedalis, et forsan ultra, ramosa, ramis pilosulis, striatis. *Folia* omnia opposita, anguste lanceolata, 2-5-pollicaria, apice obtusa, basi in petiolum brevem attenuata, remote calloso-denticulata, trinervia, utrinque plus minusve pilosula vel pubescentia. *Capitula* racemoso-corymboso-cymosa, triflora; involucri bracteæ 3, extus omnino hirsutæ, ellipticæ, obscure trinerviæ, mucronatæ; corollæ tubus extus villosus, basi fimbriatus, lobis parum brevior. *Achenia* nigra, glabra, clavata, 5-costata, deorsum attenuata, basi callosa, callo parvo vix obliquo.

NORTH MEXICO, Cerro de Pinal (*Seemann*, 1478). Hb. Kew.

We find no mention of this plant in Seemann's Botany of the Voyage of the 'Herald'; but there is ample material of it in Kew herbarium. It differs from *P. trinervia* and *P. pilosa* in its flower-heads containing only three flowers in an involucre of three bracts, and in the latter being hairy on the back, as well as in other details. From *P. serrata* it differs in its hairiness, foliage, and achenes.

4. **Piqueria trinervia**, Cav. Ic. iii. p. 19, t. 235 ; Bot. Mag. t. 2650.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 314); SOUTH MEXICO, Real del Monte (*Coulter*, 721), Cerro de Baños (*Bourgeau*, 144), Yavesia (*Liebmann*, 110), cultivated fields near Mexico (*Bourgeau*, 1402), San Blas to Tepic (*Sinclair*), Zimapan to Real del Monte (*Coulter*, 263), Tacubaya (*Bilimek*, 578), without localities (*Tate, Graham, Sallé*). Hb. Kew.

11. PHANIA.

Phania, DC. Prodr. v. p. 114; Benth. et Hook. Gen. Plant. ii. p. 238.

Three West-Indian species, and the following doubtful one:—

1. **Phania trinervia**, DC. Prodr. v. p. 115; Calques des Dess. Fl. Mex. 527.

MEXICO (*Moçino & Sessé*).

Possibly the same as *Ageratum arbutifolium*.

12. DECACHÆTA.

Decachæta, DC. Prodr. v. p. 133; Benth. et Hook. Gen. Plant. ii. p. 238.

Limited to the Mexican species, which are undershrubs.

1. **Decachæta hænkeana**, DC. Prodr. v. p. 133; Deless. Ic. Sel. iv. t. 13.

SOUTH MEXICO, Gualulu, San Miguel (*Liebmann*, 47), Tepic (*Barclay*). Hb. Kew.

2. **Decachæta seemannii**, Benth. et Hook. Gen. Plant. ii. p. 239; Hemsley, Diag. Pl. Nov. pars altera, p. 33. (Tab. XLII.)

Ageratum microphyllum, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 298.

Suffruticosa, ramosa, ramis gracilibus junioribus puberulis, foliis parvis obovato-spathulatis vel interdum fere ovatis inciso-crenatis, capitulis 6-12-floris, involucri bracteis obtusis, pappi paleis 5 longe aristatis.

Frutex nana, ramosa, ramis teretibus, gracilibus, junioribus puberulis. *Folia* opposita vel superiora alterna, petiolata, herbacea, ovata usque obovato-spathulata vel fere rotundata, 3-6 lin. longa, puberula, venis subtus sæpe prominentibus, petiolo brevissimo. *Capitula* 6-12-flora, sessilia vel breviter pedunculata, secus pedunculos communes terminales elongatos disposita; involucri bracteæ oblongæ, obtusiusculæ, glabræ; pappi paleæ sæpissime 5, longe barbato-aristatæ, ac corolla æquilongæ. *Achenia* glabra, 5-costata.

NORTH MEXICO, Cerro de Pinal and Sierra Madre (*Seemann*, 1467, 2043). Hb. Kew.

It was not until after the plate had been printed off that we discovered Schultz had already described this plant under the name of *Ageratum microphyllum*. We had overlooked this in consequence of a memorandum in Kew herbarium to the effect that the plant was not mentioned in the Botany of the 'Herald.' By a slip in the 'Genera Plantarum,' the pappus is described as consisting of ten instead of five pales.

EXPLANATION OF TAB. XLII.

Fig. 1, a flower-head; 2, ovary, with pappus removed and corolla laid open; 3, a complete flower; 4, a stamen; 5, a style; 6, a pale of the pappus: all enlarged.

13. OPHRYOSPORUS.

Ophryosporus, Meyen, Reise, i. p. 402; Benth. et Hook. Gen. Plant. ii. p. 239.

Seven shrubby species, extending from Mexico to Chili and Brazil.

1. **Ophryosporus ovatifolius**, Benth. et Hook. Gen. Plant. ii. p. 239.

Nothites ovatifolia, DC. Prodr. v. p. 187.

MEXICO (*Hænke, Seemann*). Hb. Kew.

14. GYMNOCORONIS.

Gymnocoronis, DC. Prodr. v. p. 106; Benth. et Hook. Gen. Plant. ii. p. 239.

Herbaceous plants. Besides the Mexican species there is one in South America, extending from Bolivia to Bonaria and Monte Video,

1. **Gymnocoronis latifolia**, Hook. et Arn. Bot. Beech. Voy. p. 296.

SOUTH MEXICO, Jalisco (*Beechey*). Hb. Kew.

15. ADENOSTEMMA.

Adenostemma, Forst. Char. Gen. p. 89, t. 45; Benth. et Hook. Gen. Plant. ii. p. 239.

Glandular herbs. About thirty species have been described; but Bentham and Hooker think they might be reduced to five. One is very widely dispersed in warm countries; and the others are restricted to the warmer parts of America.

✓1. **Adenostemma hirtiflorum**, Benth. Pl. Hartw. p. 75.

GUATEMALA, Rancho de Santa Rita, near Quezaltenango (*Hartweg*, 531). Hb. Kew.

16. ALOMIA.

Alomia, H. B. K. Nov. Gen. et Sp. iv. p. 151; Benth. et Hook. Gen. Plant. ii. p. 240.

About eight species of herbs and undershrubs, one of which is a native of the Pacific Islands, two of Mexico, and the rest of Brazil.

1. **Alomia ageratoides**, H. B. K. Nov. Gen. et Sp. iv. p. 152, t. 354.

Phalacræa lindeni, Schz. Bip. ex Benth. et Hook. Gen. Plant. ii. p. 240.

SOUTH MEXICO, near Mescala, 1600 to 1700 feet (*Humboldt & Bonpland*), Matlahua (*Liebmann*, 84). Hb. Kew.

2. **Alomia alata**, Hemsley, n. sp.

Gracilis, glanduloso-pilosula, foliis tenuissimis cordatis longe petiolatis, petiolo anguste alato, involucri bracteis 3-seriatis apice aristulatis, corollis cylindricis, acheniis basi callosis apice disco carnoso persistente instructis, pappo nullo.

Herba erecta, gracilis, ramosa, ramulis teretibus foliisque glanduloso-pilosulis. *Folia* opposita vel superiora alterna, longe petiolata, tenuissima, cordata, 1-4-pollicaria, acuta, grosse crenata; petiolus anguste alatus. *Capitula* parva, corymboso-paniculata; involucri bracteæ 3-seriatæ, glabrescentes, lineares, apice aristulatæ, exteriores breviores; receptaculum nudum, leviter

convexum; corollæ parcissime glandulosæ, omnes tubulosæ, cylindricæ, lobis brevissimis; antheræ inclusæ, appendiculatæ (in speciminibus nostris vacuæ); styli rami longe exserti. *Achenia* subobliqua, 4-5-costata, nigra, parcissime glandulosa, basi callosa, apice disco carnosio coronata.

SOUTH MEXICO, Cuernavaca (*Bourgeau*, 1216; *Bilimek*, 579). Hb. Kew.

This species differs from *A. ageratoides*, H. B. K., in its foliage, shorter involucre bracts, longer corollas, and flat receptacle. All the anthers we examined were quite empty.

17. TRICHOCORONIS.

Trichocoronis, A. Gray, Pl. Fendl. p. 65; Benth. et Hook. Gen. Plant. ii. p. 240.

Two herbaceous species.

1. ***Trichocoronis greggii***, A. Gray, Pl. Wright. i. p. 89.

MEXICO, between Mexico and Mazatlan (*Gregg*).

2. ***Trichocoronis rivularis***, A. Gray, Pl. Fendl. p. 65.

NEW MEXICO, Texas.—NORTH MEXICO, Monterey (*Berlandier*, *Eaton & Edwards*, *Gregg*), Cerralvo (*Gregg*), San Luis to Tampico (*Palmer*, 1091). Hb. Kew.

18. ASCHENBORNIA.

Aschenbornia, Schauer in Linnæa, xix. p. 716; Benth. et Hook. Gen. Plant. ii. p. 241.

A monotypic shrub.

1. ***Aschenbornia heteropoda***, Schauer in Linnæa, xix. p. 716.

NORTH MEXICO, Tacubaya (*Aschenborn*).

19. AGERATUM.

Ageratum, Linn. Gen. Plant. n. 936; Benth. et Hook. Gen. Plant. ii. p. 241.

About twenty-four herbaceous and shrubby species inhabiting Tropical and Subtropical America, and one of them widely dispersed in warm countries of the Old World.

1. ***Ageratum adscendens***, Schz. Bip. MSS. in Hb. Kew.

Perenne, decumbens, glanduloso-pilosum, ramis floriferis paucifoliatis adscendentibus, foliis oblongo-obovatis usque orbicularibus crenatis, capitulis mediocribus paucis cymosis, involucri bracteis ad 12 biseriatis lineari-oblongis acutis herbaceis glanduloso-pilosis, receptaculo nudo, corolla glabra infundibuliformi, acheniis elongatis hispidulis, pappi paleis 5 brevibus fimbriatis.

Herba perennis, decumbens, omnino piloso-glandulosa, ramis floriferis paucifoliatis, adscendentibus, semi- usque sesquipedalibus. *Folia* oblongo-obovata usque orbicularia, inferiora conferta, distincte petiolata, superiora distantia, sessilia, 1-3-pollicaria, crenata, demum glabrescentia. *Capitula* ad 25-flora, 3 lineas et ultra diametro, pauca, cymosa; involucri bracteæ ad 12, sub-biseriatae, lineari-oblongæ, acutæ, herbacæ, glanduloso-pilosæ; receptaculum parvum, nudum, planum; corolla glabra, infundibuliformis, infra medium angusta. *Achenia* elongata, hispidula, recta, 5-angulata; pappi paleæ 5, breves, fimbriatæ.

SOUTH MEXICO, Peak of Orizaba, 10,000 to 11,500 feet (*Galeotti*, 2160; *Linden*, 489; *Liebmann*, 214), alpine region of the Desierto Viejo (*Bourgeau*, 839). Hb. Kew.

The decumbent habit and ascending almost leafless flowering-stems readily distinguish this from all other species.

2. ***Ageratum albidum***, Hemsley.

Cælestina albida, DC. Prodr. v. p. 107.

SOUTH MEXICO, between Oaxaca and Mitla (*Andrieux*, 548). Hb. Kew.

3. ***Ageratum arbutifolium***, H. B. K. Nov. Gen. et Sp. iv. p. 149.

Phania arbutifolia, DC. Prodr. v. p. 115.

SOUTH MEXICO, Nauhcampatepetl or Cofre de Perote, 10,200 feet (*Humboldt & Bonpland*), Popocatepetl, 11,000 feet (*Galeotti*, 2380), Peak of Orizaba, 9000 to 12,500 feet (*Linden*, 1121; *Galeotti*, 2159; *Liebmann*, 213). Hb. Kew.

4. ***Ageratum brachystephanum***, Regel, Gartenflora, ii. p. 245, t. 108. fig. c; Steetz in Peters's Reise n. Mossambique, p. 373, in adnot.

Ageratum mexicanum, Sweet, Brit. Fl. Gard. i. t. 89, nec Sims, ex Steetz, loc. cit.

MEXICO (ex *Sweet*).—VENEZUELA; SAN DOMINGO.

We have followed Steetz in retaining this as a distinct species, though we suspect that this, as well as *A. mexicanum*, Sims, are not more than varieties, at most, of *A. conyzoides*.

✓ 5. ***Ageratum conyzoides***, Linn. Sp. Pl. p. 1175; DC. Prodr. v. p. 108; Steetz in Peters's Mossambique, p. 368; Hook. Exot. Fl. t. 15?

SOUTH MEXICO, Mirador and Antigua (*Liebmann*, 148, 149), valley of Cordova (*Bourgeau*, 1557), Vera Cruz (*Linden*, 468, 1210), Orizaba (*Galeotti*, 2222; *Bourgeau*, 2684); GUATEMALA, Chojoja, Mazaltenango (*Bernoulli*, 476); NICARAGUA, Chontales (*Seemann*, 99).—A common weed in nearly all WARM COUNTRIES. Hb. Kew.

This should perhaps include *A. brachystephanum* and *A. mexicanum*.

✓ 6. ***Ageratum corymbosum***, Zuccag., ex Pers. Syn. ii. p. 402, nec Benth.

Ageratum caelestinum, Sims, Bot. Mag. t. 1730.

Sparganophorus ageratoides, Lag. Elench. Hort. Matr. 1815, p. 25.

Cælestina ageratoides, H. B. K. Nov. Gen. et Sp. iv. p. 151.

Cælestina corymbosa, DC. Prodr. v. p. 108.

Cælestina lessingiana, Kl., ex Walp. Rep. ii. p. 545?

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 315, 317, 318); SOUTH MEXICO, Real del Monte (*Coulter*, 247 in part), valley of Mexico (*Bourgeau*, 719; *Schaffner*, 286), without localities (*Parkinson*, *Tate*, *Bates*, *Graham*); GUATEMALA, Barranca del Incarnacion (*Skinner*). Hb. Kew.

7. ***Ageratum echioides***, Hemsley.

Isocarpha echioides, Less. in Linnæa, v. p. 141, t. 2. figg. 14-16; DC. Prodr. v. p. 107.

SOUTH MEXICO, near Hacienda de la Laguna (*Schiede & Deppe*), Mirador (*Linden*, BIOL. CENT.-AMER., Bot. Vol. II., April 1881. m

1156; *Liebmann*, 143, 144), Jalapa, at 3000 feet (*Galeotti*, 2200), Orizaba (*Müller*, 1129; *Bourgeau*, 3207, 2393; *Sallé*). Hb. Kew.

8. ***Ageratum glanduliferum***, Schz. Bip. MSS. in Hb. Kew.

Herbaceum vel fruticosum, glanduloso-villosum, foliis sessilibus vel subsessilibus ovato-oblongis crenatis, capitulis multifloris ad apices ramulorum cymosis, involucri bracteis latis biserialis exterioribus villosis et pluricostatis, receptaculo nudo plano, corolla infundibuliformi pauciglandulosa, acheniis immaturis hispidulis, pappi paleis 5 brevibus fimbriatis.

Frutex (vel *herba* suffrutescens) fere omnino dense longeque glanduloso-villosus, ramis teretibus. *Folia* omnia opposita, sessilia vel subsessilia, ovato-oblonga, $\frac{1}{2}$ –2-pollicaria, crenata. *Capitula* multiflora, pauca, ad apices ramulorum conferta; involucri bracteæ latae, subbiserialitæ, exteriores villosæ, pluricostatæ; receptaculum nudum, planum; corolla sparse glandulosa, infundibuliformis, infra medium angustissima. *Achenia* immatura hispidula, 5-angulata; pappi paleæ 5, breves, fimbriatæ.

SOUTH MEXICO, Sempoaltepec (*Liebmann*, 238). Hb. Kew.

There is also a specimen in Kew herbarium labelled "Venezuela &c." (*Fendler*, 1155).

9. ***Ageratum isocarphoides***, DC. Prodr. v. p. 107.

MEXICO (*Hænke*).

✓10. ***Ageratum latifolium***, Hemsley, nec Cav.

Cælestina latifolia, Benth. in Vidensk. Meddel. 1852, p. 72.

GUATEMALA, base of Volcan de Fuego (*Salvin & Godman*); COSTA RICA, Aguacate (*Ersted*, 251, 253). Hb. Kew.

11. ***Ageratum mexicanum***, Sims, Bot. Mag. t. 2524, nec Sweet, ex Steetz in Peters's Mossambique, p. 372, in adnot.

SOUTH MEXICO, near Jalapa (*Schiede*).

✓12. ***Ageratum microcarpum***, Hemsley.

Cælestina microcarpa, Benth. in Vidensk. Meddel. 1852, p. 72.

COSTA RICA, Cartago (*Ersted*, 241, 247, 248). Hb. Kew.

13. ***Ageratum microcephalum***, Hemsley, n. sp. (Tab. XLIII. figg. 1–5.)

Annum, ramis elongatis teretibus, foliis omnibus oppositis lanceolatis supra scabridis subtus densissime et minutissime glandulosis (nec hirsutis), capitulis minimis dense cymoso-corymbosis, involucri bracteis angustis acutis rigidis pluriseriatis, receptaculo paleis paucissimis instructo, corolla subcylindrica glandulosa, acheniis glabris, pappo brevissimo coroniformi integro.

Herba annua, floribus albis (fide *Galeotti*), ramis teretibus, elongatis, graciliusculis, rectis, rigidis, sublignosis, puberulis, purpureo-striatis. *Folia* omnia opposita, breviter petiolata, lanceolata, $2\frac{1}{2}$ –5-pollicaria, remotiuscule callosodenticulata, utrinque gradatim attenuata, apice obtusiuscula, supra scabrida, subtus glandulis flavis minutis densissime instructa. *Capitula* minima (1– $1\frac{1}{2}$ lin. diametro), numerosa, creberrime cymoso-corymbosa; involucri bracteæ puberulæ, angustæ, acutæ, rigidæ, pluriseriatæ; receptaculum fere planum, paleis paucissimis linearibus quam flores brevioribus instructum; corolla subcylindrica, extus glandulosa, lobi brevi. *Achenia* glabra, alba, 5-angulata, sæpissime obliqua; pappus brevissimus, coroniformis, integer.

SOUTH MEXICO, fields and woods, at 7000 feet, in the Cordillera of Oaxaca (*Galeotti*, 2098). Hb. Kew.

The very small flower-heads constitute the most striking character of this species.

EXPLANATION OF TAB. XLIII. FIGS. 1-5.

Fig. 1, portion of plant, natural size; 2, a flower-head; 3, a floret; 4, style; 5, anther: all enlarged.

14. ***Ageratum paleaceum***, Hemsley.

Celestina paleacea, Gray, ex DC. Prodr. v. p. 107.

SOUTH MEXICO, around Oaxaca (*Andrieux*, 287). Hb. Kew.

↳ 15. ***Ageratum petiolatum***, Hemsley.

Celestina petiolata, Hook. et Arn. Bot. Beech. Voy. p. 433.

NICARAGUA, Realejo (*Sinclair*). Hb. Kew.

16. ***Ageratum salicifolium***, Hemsley, n. sp.

Glabrescens, ramis gracilibus, foliis anguste lanceolatis longe acuminatis integris vel remote dentatis, capitulis multifloris corymbosis, involucri bracteis numerosis angustis acutis rigidis 2-3-seriatis, receptaculo nudo leviter conico, corolla subcylindrica puberula, acheniis glabris sæpissime 4-angulatis basi oblique callosis, pappo brevi cupulato irregulariter 4-5-dentato.

Suffrutex (vel *herba* basi lignosa) cito glabrescens, ramis gracilibus, striatulis. *Folia* omnia opposita, breviter vel longiuscule petiolata, anguste lanceolata, 2-4-pollicaria, longe acuminata, vix acuta, basi cuneata, integra vel remote dentata. *Capitula* multiflora, pauca, corymbosa; involucri bracteæ numerosæ, 2-3-seriatae, pilosæ, angustæ, acutæ, rigidæ; receptaculum nudum, leviter conicum; corolla cylindrica, puberula. *Achenia* glabra, sæpissime 4-angulata; pappus brevis, cupulatus, irregulariter 4-5-dentatus.—*Celestina corymbosa*, Benth. Bot. Voy. 'Sulphur,' p. 111, pro parte, nec DC.

SOUTH MEXICO, San Blas to Tepic (*Sinclair*). Hb. Kew.

17. ***Ageratum scabriusculum***, Hemsley.

Celestina scabriuscula, Benth. in Vidensk. Meddel. 1852, p. 72.

Celestina corymbosa, Benth. Bot. Voy. 'Sulphur,' p. 111, pro parte.

SOUTH MEXICO, San Blas to Tepic (*Sinclair*); GUATEMALA (*Friedrichsthal*); COSTA RICA (*Ersted*). Hb. Kew.

18. ***Ageratum sessilifolium***, Schauer in Linnæa, xix. p. 715.

MEXICO (*Aschenborn*).

19. ***Ageratum strictum***, Hemsley, n. sp.

Annum, erectum, strictum, caulibus gracilibus, internodiis longis, foliis lanceolatis calloso-denticulatis supra scabridis subtus glandulis minutis creberrimis instructis, capitulis mediocribus multifloris corymbosis, involucri bracteis numerosis linearibus acutis rigidis, receptaculo nudo leviter conico, corolla subcylindrica puberula simul parce glandulosa, acheniis glabris sæpissime 4-angulatis, pappo brevi cupulato 4-5-dentato.

Herba annua, floribus cæruleo-violaceis (fide *Galeotti*), caulibus erectis, gracilibus, puberulis, purpureis, internodiis elongatis. *Folia* omnia opposita, breviter petiolata, lanceolata, 1½-2-polli-

caria, utrinque attenuata, apice vix acuta, margine callosodenticulata, supra scabrida, subtus puberula, simul glandulis minutis rufis creberrime instructa. *Capitula* mediocria, multiflora, pauca, corymbosa; involucri bracteæ numerosæ, biseriatae, lineares, acutæ, rigidæ, pilosæ; receptaculum nudum, leviter conicum; corolla subcylindrica, puberula, simul parce glandulosa. *Achenia* glabra, sæpissime 4-angulata, basi oblique callosa; pappus brevis, cupulatus, 4-5-dentatus.

SOUTH MEXICO, Uruapan, Michoacan, at 4000 feet (*Galeotti*, 2451). Hb. Kew.

√20. **Ageratum tomentosum**, Hemsley.

Calestina tomentosa, Benth. in Vidensk. Meddel. 1852, p. 71.

SOUTH MEXICO, valley of Orizaba (*Bourgeau*, 2924), Real del Monte (*Coulter*, 247), Jalapa, at 3000 feet (*Galeotti*, 2202), province of Vera Cruz (*Linden*, 1185), Chiapas (*Ghiesbreght*, 547); GUATEMALA, Capetillo, Volcan de Fuego, 4600 feet (*Salvin*); COSTA RICA, mountains of Candelaria (*Ersted*). Hb. Kew.

20. SCHÆTZELLIA.

Schætzellia, Schz. Bip. in Flora, 1850, p. 419; Benth. et Hook. Gen. Plant. ii. p. 242.

Limited at present to one annual species:—

1. **Schætzellia mexicana**, Schz. Bip. in Flora, 1850, p. 419.

SOUTH MEXICO, ravines of the Tierra Caliente, at 1500 feet (*Galeotti*, 2302), Acasonica, Vera Cruz (*Linden*, 1168). Hb. Kew.

21. STEVIA.

Stevia, Cav. Ic. iv. p. 32, tt. 354-356; Benth. et Hook. Gen. Plant. ii. p. 242.

From eighty to 100 herbaceous and half-shrubby American species, chiefly western, from Mexico to Chili, a few occurring in Buenos Ayres, Brazil, and Guiana.

1. **Stevia angustifolia**, H. B. K. Nov. Gen. et Sp. iv. p. 149.

SOUTH MEXICO, Santa Rosa de la Sierra &c., 7200 to 8000 feet (*Humboldt & Bonpland*), without localities (*Bates, Parkinson*). Hb. Kew.

2. **Stevia aschenborniana**, Schz. Bip. in Linnæa, xxv. p. 269.

Stevia podcephala, Schauer in Linnæa, xix. p. 718, nec DC.

MEXICO (*Aschenborn*).

3. **Stevia berlandieri**, A. Gray, in Torr. Bot. Emory Rep. p. 73, in adnot.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*), near Saltillo (*Gregg*, 224). Hb. Kew.

4. **Stevia canescens**, H. B. K. Nov. Gen. et Sp. iv. p. 143.

NEW MEXICO.—NORTH MEXICO, Sonora (*Wright*); SOUTH MEXICO, Real del Monte (*Coulter*, 276, 277), Aguas Calientes (*Hartweg*), about Guanajuato and Chalma, 6600

feet (*Humboldt & Bonpland*), Tacubaya (*Bilimek*, 499; *Graham*), Escamella (*Bourgeau*, 3994); GUATEMALA (*Skinner*).—COLOMBIA. Hb. Kew.

5. ***Stevia clinopodia***, DC. Prodr. v. p. 116.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 320); SOUTH MEXICO, Desierto Viejo (*Bourgeau*, 815, 1223), Orizaba (*Botteri*, 1162), Cordillera of Oaxaca, at 8000 feet (*Galeotti*, 2066); COSTA RICA, Aguacate and Ujaras (*Ersted*, 194, 195, 196). Hb. Kew.

✓ 6. ***Stevia compacta***, Benth. Pl. Hartw. p. 197.

COSTA RICA, Volcan el Viejo (*Ersted*, 199).—COLOMBIA; PERU. Hb. Kew.

7. ***Stevia connata***, Lag. Nov. Gen. et Sp. p. 27; DC. Prodr. v. p. 117.

MEXICO.

8. ***Stevia cordifolia***, Benth. Pl. Hartw. p. 39.

SOUTH MEXICO, Regla (*Hartweg*). Hb. Kew.

9. ***Stevia coronifera***, DC. Prodr. v. p. 115.

MEXICO (*Mairet*, 118). Hb. Kew.

10. ***Stevia dissitifolia***, DC. Prodr. v. p. 121.

MEXICO (*Hænke*).

11. ***Stevia dissoluta***, Schl. Hort. Halens. p. 16; Walp. Rep. ii. p. 547.

MEXICO.

12. ***Stevia divaricata***, DC. Prodr. v. p. 123.

MEXICO.

13. ***Stevia ehrenbergiana***, Schl. in Linnæa, xvi. p. 370.

SOUTH MEXICO, Mineral del Monte (*Ehrenberg*).

14. ***Stevia elatior***, H. B. K. Nov. Gen. et Sp. iv. p. 144.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 330); SOUTH MEXICO, Vera Cruz to Orizaba (*Müller*, 1101), Tacubaya (*Schaffner*).—VENEZUELA and COLOMBIA to PERU. Hb. Kew.

15. ***Stevia elliptica***, Hook. et Arn. Bot. Beech. Voy. p. 434.

NORTH MEXICO, Cerro de Pinal (*Seemann*, 1488); SOUTH MEXICO, San Blas to Tepic (*Sinclair*), Acapulco (*Hinds*), Desierto Viejo and Pedregal (*Bourgeau*, 822, 1236). Hb. Kew.

16. ***Stevia eupatoria***, Willd. Sp. Pl. iii. p. 1775; DC. Prodr. v. p. 118; Bot. Mag. t. 1849.

Stevia hyssopifolia, Cav. Præl. 465; Lag. Nov. Gen. et Sp. p. 26, non Kunth nec Sims.
Stevia punctata, Pers. Ench. ii. p. 403.

Ageratum punctatum, Ort. Dec. iii. p. 37.

Mustelia eupatoria, Spreng. in Trans. Linn. Soc. Lond. vi. p. 152, t. 13.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 324); SOUTH MEXICO, Morelia, 5000 feet (*Galeotti*, 2419), without localities (*Parkinson*, *Graham*). Hb. Kew.

17. ***Stevia fascicularis***, Less. in Linnæa, v. p. 140.

SOUTH MEXICO, everywhere around Jalapa (*Schiede & Deppe*).

18. ***Stevia fastigiata***, H. B. K. Nov. Gen. et Sp. iv. p. 148.

SOUTH MEXICO, near Guanajuato, at 6500 feet (*Humboldt & Bonpland*).

19. ***Stevia glandulifera***, Schl. Ind. Lem. Hal. 1839, p. 19, et Hort. Hal. p. 15, t. 8; Walp. Rep. ii. p. 547.

Stevia trachelioides, Hook. Bot. Mag. t. 3856?

SOUTH MEXICO, near San Angel (*Schaffner*). Hb. Kew.

20. ***Stevia glandulosa***, Hook. et Arn. Bot. Beech. Voy. p. 296.

SOUTH MEXICO, Jalisco (*Beechey*), San Blas to Tepic (*Sinclair*). Hb. Kew.

21. ***Stevia glutinosa***, H. B. K. Nov. Gen. et Sp. iv. p. 148, t. 353.

VENEZUELA; COLOMBIA.

Var. β ? ***oaxacana***, DC. Prodr. v. p. 116.

SOUTH MEXICO, Oaxaca (*Andrieux*, 385). Hb. Kew.

22. ***Stevia grandidentata***, Schz. Bip. MSS. in hb. Kew.

SOUTH MEXICO, Tehuacan (*Liebmann*, 128). Hb. Kew.

The specimen in Kew herbarium is insufficient for description.

23. ***Stevia hænkeana***, DC. Prodr. v. p. 122.

MEXICO (*Hænke*).

24. ***Stevia hirsuta***, DC. Prodr. v. p. 121.

SOUTH MEXICO, Villapando (*Mendez*).

25. ***Stevia hirtiflora***, Schz. Bip. in Linnæa, xxv. p. 274.

SOUTH MEXICO, Regla (*Ehrenberg*).

26. ***Stevia hispidula***, DC. Prodr. v. p. 122.

MEXICO (*Née*?).

27. ***Stevia ivæfolia***, Willd. Mag. Ges. Naturfr. Berl. 1807; DC. Prodr. v. p. 118.

SOUTH MEXICO, Desierto Viejo (*Bourgeau*, 823). Hb. Kew.

28. ***Stevia jorullensis***, H. B. K. Nov. Gen. et Sp. iv. p. 144.

SOUTH MEXICO, Jorullo, at about 4000 feet (*Humboldt & Bonpland*), Sanchez (*Hartweg*), without locality (*Graham*). Hb. Kew.

29. **Stevia lanceolata**, Lag. Nov. Gen. et Sp. p. 26 ; DC. Prodr. v. p. 119.
NORTH MEXICO, around Pachuca.

30. **Stevia lanceolata**, Walp. in Linnæa, xiv. p. 319.
SOUTH MEXICO (*Karwinski*).

31. **Stevia latifolia**, Benth. Pl. Hartw. p. 40.
SOUTH MEXICO, Sanchez (*Hartweg*). Hb. Kew.

32. **Stevia laxiflora**, DC. Prodr. v. p. 122.
Stevia purpurea (*quinquearistata*), Lag. Nov. Gen. et Sp. p. 26, non Pers.
Stevia hyssopifolia, H. B. K. Nov. Gen. et Sp. iv. p. 140, non Cav. nec Sims.
SOUTH MEXICO, near Tacubaya (*Schaffner*, 210 ; *Bilimek*, 498, 531), Santa Fé (*Bourgeau*, 709, 821), Bolaños (*Coulter*, 282), Orizaba (*Botteri*, 900), Zimapan (*Coulter*, 265). Hb. Kew.

33. **Stevia leucantha**, Schl. Hort. Hal. p. 16 ; Walp. Rep. ii. p. 547.
MEXICO.

34. **Stevia leuconeura**, DC. Prodr. v. p. 121.
SOUTH MEXICO, Leon, west of the town of Guanajuato (*Mendez*).

35. **Stevia linearifolia**, Walp. in Linnæa, xiv. p. 320.
SOUTH MEXICO (*Karwinski*).

↳ 36. **Stevia lucida**, Lag. Nov. Gen. et Sp. p. 28 ; DC. Prodr. v. p. 117.
NORTH MEXICO, Sierra Madre (*Seemann*, 2028), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 327) ; SOUTH MEXICO, Ismiquilpan &c. (*Née*), without locality (*Graham*, 62) ; GUATEMALA, Volcan de Fuego (*Salvin & Godman*) ; COSTA RICA (*Ersted*). Hb. Kew.

37. **Stevia micrantha**, Lag. Nov. Gen. et Sp. p. 27 ; DC. Prodr. v. p. 121 ;
Calques des Dess. Fl. Mex. 548.
Stevia macella, A. Gray.

NEW MEXICO.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 328) ; SOUTH MEXICO, Guadalupe (*Bilimek*, 504), Zacualco (*Bourgeau*, 1069), Chapultepec (*Schaffner*, 242). Hb. Kew.

38. **Stevia microcephala**, DC. Prodr. v. 116.
MEXICO (*Hænke*).

39. **Stevia microchæta**, Schz. Bip. MSS. in Lieb. Coll. n. 120
SOUTH MEXICO, Cerro Pelado (*Liebmann*, 120). Hb. Kew.

40. **Stevia microphylla**, H. B. K. Nov. Gen. et Sp. iv. p. 140.
SOUTH MEXICO, between Tasco and Thuilotepec, 5600 feet (*Humboldt & Bonpland*).

√ 41. ***Stevia monardæfolia***, H. B. K. Nov. Gen. et Sp. iv. p. 147.

SOUTH MEXICO, between Valladolid and Pazcuaro, at 6600 feet (*Humboldt & Bonpland*), Peak of Orizaba, 8000 to 12,000 feet (*Galeotti*, 2162; *Linden*, 1128; *Liebmann*, 135; *Botteri*, 824), Sanchez (*Hartweg*), Cordillera of Vera Cruz, damp places at 3000 feet (*Galeotti*, 2264, 2265), Santa Fé and Desierto Viejo (*Bourgeau*, 712, 820, 1072, 1073); COSTA RICA (*Endres*). Hb. Kew.

42. ***Stevia nepetæfolia***, H. B. K. Nov. Gen. et Sp. iv. p. 146.

Stevia tomentosa, Schauer in Linnæa, xix. p. 718, nec H. B. K.

SOUTH MEXICO, Orizaba (*Bourgeau*, 3332), shore of Lake Tezcuco, 9000 feet (*Humboldt & Bonpland*), Montezuma, near Cuantepec (*Bourgeau*, 1068). Hb. Kew.

43. ***Stevia nervosa***, DC. Prodr. v. p. 117.

SOUTH MEXICO, near Villalpando, east of Guanajuato (*Mendez*).

44. ***Stevia nitida***, Walp. in Linnæa, xiv. p. 320; Rep. ii. p. 546.

MEXICO (*Karwinski*).

45. ***Stevia organifolia***, Walp. in Linnæa, xix. p. 321; Rep. ii. p. 546.

MEXICO.

46. ***Stevia organoides***, H. B. K. Nov. Gen. et Sp. iv. p. 147.

NORTH MEXICO, Cerro de Pinal (*Seemann*, 1475); SOUTH MEXICO, valley of San Jacobus, Michoacan, at 5000 to 6000 feet (*Humboldt & Bonpland*), without locality (*Aschenborn*). Hb. Kew.

47. ***Stevia ovata***, Lag. Nov. Gen. et Sp. p. 27; DC. Prodr. v. p. 120.

SOUTH MEXICO, Desierto Viejo, San Nicolas and Santa Fé (*Bourgeau*, 819, 1067, 1071). Hb. Kew.

48. ***Stevia paniculata***, Lag. Nov. Gen. et Sp. p. 27; DC. Prodr. v. p. 120.

SOUTH MEXICO, Zimapan (*Coulter*, 270), Pedregal, near Mexico (*Bourgeau*, 711). Hb. Kew.

49. ***Stevia pilosa***, Lag. Nov. Gen. et Sp. p. 26.

Stevia conferta, DC. Prodr. v. p. 116.

SOUTH MEXICO, near Guanajuato (*Née*), Real del Monte (*Coulter*, 280), Santa Fé (*Bourgeau*, 605, 817). Hb. Kew.

50. ***Stevia podcephala***, DC. Prodr. v. p. 121.

SOUTH MEXICO, Pedregal (*Bourgeau*, 391), Real del Monte (*Coulter*, 266), Cordillera of Oaxaca, 8000 to 9000 feet (*Galeotti*, 2079), without localities (*Née*, *Alaman*, *Berlandier*, *Mendez*); GUATEMALA (*Bernoulli*); COSTA RICA (*Ersted*). Hb. Kew.

√ 51. ***Stevia polyphylla***, DC. Prodr. v. p. 123.

PANAMA? PERU?

52. ***Stevia pubescens***, Lag. Nov. Gen. et Sp. p. 26; DC. Prodr. v. p. 119.
SOUTH MEXICO, Aguas Calientes (*Hartweg*, 135), Real del Monte (*Coulter*, 279, 280), around Guanajuato and Chalma (ex *De Candolle*). Hb. Kew.
53. ***Stevia purpurea***, Pers. Ench. ii. p. 402; Jacq. Fragm. t. 127. fig. 2.
Stevia eupatoria, Bot. Reg. t. 93.
NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 323); SOUTH MEXICO, foot of Orizaba (*Schiede & Deppe*). Hb. Kew.
54. ***Stevia pyrolæfolia***, Schl. in Linnæa, xvi. p. 326.
SOUTH MEXICO, in la Encarnacion (*Ehrenberg*).
55. ***Stevia ranunculoides***, DC. Prodr. v. p. 124.
SOUTH MEXICO, west of Guanajuato (*Mendez*).
56. ***Stevia reglensis***, Benth. Pl. Hartw. p. 40.
SOUTH MEXICO, Regla (*Hartweg*, 308), Borrego, Orizaba (*Bourgeau*, 3348). Hb. Kew.
57. ***Stevia rhombifolia***, H. B. K. Nov. Gen. et Sp. iv. p. 143.
NORTH MEXICO, Sierra Madre (*Seemann*, 2016); SOUTH MEXICO, Orizaba (*Botteri*, 601; *Bourgeau*, 2843, 3086), Mirador (*Liebmann*, 127, 134; *Linden*, 1154), San Nicolas and Santa Fé (*Bourgeau*, 712 bis, 1076), Cordillera of Vera Cruz and Cordillera of Oaxaca (*Galeotti*, 2215, 1997), Jalapa (*Linden*, 469), Guadalupe at 7200 feet (*Humboldt & Bonpland*). Hb. Kew.
58. ***Stevia salicifolia***, Cav. Ic. iv. p. 32, t. 354; DC. Prodr. v. p. 117.
NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 321); SOUTH MEXICO, Zimapan (*Coulter*, 275), near Belen (*Schaffner*), Real del Monte (*Galeotti*, 2367), Santa Fé, Cerro de Hidalgo (*Bourgeau*, 720, 171). Hb. Kew.
- Var. ***nana***, A. Gray in Proc. Am. Acad. xv. p. 25.
NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 326). Hb. Kew.
59. ***Stevia scabrella***, Benth. Pl. Hartw. p. 19.
SOUTH MEXICO, Bolaños (*Hartweg*, 141). Hb. Kew.
60. ***Stevia seemannii***, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 298.
NORTH MEXICO, Sierra Madre (*Seemann*, 2041). Hb. Kew.
61. ***Stevia serrata***, Cav. Ic. iv. p. 33, t. 355.
NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 325); SOUTH MEXICO, near Tacubaya (*Schaffner*, *Bourgeau*, 368, 144), Zimapan (*Coulter*, 281), Chiapas (*Ghiesbreght*, 567). Hb. Kew.
62. ***Stevia stenophylla***, A. Gray in Proc. Am. Acad. xv. p. 25.
NORTH MEXICO, San Luis Potosi (*Parry & Palmer*, 319). Hb. Kew.

63. ***Stevia subpubescens***, Lag. Nov. Gen. et Sp. p. 28; DC. Prodr. v. p. 116.
SOUTH MEXICO, Guanajuato (*Hartweg*, 137), San Nicolas (*Bourgeau*, 1066), Cordillera of Oaxaca, 7000 to 8000 feet (*Galeotti*, 2186), Anganguio (*Schiede*). Hb. Kew.
64. ***Stevia ternifolia***, H. B. K. Nov. Gen. et Sp. iv. p. 146.
SOUTH MEXICO, Michoacan, 5000 to 6000 feet (*Humboldt & Bonpland*).
65. ***Stevia tomentosa***, H. B. K. Nov. Gen. et Sp. iv. p. 145, t. 352.
SOUTH MEXICO, near Valladolid, at 6000 feet (*Humboldt & Bonpland*), Real del Monte (*Coulter*, 271), Regla (*Hartweg*), San Angel (*Hahn*), Santa Fé (*Bourgeau*, 710). Hb. Kew.
66. ***Stevia trachelioides***, DC. Prodr. v. p. 115.
SOUTH MEXICO, valley of Toluca (*Berlandier*, 1164).
67. ***Stevia trichopoda***, A. Gray, Pl. Fendl. p. 64.
SOUTH MEXICO, Zimapan (*Coulter*, 267). Hb. Kew.
68. ***Stevia trifida***, Lag. Nov. Gen. et Sp. p. 27.
Stevia multifida, DC. Prodr. v. p. 121.
MEXICO.
69. ***Stevia triflora***, DC. Prodr. v. p. 115.
SOUTH MEXICO, San Felipe, Oaxaca (*Karwinski*).
70. ***Stevia unicristata***, DC. Prodr. v. p. 120.
SOUTH MEXICO, Leon, west of Guanajuato (*Mendez*), Bolaños (*Coulter*, 282), without locality (*Harris*). Hb. Kew.
71. ***Stevia vigintisetata***, DC. Prodr. v. p. 123.
MEXICO (*Karwinski*).
72. ***Stevia viminea***, Schrad. Hort. Gott. 1832; DC. Prodr. v. p. 117.
SOUTH MEXICO, Real del Monte (*Coulter*, 274). Hb. Kew.
73. ***Stevia viscida***, H. B. K. Nov. Gen. et Sp. iv. p. 140, t. 351.
SOUTH MEXICO, between Lake Yurirapundara and Capula, 6000 feet (*Humboldt & Bonpland*).

22. FLEISCHMANNIA.

Fleischmannia, Schz. Bip. in Flora, 1850, p. 417; Benth. et Hook. Gen. Plant. ii. p. 243.

Limited to the following herbaceous species:—

- √ 1. ***Fleischmannia rhodostylis***, Schz. Bip. in Flora, 1850, p. 417.
Eupatorium? quinquesetosum, Benth. in Walp. Ann. v. p. 165.
NICARAGUA, Segovia (*Ersted*, 249). Hb. Kew.

2. **Fleischmannia schaffneri**, A. Gray in Proc. Am. Acad. xvi. p. 101.
NORTH MEXICO, San Luis Potosi (*Schaffner*). Hb. Kew.

3. **Fleischmannia urenæfolia**, Benth. et Hook. Gen. Plant. ii. p. 243.
Phania ? *urenæfolia*, Hook. et Arn. Bot. Beech. Voy. p. 297.
MEXICO (*Beechey*).

23. CARMINATIA.

Carminatia, Moc. in DC. Prodr. vii. p. 267 ; Benth. et Hook. Gen. Plant. ii. p. 243.

One herbaceous species :—

1. **Carminatia tenuiflora**, DC. Prodr. vii. p. 267 ; Deless. Ic. Sel. iv. t. 99.
TEXAS ; NEW MEXICO.—NORTH MEXICO, Sonora (*Thurber, Wright*, 1134) ; SOUTH MEXICO, Zimapan (*Coulter*, 242), Leon, west of Guanajuato (*Mendez*), without locality (*Bates*). Hb. Kew.

24. EUPATORIUM.

Eupatorium, Linn. Gen. Plant. n. 935 ; Benth. et Hook. Gen. Plant. ii. p. 245.

From 400 to 450 shrubby and herbaceous species, by far the greater proportion American, ranging from Canada to Chili, but most numerous in Mexico and Brazil. Temperate and Subtropical Asia comes next in point of numbers, one of the species extending to Western Europe and North Africa, and one species occurs in Eastern Tropical Africa. The genus is not represented either in South Africa or in Australasia.

1. **Eupatorium adenchætum**, Schz. Bip. MSS. in hb. Liebm.
SOUTH MEXICO, peak of Orizaba, 8000 to 10,000 feet (*Liebmann*, 89). Hb. Kew.
The specimen in Kew herbarium is insufficient for description.

✓ 2. **Eupatorium adenophorum**, Spreng. Syst. iii. p. 420 ; DC. Prodr. v. p. 164.
Eupatorium glandulosum, H. B. K. Nov. Gen. et Sp. iv. p. 122, t. 346 ; Bot. Reg. t. 1723, non Michx.

SOUTH MEXICO, between Carpio and Gasave, 8200 feet (*Humboldt & Bonpland*) ;
COSTA RICA, Angostura (*Polakowsky*).

3. **Eupatorium adenospermum**, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 299.
NORTH MEXICO, Sierra Madre (*Seemann*, 2037). Hb. Kew.

4. **Eupatorium ageratifolium**, DC. Prodr. v. p. 173.

β. **mexicanum**, DC. loc. cit.
NORTH MEXICO, between Victoria and Tula (*Berlandier*).

5. **Eupatorium ageratoides**, Lin. fil. Suppl. p. 355 ; DC. Prodr. v. p. 175.
CANADA southward.—SOUTH MEXICO, valley of Mexico (*Bourgeau*, 172, 517, 591, 950, 1231), forest of the Desierto Viejo (*Bourgeau*, 818, 1101), Orizaba (*Botteri*, 1092), Tacubaya (*Schaffner*). Hb. Kew.

6. **Eupatorium albicaule**, Schz. Bip. in herb. Liebm. n. 88.
SOUTH MEXICO, Papantla (*Liebmann*, 88). Hb. Kew.
7. **Eupatorium (Conoclinium) album**, Mart. in Linnæa, xxiv. p. 194.
MEXICO (*Karwinski*).
8. **Eupatorium amplifolium**, A. Gray in Proc. Am. Acad. xv. p. 28.
NORTH MEXICO, San Luis Potosi (*Parry & Palmer*, 334). Hb. Kew.
9. **Eupatorium angosturæ**, Polak. in Linnæa, xli. p. 579.
COSTA RICA, Angostura (*Polakowsky*).
10. **Eupatorium araliæfolium**, Less. in Linnæa, vi. p. 403.
SOUTH MEXICO, Papantla (*Schiede*), Mirador (*Liebmann*, 115), Orizaba (*Bilimek*, 557);
NICARAGUA, Chontales (*Tate*, 367, 370). Hb. Kew.
11. **Eupatorium areolare**, DC. Prodr. v. p. 169.
SOUTH MEXICO, mountains of Guachilaca (*Berlandier*), Chiapas (*Ghiesbreght*, 530).
Hb. Kew.
12. **Eupatorium argutum**, H. B. K. Nov. Gen. et Sp. iv. p. 121.
SOUTH MEXICO, Chapoltepec, at 8200 feet (*Humboldt & Bonpland*).
13. **Eupatorium aschenbornianum**, Schauer in Linnæa, xix. p. 720.
SOUTH MEXICO, Toluca (*Aschenborn*, 106).
14. **Eupatorium azureum**, DC. Prodr. v. p. 168.
NORTH MEXICO, Monterey, Nuevo Leon (*Berlandier*), region of San Luis Potosi, 6000
to 8000 feet (*Parry & Palmer*, 341). Hb. Kew.
15. **Eupatorium barclayanum**, Benth. Bot. Voy. 'Sulphur,' p. 112.
NICARAGUA, between Sapoa and Tortuga (*Ersted*); PANAMA, Lamon (*Seemann*, 431),
Isle of Taboga (*Barclay*).—Southward to PERU. Hb. Kew.
16. **Eupatorium bellidifolium**, Benth. Pl. Hartw. p. 380.
NORTH MEXICO, Sierra Madre (*Seemann*, 2042); SOUTH MEXICO, mountains near
Apulco (*Hartweg*), Cordillera of Oaxaca, 7000 to 8000 feet (*Galeotti*, 2041). Hb.
Kew.
17. **Eupatorium berlandieri**, DC. Prodr. v. p. 167.
NORTH MEXICO, Sonora (*Wright*), between Tula and Tampico (*Berlandier*).
18. **Eupatorium bertholdii**, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 299.
NORTH MEXICO, Sierra Madre (*Seemann*, 2011); SOUTH MEXICO, Tepic (*Barclay*).
Hb. Kew.
19. **Eupatorium betonicæfolium**, Mill. ex Steud. Nomen. Bot. ed. 2, i. p. 606.
SOUTH MEXICO, Vera Cruz (*Houston*).

20. **Eupatorium betonicum**, Hemsley.
Conoclinium betonicum, DC. Prodr. v. p. 135.
 NORTH MEXICO, Tampico (*Berlandier*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 316). Hb. Kew.
21. **Eupatorium bigelowii**, A. Gray in Torr. Bot. Emory Exped. p. 75.
 NORTH MEXICO, on the Gila, Sonora (*Parry*).
- √22. **Eupatorium billbergianum**, Beurling in Kong. Vet. Handl. 1854, p. 134.
 PANAMA (*Billberg*).
23. **Eupatorium blepharilepis**, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 300.
 NORTH MEXICO, Sierra Madre (*Seemann*, 2031). Hb. Kew.
- √24. **Eupatorium braunii**, Polak. in Linnæa, xli. p. 576.
 COSTA RICA, Angostura (*Polakowsky*).
25. **Eupatorium brevipes**, DC. Prodr. v. p. 168.
 NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 342); SOUTH MEXICO, Villalpando (*Mendez*), Chapultepec (*Schaffner*), Cuernavaca (*Hahn*), Santa Izabel (*Bilimek*), Santa Fé (*Bourgeau*, 1104). Hb. Kew.
26. **Eupatorium brevisetum**, DC. Prodr. v. p. 169.
 MEXICO (*Alaman*).
27. **Eupatorium bustamanta**, DC. Prodr. v. p. 168.
 SOUTH MEXICO, Santa Fé (*Bourgeau*, 588), Vera Cruz (*Linden*, 1217), woods, at 3000 feet, in the Cordillera of Oaxaca (*Galeotti*, 2189); GUATEMALA (*Salvin & Godman*). Hb. Kew.
28. **Eupatorium calaminthæfolium**, H. B. K. Nov. Gen. et Sp. iv. p. 129, t. 348.
 SOUTH MEXICO, Real del Monte, Zimapan (*Coulter*, 256, 257), valley of Mexico (*Schaffner*; *Bourgeau*, 170, 1102, 1103), without localities (*Mairet*, *Gregg*, &c). Hb. Kew.
- √29. **Eupatorium ciliatum**, Less. in Linnæa, vi. p. 404.
 SOUTH MEXICO, valley of Cordova (*Bourgeau*, 1927), Mirador (*Liebmann*, 65), Cordillera of Vera Cruz, at 3000 feet (*Galeotti*, 2331), Orizaba (*Botteri*, 1091); GUATEMALA, Alta Vera Paz, at 4400 feet (*Türckheim*); PANAMA, Boquete (*Seemann*, 1132). Hb. Kew.
30. **Eupatorium collinum**, DC. Prodr. v. p. 164.
Eupatorium nigrescens, Hook. et Arn. Bot. Beech. Voy. p. 297.
 NORTH MEXICO, San Luis Potosi to Tampico (*Palmer*, 1076); SOUTH MEXICO, San Blas to Tepic (*Sinclair*; *Coulter*, 249), Consoquitla (*Liebmann*, 2, 3), Cordillera of Vera Cruz (*Galeotti*, 2216); NICARAGUA (*Tate*, 190). Hb. Kew.

√ 31. **Eupatorium conyzoides**, Vahl, Symb. iii. p. 96 ; DC. Prodr. v. p. 143.

NORTH MEXICO, around the town of Matamoras (*Berlandier*, 2355), San Luis Potosi to Tampico (*Palmer*, 1072, 1073); SOUTH MEXICO, near Tantoyuca (*Ervendberg*, 54), hedges near Vera Cruz (*Galeotti*, 2218), Mirador (*Linden*, 1202; *Liebmann*, 12), Boca del Rio (*Liebmann*, 15), San Blas (*Sinclair*), Mazatlan (*Seemann*, 1492), Orizaba (*Botteri*, 1077), valley of Cordova (*Bourgeau*, 1847); GUATEMALA, Dueñas, 5000 feet (*Salvin*); COSTA RICA (*Endres*). Hb. Kew.

√ 32. **Eupatorium critonioides**, Steetz in Seem. Bot. Voy. 'Herald,' p. 145.

PANAMA, Volcan de Chiriqui (*Seemann*). Hb. Kew.

√ 33. **Eupatorium daleoides**, Hemsley.

Critonia daleoides, DC. Prodr. v. p. 141.

NORTH MEXICO, Tampico (*Berlandier*); SOUTH MEXICO, Cordova (*Botteri*, 1095), Vera Cruz (*Linden*, 1227; *Galeotti*, 2334), Mirador (*Liebmann*, 44), Orizaba (*Botteri*, 1084); COSTA RICA, Cartago, 6000 feet (*Ersted*). Hb. Kew.

34. **Eupatorium deltoideum**, Jacq. Hort. Schoenb. iii. p. 63, t. 369.

SOUTH MEXICO, San Nicolas (*Bourgeau*, 947), Tlalpuxahua (*Graham*, 33), near Tacubaya (*Schaffner*). Hb. Kew.

35. **Eupatorium dissectum**, Benth. Bot. Voy. 'Sulphur,' p. 113.

Phania? dissecta, Hook. et Arn. Bot. Beech. Voy. p. 433.

Conoclinium dissectum, A. Gray.

TEXAS; NEW MEXICO.—NORTH MEXICO, Chihuahua (*Potts*); SOUTH MEXICO, Acapulco (*Sinclair*). Hb. Kew.

36. **Eupatorium divergens**, Less. in Linnæa, v. p. 138.

SOUTH MEXICO, Hacienda de la Laguna (*Schiede*).

Perhaps the same as *E. conyzoides*.

37. **Eupatorium ehrenbergii**, Hemsley.

Hebeclinium macrocephalum, Benth. Pl. Hartw. p. 42.

Hebeclinium ehrenbergii, Schz. Bip.

SOUTH MEXICO, Puente de Dios (*Hartweg*, *Ehrenberg*). Hb. Kew.

√ 38. **Eupatorium elatum**, Steetz in Seem. Bot. Voy. 'Herald,' p. 148.

PANAMA, in forests (*Seemann*). Hb. Kew.

39. **Eupatorium espinosarum**, A. Gray in Proc. Am. Acad. xv. p. 28.

NORTH MEXICO, San Luis Potosi (*Parry & Palmer*, 333). Hb. Kew.

40. **Eupatorium glaberrimum**, DC. Prodr. v. p. 144.

MEXICO (*Hænke*).

41. **Eupatorium glabratum**, H. B. K. Nov. Gen. et Sp. iv. p. 127.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 347);

SOUTH MEXICO, between Omitlan and Real del Monte, 7800 feet (*Humboldt & Bonpland*), around Toluca (*Andrieux*, 273), Guanajuato (*Hartweg*, 140), San Nicolas (*Bourgeau*, 952), without localities (*Gregg, Graham*). Hb. Kew.

42. **Eupatorium glaucum**, Schz. Bip., ex A. Gray.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 335). Hb. Kew.

43. **Eupatorium gonocladum**, DC. Prodr. v. p. 171.

MEXICO (hb. *Lindley*).

44. **Eupatorium graciliflorum**, DC. Prodr. v. p. 145.

SOUTH MEXICO, around Acapulco (*Karwinski*), without locality (*Hænke*).

45. **Eupatorium grandidentatum**, DC. Prodr. v. p. 167.

SOUTH MEXICO, peak of Orizaba, at 10,000 feet (*Liebmann*, 24), Vera Cruz (*Linden*, 1187, 1215). Hb. Kew.

✓46. **Eupatorium guatemalense**, Reg. Ind. Sem. Hort. Turic. 1850, p. 4, adnot., ex Walp. Ann. ii. p. 816.

GUATEMALA.

47. **Eupatorium hænkeanum**, DC. Prodr. v. p. 158.

MEXICO (*Hænke*).

Var. β ? **velutinum**, DC. loc. cit.

SOUTH MEXICO, Acapulco (*Hænke*).

48. **Eupatorium hartwegii**, Benth. Pl. Hartw. p. 19.

SOUTH MEXICO, Lagos (*Hartweg*, 144). Hb. Kew.

49. **Eupatorium hastile**, Schauer in Linnæa, xix. p. 719.

NORTH MEXICO, San Luis Potosi to Tampico (*Palmer*, 1074); SOUTH MEXICO, Zimapan (*Coulter*, 244). Hb. Kew.

50. **Eupatorium hebebotrya**, Hemsley.

Critonia hebebotrya, DC. Prodr. v. p. 141.

MEXICO (*Hænke*); COSTA RICA, Ujaras, 3500 feet (*Ersted*). Hb. Kew.

51. **Eupatorium hederæfolium**, A. Gray, Pl. Fendl. p. 65, adnot.

NORTH MEXICO, Cosiquiriachi (*Wislizenus*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 341). Hb. Kew.

52. **Eupatorium hirsutum**, DC. Prodr. v. p. 170.

MEXICO (*Hænke*).

53. **Eupatorium hyssopinum**, A. Gray in Proc. Am. Acad. xv. p. 28.

NORTH MEXICO, mountains near San Luis Potosi (*Parry & Palmer*, 337). Hb. Kew.

54. **Eupatorium ianthinum**, Hemsley.
Hebeclinium ianthinum, Hook. Bot. Mag. t. 4574.
Conoclinium ianthinum, Morren in Ann. Ghent, 1849.
 SOUTH MEXICO, Orizaba (*Botteri*, 464), Sierra de San Pedro Nolasco (*Jurgensen*, 305), Jalapa (*Linden*, 463); GUATEMALA, Volcan de Agua, 8000 feet (*Salvin & Godman*, 326). Hb. Kew.
55. **Eupatorium incomptum**, DC. Prodr. v. p. 173.
 NORTH MEXICO, Cerro de Pinal (*Seemann*, 1479); SOUTH MEXICO, San Nicolas and region of Orizaba (*Bourgeau*, 970, 3330, 3344), Cordillera of Vera Cruz, at 3000 feet (*Galeotti*, 2196), Mirador (*Liebmann*, 93). Hb. Kew.
- √ 56. **Eupatorium iresinoides**, H. B. K. Nov. Gen. et Sp. iv. p. 106, t. 340.
 PANAMA, isle of Taboga (*Seemann*, 1024).—Southward to PERU. Hb. Kew.
57. **Eupatorium ivæfolium**, Linn. Amcen. Acad. v. p. 405; DC. Prodr. v. p. 146.
 LOUISIANA.—MEXICO, Tehuantepec (*Andrieux*, 283), Mirador (*Liebmann*, 18; *Linden*, 1141; *Galeotti*, 2217), near Tantoyuca (*Ervendberg*, 53).—CUBA. Hb. Kew.
- √ 58. **Eupatorium ixiocladon**, Benth. in Vidensk. Meddel. 1852, p. 77.
 COSTA RICA, Irazu, at 9000 feet (*Ærsted*). Hb. Kew.
59. **Eupatorium karwinskianum**, DC. Prodr. v. p. 163.
 MEXICO (*Karwinski*).
- √ 60. **Eupatorium lævigatum**, Lam. Encl. ii. p. 408.
 NICARAGUA, Chontales (*Seemann*, 107).—COLOMBIA. Hb. Kew.
61. **Eupatorium lasioneurum**, Hook. et Arn. Bot. Beech. Voy. p. 297.
 SOUTH MEXICO, Jalisco (*Beechey*). Hb. Kew.
62. **Eupatorium leiophyllum**, Less. in Linnæa, vi. p. 402.
 SOUTH MEXICO, near Papantla (*Schiede*).
63. **Eupatorium leucocephalum**, Benth. Pl. Hartw. p. 86.
 SOUTH MEXICO, Mirador (*Liebmann*, 40), Orizaba (*Botteri*, 1080, 1124; *Bilimek*, 349; *Bourgeau*, 2318), pine-forests, Chiapas (*Ghiesbreght*, 436); GUATEMALA, Acate-nango (*Hartweg*), Volcan de Santa Maria, 6000 feet (*Salvin*). Hb. Kew.
64. **Eupatorium liebmannii**, Hemsley.
Hebeclinium liebmannii, Schz. Bip. in Coll. Liebm.
 SOUTH MEXICO, Mirador (*Liebmann*, 92). Hb. Kew.
65. **Eupatorium ligustrinum**, DC. Prodr. v. p. 181.
 NORTH MEXICO, Tamaulipas (*Berlandier*), San Luis Potosi to Tampico (*Palmer*, 1080); SOUTH MEXICO, Orizaba (*Sallé*), San Surtes (*Liebmann*, 356). Hb. Kew.

66. **Eupatorium longipes**, A. Gr. in Proc. Am. Acad. xv. p. 26, adnot.
Eupatorium pedunculosum, A. Gr. Pl. Wright. i. p. 86, nec Hook. et Arn.
Bulbostylis pedunculosa, DC. Prodr. v. p. 138.
 NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 360);
 SOUTH MEXICO, Real del Monte (*Ehrenberg, Coulter*, 251). Hb. Kew.
67. **Eupatorium lucidum**, Ort. Dec. p. 35; DC. Prodr. v. p. 173.
 MEXICO (*Née*).
68. **Eupatorium macrocephalum**, Less. in Linnæa, v. p. 136.
 SOUTH MEXICO, near Hacienda de la Laguna (*Schiede*).
- ✓69. **Eupatorium macrophyllum**, Linn. Sp. Pl. p. 1175.
Hebeclinium macrophyllum, DC. Prodr. v. p. 136.
 SOUTH MEXICO, Loban (*Liebmann*, 150); NICARAGUA, Chontales (*Tate*, 164, 165;
Seemann, 105); PANAMA (*S. Hayes, Cuming*).—VENEZUELA, COLOMBIA, PERU, BRAZIL,
 and WEST INDIES. Hb. Kew.
70. **Eupatorium mairetianum**, DC. Prodr. v. p. 167.
 MEXICO (*Mairet*).
71. **Eupatorium malvæfolium**, DC. Prodr. v. p. 160.
 NORTH MEXICO, between Vittoria and Tula (*Berlandier*). Hb. Kew.
72. **Eupatorium melanolepis**, Schz. Bp. in herb. Liebm. n. 86.
 SOUTH MEXICO, Cumbre de Ectapa (*Liebmann*, 86). Hb. Kew.
73. **Eupatorium mendezii**, DC. Prodr. v. p. 160.
 NORTH MEXICO, region of San Luis Potosi (*Parry & Palmer*, 340); SOUTH MEXICO,
 Leon, west of Guanajuato (*Mendez*), Queretaro (*Berlandier*, 1268), Regla (*Hartweg*,
 326). Hb. Kew.
74. **Eupatorium micranthum**, Less. in Linnæa, v. p. 138.
 SOUTH MEXICO, Jalapa (*Schiede*).
75. **Eupatorium monanthum**, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 299.
 NORTH MEXICO, Sierra Madre (*Seemann*, 1990). Hb. Kew.
- ✓76. **Eupatorium multinerve**, Benth. Pl. Hartw. p. 76.
 GUATEMALA, Quezaltenango (*Hartweg*). Hb. Kew.
77. **Eupatorium multiserratum**, Schz. Bip. in Seem. Bot. Voy. 'Herald,'
 p. 301.
 NORTH MEXICO, Sierra Madre (*Seemann*, 1987). Hb. Kew.
78. **Eupatorium mygindæfolium**, A. Gr. in Proc. Am. Acad. xvi. p. 101.
 NORTH MEXICO, mountains near San Miguel (*Schaffner*, 351). Hb. Kew.

79. **Eupatorium neëanum**, DC. Prodr. v. p. 160.
SOUTH MEXICO, around Acapulco (*Née*), San Blas to Tepic (*Sinclair*). Hb. Kew.
- √ 80. **Eupatorium nubigenum**, Benth. Pl. Hartw. p. 85.
GUATEMALA, Las Nubes (*Hartweg*, 587); PANAMA, Boquete (*Seemann*, 1131). Hb. Kew.
81. **Eupatorium odoratum**, Linn. Sp. Pl. p. 1174; DC. Prodr. v. p. 143.
SOUTH MEXICO, Yucatan and Tabasco (*Johnson*, 26); NICARAGUA, Granada (*Ersted*).
—Northern part of SOUTH AMERICA and in the WEST INDIES. Hb. Kew.
- √ 82. **Eupatorium ærstedianum**, Benth. in Vidensk. Meddel. 1852, p. 75.
COSTA RICA, Aguacate (*Ersted*, 57). Hb. Kew.
83. **Eupatorium oliganthes**, Less. in Linnæa, v. p. 137.
SOUTH MEXICO, Hacienda de la Laguna (*Schiede & Deppe*).
See *Brickellia*.
84. **Eupatorium (Conoclinium) oligolepis**, Kze. in Linnæa, xx. p. 19.
MEXICO (*Ehrenberg*).
85. **Eupatorium oligocephalum**, DC. Prodr. v. p. 166.
MEXICO (*Hænke*).
86. **Eupatorium orizabæ**, Schz. Bip. in Herb. Liebmann. n. 80.
SOUTH MEXICO, Orizaba, 10,000 to 11,000 feet (*Liebmann*, 80), Real del Monte, 8000 feet (*Galeotti*, 2440; *Coulter*, 255), valley of Mexico (*Bourgeau*, 844). Hb. Kew.
87. **Eupatorium ovaliflorum**, Hook. et Arn. Bot. Beech. Voy. p. 297.
MEXICO, without locality (*Beechey*). Hb. Kew.
88. **Eupatorium paniculatum**, Schrad. Ind. Sem. Hort. Gœtt. 1832, p. 2; DC. Prodr. v. p. 167.
NORTH MEXICO, Sierra Madre (*Seemann*, 2018); SOUTH MEXICO, Jalapa (*Linden*, 1148); HONDURAS, Gulf of Fonseca (*Sinclair*).—VENEZUELA, COLOMBIA, PERU, JAMAICA.
Hb. Kew.
89. **Eupatorium papantlense**, Less. in Linnæa, vi. p. 403; DC. Prodr. v. p. 169.
SOUTH MEXICO, near Papantla (*Schiede & Deppe*).
90. **Eupatorium parryi**, A. Gr. in Torr. Bot. Emory Exped. p. 75.
NORTH MEXICO, Sierra de Carmel, Chihuahua (*Parry*). Hb. Kew.
91. **Eupatorium pazcuarense**, H. B. K. Nov. Gen. et Sp. iv. p. 123.
SOUTH MEXICO, Pazcuaro, at 7800 feet (*Humboldt & Bonpland*).
92. **Eupatorium petiolare**, Moç. in DC. Prodr. v. p. 166.
NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 343), without locality (*Bates*). Hb. Kew.

- ✓ 93. **Eupatorium plectranthifolium**, Benth. in Vidensk. Meddel. 1852, p. 76.
COSTA RICA, Naranjo (*Ersted*, 63). Hb. Kew.
94. **Eupatorium polybotryum**, DC. Prodr. v. p. 174.
MEXICO (*Hænke*).
95. **Eupatorium popocatapetlense**, Schl. (ubi publ.?).
NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 346);
SOUTH MEXICO, Chiapas (*Ghiesbreght*, 529). Hb. Kew.
96. **Eupatorium populifolium**, H. B. K. Nov. Gen. et Sp. iv. p. 111.
SOUTH MEXICO, Orizaba (*Botteri*, 1075), Yucatan and Tabasco (*Johnson*); PANAMA,
Veraguas (*Seemann*). Hb. Kew.
97. **Eupatorium porphyranthemum**, A. Gr. Proc. Am. Acad. xv. p. 27.
NORTH MEXICO, between San Luis Potosi and Tampico (*Palmer*, 1083). Hb. Kew.
98. **Eupatorium prunellæfolium**, H. B. K. Nov. Gen. et Sp. iv. p. 123.
SOUTH MEXICO, near Ario, 4000 to 5000 feet (*Humboldt & Bonpland*).
- ✓ 99. **Eupatorium psiadiæfolium**, DC. Prodr. v. p. 144.
NICARAGUA, Chontales (*Tate*, 280).—Southward to PERU and COLOMBIA. Hb. Kew..
100. **Eupatorium pulchellum**, H. B. K. Nov. Gen. et Sp. iv. p. 119, t. 345.
NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 313);
SOUTH MEXICO, Chapultepec (*Bilimek*, 531), valley of Mexico, near Lake Tezcuco, at
7000 feet (*Humboldt & Bonpland*), Santa Fé (*Bourgeau*, 948), Real del Monte to
Zacatecas (*Coulter*, 226), without localities (*Tate*, *Parkinson*, *Bates*, *Mackenzie*, *Aschen-*
born). Hb. Kew.
101. **Eupatorium pycnocephalum**, Less. in Linnæa, vi. p. 404.
SOUTH MEXICO, Papantla (*Schiede*). Hb. Kew.
102. **Eupatorium quadrangulare**, DC. Prodr. v. p. 150.
SOUTH MEXICO, Tantoyuca (*Berlandier*, 215); NICARAGUA, Granada (*Ersted*), without
exact locality (*Barclay*). Hb. Kew.
- ✓ 103. **Eupatorium quinquesetum**, Benth. in Vidensk. Meddel. 1852, p. 79.
GUATEMALA (*Friedrichsthal*); NICARAGUA, Segovia (*Ersted*). Hb. Kew.
104. **Eupatorium rhodochlamydeum**, A. Gr. in Proc. Am. Acad. xv. p. 26.
NORTH MEXICO, mountains east of San Luis Potosi (*Palmer*, 1082). Hb. Kew.
105. **Eupatorium rhomboideum**, H. B. K. Nov. Gen. et Sp. iv. p. 127.
SOUTH MEXICO, between Toluca and Tianguillo, at 9000 feet (*Humboldt & Bon-*
pland).

106. **Eupatorium riparium**, Regel, *Gartenflora*, xv. p. 324, t. 525.
SOUTH MEXICO, Mirador (*Liebmann*, 64; *Linden*, 1203), Cordillera of Vera Cruz, at 2500 feet (*Galeotti*, 2322), valley of Cordova (*Bourgeau*, 1928). Hb. Kew.
107. **Eupatorium rubricaulæ**, H. B. K. *Nov. Gen. et Sp.* iv. p. 124.
SOUTH MEXICO, Santa Rosa de la Sierra, at 7800 feet (*Humboldt & Bonpland*).
108. **Eupatorium sagittatum**, A. Gr. *Pl. Wright.* i. p. 88.
CALIFORNIA.—NORTH MEXICO, Sonora Alta (*Coulter*, 252); SOUTH MEXICO, between Mexico and Mazatlan (*Gregg*). Hb. Kew.
- √109. **Eupatorium schiedeanum**, Schrad. *Ind. Sem. Hort. Gætt.* 1832, p. 3; DC. *Prodr.* v. p. 159.
NORTH MEXICO, Sonora (*Wright*), Tampico (*Berlandier*); NICARAGUA, Realejo (*Sinclair*); COSTA RICA, Cartago (*Ersted*); PANAMA, Chiriqui (*Seemann*). Hb. Kew.
110. **Eupatorium schultzei**, Schz. Bip. in *Zeitschr. Gartenb. zu Darmstadt*, 1857, p. 6.
SOUTH MEXICO, Orizaba (*Botteri*, 1113, 1116), Mirador (*Liebmann*, 41), valley of Cordova (*Bourgeau*, 1923), Vera Cruz (*Linden*, 1206). Hb. Kew.
111. **Eupatorium scorodonioides**, A. Gr. in *Proc. Am. Acad.* xv. p. 27.
NORTH MEXICO, rocky hills near San Luis Potosi (*Parry & Palmer*, 336). Hb. Kew.
112. **Eupatorium schaffneri**, Schz. Bip., ex A. Gr. in hb. Kew (ubi publ.?).
NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 345) Hb. Kew.
- √113. **Eupatorium semialatum**, Benth. *Pl. Hartw.* p. 76.
SOUTH MEXICO, woods near Vera Cruz, at 2000 feet (*Galeotti*, 2209), Mirador (*Linden*, 1178), valley of Orizaba (*Bourgeau*, 3205; *Botteri*, 1141); GUATEMALA, Zunil (*Hartweg*); COSTA RICA, Cartago and Irazu, at 9000 feet (*Ersted*, 45, 53). Hb. Kew.
- √114. **Eupatorium sideritis**, Benth. in *Vidensk. Meddel.* 1852, p. 77.
COSTA RICA, Ujaras (*Ersted*, 255).
- √115. **Eupatorium sinclairii**, Benth. in *Vidensk. Meddel.* 1852, p. 79.
GUATEMALA (*Friedrichsthal*); NICARAGUA, Realejo (*Ersted*); COSTA RICA, Nicoya (*Sinclair*), Cartago and San José (*Ersted*, 49, 50), Angostura (*Polakowsky*); PANAMA, Empire railway-station (*S. Hayes*, 480). Hb. Kew.
116. **Eupatorium sonoræ**, A. Gr. *Pl. Wright.* ii. p. 74.
NORTH MEXICO, Sonora (*Wright*, 1148). Hb. Kew.
117. **Eupatorium sordidum**, Less. in *Linnæa*, vi. p. 403.
SOUTH MEXICO, Cuesta Grande de Chiconquiaco (*Schiede & Deppe*).

118. **Eupatorium spinaciæfolium**, A. Gr. Pl. Wright. i. p. 86.
Bulbostylis spinaciæfolia, DC. Prodr. v. p. 139.
 MEXICO, between Vittoria and Tula (*Berlandier*).
119. **Eupatorium spirææfolium**, Schz. Bip. in herb. Liebm. n. 73.
 SOUTH MEXICO, Chapulco (*Liebmann*, 73), Guadalupe and Zacoalco (*Bourgeau*, 1416),
 Chapultepec (*Bilimek*, 519). Hb. Kew.
- ✓ 120. **Eupatorium splendens**, Kl., ex Polak. in Linnæa, xli. p. 575.
 COSTA RICA, Angostura, woods on the Rio Reventazon (*Polakowsky*).
- ✓ 121. **Eupatorium stenolepis**, Steetz in Seem. Bot. Voy. 'Herald,' p. 148.
 PANAMA, Santiago, Veraguas (*Seemann*, 1135). Hb. Kew.
- ✓ 122. **Eupatorium sternbergianum**, DC. Prodr. v. p. 167.
 CENTRAL AMERICA, without locality (*Barclay*).—A very common plant on the western
 side of SOUTH AMERICA southward to CHILI. Hb. Kew.
123. **Eupatorium stillingiæfolium**, DC. Prodr. v. p. 160.
 NORTH MEXICO, Tamaulipas (*Berlandier*), San Luis Potosi to Tampico (*Palmer*, 1084).
 Hb. Kew.
- ✓ 124. **Eupatorium subcordatum**, Benth. in Vidensk. Meddel. 1852, p. 77.
 COSTA RICA, Volcan de Irazu, at 8000 feet (*Ersted*, 69).—COLOMBIA. Hb. Kew.
- ✓ 125. **Eupatorium subobtusum**, DC. Prodr. v. p. 161.
 COSTA RICA, Sapoa and Tortuga (*Ersted*); PANAMA (*Cuming*; *Halsted*, 3).—BRAZIL.
 Hb. Kew.
126. **Eupatorium tepicanum**, Hemsley.
Hebellinium tepicanum, Hook. et Arn. Bot. Beech. Voy. p. 434.
 SOUTH MEXICO, Tepic (*Sinclair*). Hb. Kew.
127. **Eupatorium tetragonum**, Schrad. Ind. Sem. Hort. Gœtt. 1830; DC.
 Prodr. v. p. 171.
 SOUTH MEXICO, Mountains of Guanajuato.
128. **Eupatorium thespesiæfolium**, DC. Prodr. v. p. 164.
 MEXICO (*Karwinski*).
129. **Eupatorium thyrsoideum**, Moç. in. DC. Prodr. v. p. 150.
 MEXICO (*Moçino & Sessé*).
- Var. ? β . **puberum**, DC. loc. cit. p. 151.
 SOUTH MEXICO, Chila, Puebla (*Andrieux*, 282). Hb. Kew.
130. **Eupatorium tomentellum**, Schrad. Ind. Sem. Hort. Gœtt. 1833, p. 3 ;
 DC. Prodr. v. p. 184.
 SOUTH MEXICO, Vera Cruz to Orizaba (*Müller*, 667). Hb. Kew.

131. **Eupatorium triangulatum**, Alam. in DC. Prodr. v. p. 172.
MEXICO (*Mairet, Tate, Jurgensen*). Hb. Kew.
132. **Eupatorium trinervium**, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 300.
NORTH MEXICO, Sierra Madre (*Seemann, 2021*). Hb. Kew.
133. **Eupatorium tubiflorum**, Benth. Pl. Hartw. p. 76.
SOUTH MEXICO, Chiapas (*Ghiesbreght, 530*), without localities (*Tate, Parkinson, Jurgensen, 343*); GUATEMALA, Zunil (*Hartweg*). Hb. Kew.
134. **Eupatorium turbinatum**, A. Gr. in Proc. Am. Acad. xv. p. 26.
NORTH MEXICO, between San Luis Potosi and Tampico (*Palmer, 1075*). Hb. Kew.
135. **Eupatorium vanillosmoides**, Schz. Bip. in herb. Liebm. n. 43.
SOUTH MEXICO, Mirador (*Liebmann, 43*). Hb. Kew.
136. **Eupatorium viburnoides**, DC. Prodr. v. p. 171.
NORTH MEXICO, between Vittoria and Tula (*Berlandier*). Hb. Kew.
- √137. **Eupatorium vitalba**, DC. Prodr. v. p. 163.
GUATEMALA (*Friedrichsthal*); NICARAGUA, Chontales (*Tate, 200*); PANAMA (*S. Hayes, 589*).—Southward to PERU and BRAZIL. Hb. Kew.
- √138. **Eupatorium vulcanicum**, Benth. in Vidensk. Meddel. 1852, p. 78.
COSTA RICA, Irazu, at 9000 feet (*Ersted, 39*). Hb. Kew.
139. **Eupatorium xalapense**, H. B. K. Nov. Gen. et Sp. iv. p. 128.
SOUTH MEXICO, Jalapa, 4000 to 5000 feet (*Humboldt & Bonpland*).

25. BARROETEA.

Barroetea, A. Gr. in Proc. Am. Acad. xv. p. 29.

One herbaceous and one half-shrubby species.

1. **Barroetea setosa**, A. Gr. in Proc. Am. Acad. xv. p. 29.
NORTH MEXICO, mountains south-east of the city of San Luis Potosi (*Parry & Palmer, 353*). Hb. Kew.
2. **Barroetea subuligera**, A. Gr. in Proc. Am. Acad. xv. p. 29.
Bulbostylis subuligera, Schauer in Linnæa, xix. p. 718.
Eupatorium? subuligerum, A. Gr. Pl. Wright. i. p. 86.
SOUTH MEXICO, Zimapan (*Aschenborn*).

26. MIKANIA.

Mikania, Willd. Sp. Pl. iii. p. 1742; Benth. et Hook. Gen. Plant. ii. p. 246.

About sixty shrubby and herbaceous species, all of them inhabiting the warmer parts of America; and one of them is also widely dispersed in Africa and Asia.

1. **Mikania angulata**, La Llave in El Mosaico Mexicano et in Hook. Kew Journ. Bot. v. p. 78.

SOUTH MEXICO, abundant about Cordova (*La Llave*).

2. **Mikania coriacea**, La Llave in El Mosaico Mexicano et in Hook. Kew Journ. Bot. v. p. 77.

SOUTH MEXICO, Rio Blanco, south of Cordova (*La Llave*).

3. **Mikania denticulata**, Willd. Sp. Pl. iii. p. 1744; DC. Prodr. v. p. 198.
Eupatorium denticulatum, Vahl, Symb. iii. p. 93.

SOUTH MEXICO, Jalapa (ex *Lessing*).—GUIANA.

✓ 4. **Mikania eriophora**, Schz. Bip. in herb. Liebm. n. 94.

SOUTH MEXICO, Mirador (*Liebmann*, 94). Hb. Kew.

✓ 5. **Mikania gonoclada**, DC. Prodr. v. p. 199.

NORTH MEXICO, San Luis Potosi to Tampico (*Palmer*, 1079); SOUTH MEXICO, San Blas to Tepic (*Coulter*, 259), Orizaba (*Botteri*, 1117), Vera Cruz (*Galeotti*, 2232; *Linden*, 1212); GUATEMALA, Alta Vera Paz, at 4300 feet (*Türkheim*, 409); NICARAGUA, Chontales (*Lévy*, 1365); PANAMA, Chagres (*Fendler*, 151).—Southward to PERU and in CUBA. Hb. Kew.

Var. β . **ambigua**, DC. Prodr. v. p. 199.

NORTH MEXICO, Tampico de Tamaulipas (*Berlandier*).—BRAZIL.

∨ 6. **Mikania guaco**, Humb. et Bonpl. Pl. Æquin. ii. p. 84, t. 105.

NICARAGUA, Chontales (*Tate*, 133, 246); PANAMA, Chagres (*Fendler*, 153), Empire station (*S. Hayes*, 507), Veraguas (*Seemann*).—COLOMBIA; PERU. Hb. Kew.

∨ 7. **Mikania hookeriana**, DC. Prodr. v. p. 195.

NICARAGUA, Chontales (*Tate*, 426); PANAMA, Frijoli railway-station (*S. Hayes*, 490). Hb. Kew.

∨ 8. **Mikania houstonis**, Willd. Sp. Pl. iii. p. 1742; DC. Prodr. v. p. 190.
Eupatorium houstonis, Linn. Sp. Pl. p. 1172.

SOUTH MEXICO, Vera Cruz (*Linden*, 1169), Yucatan and Tabasco (*Johnson*, 25); GUATEMALA, Las Escamillas (*Hartweg*, 535), Chojoja near Mazatenango (*Bernoulli*, 100); PANAMA, Barbacoas (*S. Hayes*). Hb. Kew.

∨ 9. **Mikania leiostachya**, Benth. Pl. Hartw. p. 201.

PANAMA (*Seemann*, 446).—COLOMBIA, PERU. Hb. Kew.

10. **Mikania pterocaula**, Schz. Bip. in herb. Liebm. n. 101.

SOUTH MEXICO, Mirador (*Liebmann*, 101). Hb. Kew.

11. **Mikania repanda**, La Llave in El Mosaico Mexicano et in Hook. Kew Journ. Bot. v. p. 78.

SOUTH MEXICO, abundant about Cordova (*La Llave*).

√ 12. **Mikania scandens**, Willd. Sp. Pl. iii. p. 1743; DC. Prodr. v. p. 199.

Eupatorium scandens, Linn. Sp. Pl. p. 1171; Jacq. Ic. Rar. t. 169.

CAROLINA southward.—MEXICO, Tamaulipas (*Berlandier*, 2272), valley of Cordova (*Bourgeau*, 1632), Orizaba (*Botteri*, 603, 1140), Vera Cruz (*Linden*, 1179); NICARAGUA, Chontales (*Seemann*); COSTA RICA (*Endres*); PANAMA, Chagres (*Fendler*, 159), Empire railway-station (*S. Hayes*, 448).—COLOMBIA, PERU, and the WEST INDIES. Hb. Kew.

13. **Mikania suaveolens**, H. B. K. Nov. Gen. et Sp. iv. p. 135.

NORTH MEXICO, San Luis Potosi to Tampico (*Palmer*, 1115); SOUTH MEXICO, Santa Barbara (*Liebmann*, 95), valley of Cordova (*Bourgeau*, 1812).—COLOMBIA. Hb. Kew.

14. **Mikania tlalixcoyan**, La Llave in El Mosaico Mexicano et in Hook. Kew Journ. Bot. v. p. 79.

SOUTH MEXICO, Tlalixcoyan, Vera Cruz (*La Llave*).

27. BRICKELLIA.

Brickellia, Ell., ex Nutt. in Trans. Amer. Phil. Soc. ser. 2, vii. p. 287; Benth. et Hook. Gen. Plant. ii. p. 247.

Herbs and undershrubs. About forty-five species, restricted to America, and having their greatest centre of concentration in Mexico. A few species occur in the southern, chiefly south-western, States of North America, and two in South America, one of the two being very common in Brazil.

1. **Brickellia cylindracea**, A. Gr. Pl. Lindh. ii. p. 218.

TEXAS.—MEXICO, Montezuma (*Bourgeau*, 1091). Hb. Kew.

2. **Brickellia betonicæfolia**, A. Gr. Pl. Wright. ii. p. 72.

NEW MEXICO.

Var. **humilis**, A. Gr. loc. cit.

NORTH MEXICO, between Babocomori and Santa Cruz, Sonora (*Thurber*). Hb. Kew.

3. **Brickellia cavanillesii**, A. Gr. Pl. Wright. i. p. 85.

Bulbostylis cavanillesii, DC. Prodr. v. p. 138.

Bulbostylis nepetæfolia, H. B. K. Nov. Gen. et Sp. iv. p. 112.

Eupatorium squarrosus, Cav. Ic. i. p. 66, t. 98.

Coleosanthus cavanillesii, Cass. Dict. x. p. 37.

NORTH MEXICO, San Luis Potosi to Tampico (*Palmer*, 1087); SOUTH MEXICO, Queretaro (*Berlandier*), Tlalpuxahua (*Graham*, 35), Zimapan (*Coulter*, 241), Chapultepec (*Schaffner*), Cordillera of Oaxaca, at 5000 to 7000 feet (*Galeotti*, 1990). Hb. Kew.

√ 4. **Brickellia corymbosa**, A. Gr. Pl. Wright. i. p. 84.

Clavigera scabra, Benth. Pl. Hartw. p. 19.

Clavigera corymbosa, DC. Prodr. v. p. 128.

NORTH MEXICO, Cerro de Pinal and Sierra Madre (*Seemann*, 1466, 2017), San Luis

Potosi to Tampico (*Palmer*, 1077); SOUTH MEXICO, Bolaños (*Hartweg*), valley of Orizaba (*Bourgeau*, 3345; *Botteri*, 1134); GUATEMALA (*Skinner*). Hb. Kew.

5. **Brickellia coulteri**, A. Gr. Pl. Wright. i. p. 86.

CALIFORNIA, ARIZONA.—NORTH MEXICO, San Luis Potosi to San Antonio (*Parry*, 358). Hb. Kew.

6. **Brickellia cylindracea**, A. Gr. Pl. Lindh. ii. p. 218.

TEXAS.—MEXICO, Montezuma (*Bourgeau*, 1091). Hb. Kew.

7. **Brickellia dentata**, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 301.

Clavigera dentata, DC. Prodr. v. p. 128.

Brickellia laciniata, A. Gr. Pl. Wright. i. p. 87.

Brickellia riddellii, id. ib. p. 83.

TEXAS.—NORTH MEXICO, Saltillo (*Berlandier*, *Gregg*), Santa Catarina, near Monterey (*Berlandier*, 1365), Sierra Madre (*Seemann*, 2035), San Luis Potosi to Tampico (*Palmer*, 1078). Hb. Kew.

✓ 8. **Brickellia diffusa**, A. Gr. Pl. Wright. i. p. 86.

Eupatorium diffusum, Vahl, Symb. iii. p. 94.

Eupatorium capillare, Desv. in Ham. Fl. Ind. Occ. p. 1301.

Eupatorium leptopodum, Gard. in Hook. Lond. Journ. Bot. v. p. 478.

Bulbostylis diffusa, DC. Prodr. vii. p. 268.

NORTH MEXICO, San Luis Potosi to Tampico (*Palmer*, 1086); SOUTH MEXICO, valley of Cordova (*Bourgeau*, 2033); GUATEMALA (*Friedrichsthal*); COSTA RICA, Cartago (*Ersted*); PANAMA, Veraguas (*Seemann*, 1584).—Common southward to PERU and BRAZIL and in the WEST INDIES. Hb. Kew.

9. **Brickellia floribunda**, A. Gr. Pl. Wright. ii. p. 72.

NORTH MEXICO, SONORA (*Wright*).

10. **Brickellia galeottii**, A. Gr. Pl. Wright. i. p. 85.

SOUTH MEXICO, Orizaba (*Galeotti*, 2104; *Botteri*, 1115), Huatusco (*Liebmann*, 336). Hb. Kew.

✓ 11. **Brickellia hartwegi**, A. Gr. Pl. Wright. i. p. 85.

Eupatorium rigidum, Benth. Pl. Hartw. p. 88.

GUATEMALA, without localities (*Hartweg*, *Skinner*, *Friedrichsthal*), Volcan de Fuego, at 5300 feet (*Salvin*); NICARAGUA, between Granada and Masaya (*Ersted*); COSTA RICA, Volcan el Viejo (*Ersted*). Hb. Kew.

12. **Brickellia hebecarpa**, A. Gr. Pl. Wright. i. p. 85.

Bulbostylis hebecarpa, DC. Prodr. v. p. 138.

SOUTH MEXICO, Jalisco (*Beechey*), without locality (*Née*). Hb. Kew.

13. **Brickellia hymenochlæna**, A. Gr. in Proc. Am. Acad. xv. p. 29.

NORTH MEXICO, near San Luis Potosi (*Parry & Palmer*, 349; *Schaffner*, 256); SOUTH MEXICO, Zimapan (*Coulter*, 239). Hb. Kew.

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14. **Brickellia lanata**, A. Gr. Pl. Wright. i. p. 84.
Bulbostylis lanata, DC. Prodr. vii. p. 268.
Bulbostylis rigida, Hook. et Arn. Bot. Beech. Voy. p. 297.
 SOUTH MEXICO, west of Guanajuato (*Mendez*), Bolaños (*Coulter*, 237), without locality (*Beechey*). Hb. Kew.
15. **Brickellia oliganthes**, A. Gr. Pl. Wright. i. p. 84.
Eupatorium oliganthes, Less. in Linnæa, v. p. 137, t. 2. fig. 13.
Bulbostylis oliganthes, DC. Prodr. v. p. 139.
 NORTH MEXICO, Santa Cruz, Sonora (*Wright*), Sierra Madre (*Seemann*, 2025), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 351); SOUTH MEXICO, Hacienda de la Laguna (*Schiede & Deppe*), Mirador (*Liebmann*, 349, 350; *Linden*, 1152), Orizaba (*Botteri*, 1101). Hb. Kew.
16. **Brickellia palmeri**, A. Gr. in Proc. Am. Acad. xv. p. 30.
 NORTH MEXICO, near San Luis Potosi (*Parry & Palmer*, 354). Hb. Kew.
17. **Brickellia parryi**, A. Gr. in Proc. Am. Acad. xv. p. 31.
 NORTH MEXICO, high mountains south-east of San Luis Potosi (*Parry & Palmer*, 363). Hb. Kew.
18. **Brickellia pendula**, A. Gr. Pl. Wright. i. p. 85.
Bulbostylis pendula, DC. Prodr. v. p. 138.
Eupatorium pendulum, Schrad. Cat. Sem. Hort. Gott. 1830.
 SOUTH MEXICO, valley of Mexico (*Schaffner*, 225), without locality (*Bates*). Hb. Kew.
19. **Brickellia reticulata**, A. Gr. Pl. Wright. i. p. 84.
Bulbostylis reticulata, DC. Prodr. vii. p. 268.
 MEXICO (*Hænke*).
20. **Brickellia rosalesia**, Benth. et Hook. Gen. Plant. ii. p. 247.
Rosalesia glandulosa, La Llav. et Lex. Nov. Veg. i. p. 9.
Eupatorium rosalesia, DC. Prodr. v. p. 183.
 SOUTH MEXICO, San José del Corral (*La Llave*)
21. **Brickellia scoparia**, A. Gr. Pl. Wright. i. p. 84.
Clavigera scoparia, DC. Prodr. v. p. 128; Deless. Ic. Sel. iv. t. 12.
 TEXAS.—NORTH MEXICO, Sierra Madre (*Seemann*, 2008); SOUTH MEXICO, San Andres (*Liebmann*, 236), Chiapas (*Ghiesbreght*, 553); GUATEMALA (*Skinner*). Hb. Kew.
22. **Brickellia secundiflora**, A. Gr. Pl. Wright. i. p. 85.
Bulbostylis secundiflora, DC. Prodr. v. p. 138.
Eupatorium secundiflorum, Lag. Nov. Gen. p. 25.
Eupatorium nutans, H. B. K. Nov. Gen. et Sp. iv. p. 105?
 MEXICO, between Tula and Tampico (*Berlandier*), between Toluca and Tianguillo, at about 9000 feet (*Humboldt & Bonpland*).

23. **Brickellia seemanni**, A. Gr. in Proc. Am. Acad. xv. p. 30, adnot.
NORTH MEXICO, Sierra Madre (*Seemann*). Hb. Kew.
24. **Brickellia simplex**, A. Gr. Pl. Wright. ii. p. 73.
NORTH MEXICO, Santa Cruz, Sonora (*Wright*, 1144). Hb. Kew.
25. **Brickellia spinulosa**, A. Gr. Pl. Wright. i. p. 84.
Clavigera spinulosa, A. Gr. Pl. Fendl. p. 63, adnot.
NORTH MEXICO, near Chihuahua (*Gregg*), region of San Luis Potosi (*Parry & Palmer*, 357). Hb. Kew.
26. **Brickellia squamulosa**, A. Gr. in Proc. Am. Acad. xv. p. 30.
NORTH MEXICO, near San Luis Potosi (*Parry & Palmer*, 356). Hb. Kew.
27. **Brickellia tenera**, A. Gr. Pl. Wright. ii. p. 72.
NORTH MEXICO, Santa Cruz, Sonora (*Wright*).
28. **Brickellia thyrsoiflora**, A. Gr. in Proc. Am. Acad. xv. p. 30.
NORTH MEXICO, mountains south-east of San Luis Potosi (*Parry & Palmer*, 362).
Hb. Kew.
29. **Brickellia tomentella**, A. Gr. Pl. Wright. i. p. 85.
SOUTH MEXICO, Chapultepec (*Schaffner*), without localities (*Tate, Mairet*). Hb. Kew.
30. **Brickellia veronicæfolia**, A. Gr. Pl. Wright. i. p. 85.
Eupatorium veronicæfolium, H. B. K. iv. p. 112, t. 341.
Bulbostylis veronicæfolia, DC. Prodr. v. p. 139.
NEW MEXICO.—NORTH MEXICO, Saltillo (*Berlandier*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 351); SOUTH MEXICO, Zacoalco and Guadalupe, valley of Mexico (*Bourgeau*, 1095, 1088), Tehuacan (*Liebmann*, 343), Acalcingo (*Schaffner*), Guanajuato (*Berlandier*), Real del Monte to Zacatecas (*Coulter*, 243), Cordillera of Oaxaca, at 5000 to 6500 feet (*Galeotti*, 2104, 2105). Hb. Kew.
31. **Brickellia wislizeni**, A. Gr. Pl. Fendl. p. 64.
NEW MEXICO.—NORTH MEXICO, without locality (*Wislizenus*), Cerro de Pinal (*Seemann*, 1465). Hb. Kew.
32. **Brickellia wrightii**, A. Gr. Pl. Wright. ii. p. 72.
NEW MEXICO.—NORTH MEXICO, Sonora (*Thurber*).
33. **Brickellia**, sp.
SOUTH MEXICO, Cuernavaca (*Bourgeau*, 1216; *Bilimek*, 579). Hb. Kew.
34. **Brickellia**, sp.
SOUTH MEXICO, Desierto Viejo (*Bourgeau*, 1227). Hb. Kew.
- ✓ 35. **Brickellia**, sp.
GUATEMALA (*Friedrichsthal*). Hb. Kew.

28. CARPOCHÆTE.

Carpochæte, A. Gr. Pl. Fendl. p. 65, et Pl. Wright. i. p. 89; Benth. et Hook. Gen. Plant. ii. p. 247.

Three herbaceous or half-shrubby species are known.

1. **Carpochæte bigelovii**, A. Gr. Pl. Wright. i. p. 89, adnot.

NORTH MEXICO, on the boundary of New Mexico (*Bigelow*).

2. **Carpochæte grahami**, A. Gr. Pl. Wright. i. p. 89, adnot.

NORTH MEXICO, Sierra Madre (*Seemann*, 2039), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 329), without locality (*Graham*, 81). Hb. Kew.

3. **Carpochæte wislizeni**, A. Gr. Pl. Fendl. p. 65.

NORTH MEXICO, mountains near Cosiquiriachi (*Wislizenus*).

29. KUHNIA.

Kuhnia, Linn. Gen. Plant. n. 237; Benth. et Hook. Gen. Plant. ii. p. 248.

One variable species, a herb.

1. **Kuhnia eupatorioides**, Linn. Sp. Pl. ed. 2, p. 1662; Linn. fl. Dec. ii. p. 21, t. 11; DC. Prodr. v. p. 126.

Kuhnia rosmarinifolia, Vent. Hort. Cels. t. 91.

Eastern States of NORTH AMERICA, from New Jersey southward to Texas; NEW MEXICO.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 364), Chiricahui mountains to Santa Cruz, Sonora (*Wright*); without locality, but probably from SOUTH MEXICO (*Aschenborn*). Hb. Kew.

30. LIATRIS.

Liatris, Schreb. Gen. Plant. p. 542; Benth. et Hook. Gen. Plant. ii. p. 248.

An exclusively North-American genus, comprising about sixteen species, chiefly herbaceous.

1. **Liatris punctata**, Hook. Fl. Bor.-Am. i. p. 306, t. 55.

OREGON southward.—NORTH MEXICO, San Luis Potosi to Tampico (*Palmer*, 1085). Hb. Kew.

31. CARPHEPHORUS.

Carphephorus, Cass. in Bull. Philom. 1816; Benth. et Hook. Gen. Plant. ii. p. 249.

About six perennial species, restricted to North America. The Mexican species are doubtful.

1. **Carphephorus revolutifolius**, DC. Prodr. v. p. 133.

MEXICO (*Hænke*).

2. **Carphephorus? triangularis**, A. Gr. Pl. Wright. i. p. 86.

Bulbostylis triangularis, DC. Prodr. vii. p. 268.

MEXICO (*Hænke*).

Tribe III. ASTEROIDEÆ.

Asteroideæ, Benth. et Hook. Gen. Plant. ii. pp. 165, 174.

Ninety-one genera are referred to this tribe, which has the range of the whole order. Many of the genera are very numerous in species, some of which are arboreous.

32. GYMNOSPERMA.

Gymnosperma, Less. Syn. Comp. p. 194; Benth. et Hook. Gen. Plant. ii. p. 249.

Selloa, Spreng., non H. B. K., ex DC. Prodr. v. p. 311.

An exclusively Mexican and Texan genus of undershrubs.

1. **Gymnosperma corymbosum**, DC. Prodr. v. p. 312.

TEXAS.—NORTH MEXICO, Santa Catarina, near Monterey (*Berlandier*, 1385), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 365), San Luis Potosi to Tampico (*Palmer*, 1088); SOUTH MEXICO, Santa Fé (*Bourgeau*, 388), Chapulco (*Liebmann*, 268). Hb. Kew.

2. **Gymnosperma eriocarpum**, A. Gr. Pl. Wright. i. p. 94.

TEXAS.—NORTH MEXICO, along the Rio Grande (*Berlandier*). Hb. Kew.

3. **Gymnosperma multiflorum**, DC. Prodr. v. p. 312.

SOUTH MEXICO, around the city of Mexico (*Berlandier*, 50), Cordillera of Oaxaca, 5000 to 7000 feet (*Galeotti*, 2145), Vera Cruz to Orizaba (*Müller*, 1633), without localities (*Jurgensen*, 286, and several other collectors). Hb. Kew.

4. **Gymnosperma scoparium**, DC. Prodr. v. p. 312.

NORTH MEXICO, San Luis Potosi (*Berlandier*, 1338).

33. XANTHOCEPHALUM.

Xanthocephalum, Willd. in Ges. nat. Fr. Berl. Mag. 1807, p. 140; Benth. et Hook. Gen. Plant. ii. p. 249.

Xanthocoma, H. B. K. Nov. Gen. et Sp. iv. p. 310, t. 412.

Herbs and undershrubs. Besides the following there is one species in Ecuador.

1. **Xanthocephalum alamani**, Benth. et Hook. Gen. Plant. ii. p. 249.

Gutierrezia alamani, A. Gr. Pl. Wright. i. p. 91, adnot.

Keerlia linearifolia, DC. Prodr. v. p. 310.

MEXICO (*Alaman*, *Ghiesbreght*, *Mackenzie*). Hb. Kew.

Mackenzie's specimen in Kew Herbarium is probably an entire-leaved state of *X. centauroides*, Willd.

2. **Xanthocephalum benthamianum**, Hemsley, n. sp.

Erectum, puberulum, foliis angustis pinnatifidis vel dentatis, capitulis multifloris corymbosis, involucri bracteis subæqualibus herbaceis numerosis 2-3-seriatis glanduloso-puberulis, receptaculo convexo alveolato fimbriifero, corollis parcissime puberulis, acheniis ecostatis glabris, pappo brevissimo annuliformi.

Herba facie *Senecionis erucæformis*, sed minus robusta, plus minusve glanduloso-puberula, caulibus in exemplariis imperfectis nostris subsimplicibus, fere sesquipedalibus, totis foliosis. *Folia* (caulina tantum visa) alterna, sessilia, hispidula, adscendentia, lanceolata, pinnatifida vel remote dentata, 1-3-pollicaria. *Capitula* multiflora, 1-1½ poll. diametro, corymbosa; involucri bracteæ numerosæ, 2-3-seriatæ, herbaceæ, margine membranaceæ, subæquales, lanceolatæ, acutæ, glanduloso-puberulæ; receptaculum convexum, alveolatum, fimbriiferum; flores radii 30 et ultra, disci numerosissimi, omnes parcissime puberuli; corollæ ligulatæ, graciliter tubulosæ, obtusæ vel dentatæ; corollæ tubulosæ graciles. *Achenia* lævia, glabra, nitida, oblique ovata, a latere compressa; pappus subnullus, brevissimus, annuliformis.—*X. bonplandianum*, Benth. Pl. Hartw. p. 16, non DC.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 526);

SOUTH MEXICO, Aguas Calientes (*Hartweg*). Hb. Kew.

This differs from *X. centauroides* in its more robust habit, corymbose flower-heads, involucre, pappus, &c.

3. **Xanthocephalum centauroides**, Willd. in Ges. nat. Fr. Berl. Mag. 1807, p. 140.

Xanthocephalum bonplandianum, DC. Prodr. vi. p. 44.

Pyrethrum bonplandianum, H. B. K. Nov. Gen. et Sp. iv. p. 300.

Grindelia? coronopifolia, Lehm. Ind. Sem. Hort. Hamb. 1828, p. 16, et in Linnæa, v. p. 376; DC. Prodr. v. p. 316.

SOUTH MEXICO, near Valladolid (*Humboldt & Bonpland*), wet meadows near Mexico (*Bourgeau*, 369), valley of Mexico (*Schaffner*, 207, 278), without locality (*Aschenborn*). Hb. Kew.

4. **Xanthocephalum conoideum**, Hemsley, n. sp.

Glabrum vel cito glabrescens, ramulis ultimis floriferis gracilibus, foliis linearibus, capitulis multifloris subcorymbosis, involucri bracteis inæqualibus albo-coriaceis apice incrassatis numerosis 2-3-seriatis, receptaculo conoideo vel elongato, acheniis costatis tomentosis, pappo brevi annulato subcarnoso.

Herba (?) glabra vel cito glabrescens, ramulis ultimis floriferis gracilibus, angulatis. *Folia* ramulorum floriferorum alterna, sessilia, incrassata, enervia, linearia, usque pollicaria, integerrima, obtusa. *Capitula* multiflora, 6-9 lineas diametro, subcorymbosa; involucri bracteæ numerosæ, 2-3-seriatæ, inæquales, exteriores minores, albo-coriaceæ, apice incrassatæ, glabræ; receptaculum longe conoideum vel elongatum, alveolatum, fimbriiferum; flores radii 15-20, disci numerosissimi, omnes glabri; corollæ ligulatæ breviter tubulosæ, apice obtusæ (an semper?); corollæ tubulosæ breves. *Achenia* 7-costata, tomentosa, oblonga; pappus brevis, annulatus, subcarnosus.

SOUTH MEXICO, Real del Monte to Zacatecas (*Coulter*, 299). Hb. Kew.

The stature and habit of this species we are unable to describe; but it is very different

from the other species, especially in its conoid or elongated receptacle. It is very near *X. sericocarpum*, A. Gr.

5. **Xanthocephalum dentatum**, Schauer in Linnæa, xix. p. 723.

MEXICO, without locality (*Aschenborn*).

6. **Xanthocephalum gymnospermoides**, Benth. et Hook. Gen. Plant. ii. p. 249.

Gutierrezia? *gymnospermoides*, A. Gr. Pl. Wright. ii. p. 79; Bot. Mag. t. 5155.

Grindeliopsis gymnospermoides, Schz. Bip. in Bonplandia, 1858, p. 356, nomen tantum.

Günthera viscosa, Regel, Gartenflora, 1858, p. 44.

ARIZONA.—NORTH MEXICO, San Pedro, Sonora (*Wright*), Camp Crittenden (*Rothrock*). Hb. Kew.

7. **Xanthocephalum humile**, Schz. Bip. in herb. Liebm.

Xanthocoma humilis, H. B. K. Nov. Gen. et Sp. iv. p. 310, t. 412.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 525); SOUTH MEXICO, valley of Mexico (*Bourgeau*, 163; *Schaffner*), without localities (*Graham*, *Aschenborn*). Hb. Kew.

8. **Xanthocephalum sericocarpum**, A. Gr. in Proc. Am. Acad. xv. p. 31.

NORTH MEXICO, near San Luis Potosi (*Parry & Palmer*, *Schaffner*). Hb. Kew.

9. **Xanthocephalum suffruticosum**, DC. Prodr. vi. p. 44.

SOUTH MEXICO, around the city of Mexico (*Berlandier*).

Dr. A. Gray thinks this may be the same as *X. centauroides*.

34. GUTIERREZIA.

Gutierrezia, Lag. Elench. Hort. Matr. Gen. et Sp. Nov. p. 30; Benth. et Hook. Gen. Plant. ii. p. 250.

Brachyris, Nutt. Gen. Pl. N. Am. ii. p. 163.

Brachyachyris, Spreng. Syst. iii. p. 574.

A genus of about twenty herbaceous and half-shrubby species, inhabiting North America, including Mexico, and Extratropical South America.

1. **Gutierrezia berlandieri**, A. Gr. in Proc. Am. Acad. xv. p. 31.

NORTH MEXICO, region of San Luis Potosi (*Berlandier*, 1298; *Parry & Palmer*, 367, 370), Tamaulipas (*Berlandier*, 926, 2316), near Saltillo (*Gregg*, 538). Hb. Kew.

2. **Gutierrezia coulteri**, Hemsley, Diag. Pl. Nov. pars altera, p. 33.

Herba annua (?), erecta, stricta, ultrapedalis, glabra, caule ramisque gracillimis, sulcatis. *Folia* pauca, sparsa, coriacea, linearia, 2–6 lin. longa, obtusa, margine involuta. *Capitula* solitaria, terminalia, pedunculata, circiter 6–8 lin. diametro; involucri bracteæ ovato-oblongæ, scariosæ; receptaculum conicum, foveolatum. *Flores* radii circiter 12 (achenio incluso), circiter 3 lin. longi, disci 1½ lin. longi; pappi paleæ breviusculæ, fissæ. *Achenia* pubescentia.

SOUTH MEXICO, Zimapan (*Coulter*, 264). Hb. Kew.

3. **Gutierrezia euthamiae**, Torr. & Gray, Fl. N. Am. ii. p. 123.
 ROCKY MOUNTAINS southward to TEXAS.—NORTH MEXICO, Chihuahua (*Thurber*).
 Hb. Kew.
4. **Gutierrezia glutinosa**, Benth. et Hook. Gen. Plant. ii. p. 250.
Hemiachyris glutinosa, Schauer in Linnæa, xix. p. 724.
 MEXICO, without localities (*Aschenborn*; *Gregg*; *Coulter*, 315). Hb. Kew.
5. **Gutierrezia microcephala**, A. Gr. Pl. Fendl. p. 74, adnot.
Brachyris microcephala, DC. Prodr. v. p. 313, non Hook.
 TEXAS; NEW MEXICO.—NORTH MEXICO, Santa Maria de Charcas, near Saltillo (*Berlandier*, 1378). Hb. Kew.
6. **Gutierrezia sphærocephala**, A. Gr. Pl. Fendl. p. 73.
 TEXAS; NEW MEXICO.—NORTH MEXICO, El Paso to Chihuahua (*Thurber*). Hb. Kew.
7. **Gutierrezia texana**, Torr. & Gray, Fl. N. Am. ii. p. 194.
Brachyris microcephala, Hook. Ic. Pl. t. 147, non DC.
 ARKANSAS; TEXAS.—NORTH MEXICO, San Luis Potosi to San Antonio (*Parry*, 366).
 Hb. Kew.
8. **Gutierrezia wrightii**, A. Gr. Pl. Wright. ii. p. 78.
 NORTH MEXICO, Santa Cruz &c., Sonora (*Wright*).

35. GRINDELIA.

Grindelia, Willd. in Ges. nat. Fr. Berl. Mag. 1807, p. 259; Benth. et Hook. Gen. Plant. ii. p. 250.

About twenty herbaceous and half-shrubby species, inhabiting North America, including Mexico, and Extratropical South America.

1. **Grindelia angustifolia**, DC. ex Dunal, Mém. Mus. Hist. Nat. v. p. 48;
 Prodr. v. p. 315, non H. B. K.

Grindelia dunalii, (*duvalii*) Spreng. Syst. iii. p. 575.

MEXICO.

2. **Grindelia arguta**, Schrad., ex DC. Prodr. v. p. 315.

Grindelia angustifolia, H. B. K. Nov. Gen. et Sp. iv. p. 309; Bot. Reg. t. 781, non Dunal.

SOUTH MEXICO, around Valladolid, Michoacan, and Pazcuaro, at 6600 feet (*Humboldt & Bonpland*).

Var. ?, A. Gr. Pl. Wright. ii. p. 81.

NORTH MEXICO, Sonora (*Wright*).

[**Grindelia glutinosa**, Dunal, est species Peruviana nec Mexicana, ex Benth. et Hook. Gen. Plant. ii. p. 250.]

3. **Grindelia inuloides**, Willd. in Ges. nat. Fr. Berl. Mag. 1807, p. 261; DC. Prodr. v. p. 315.

Demetria spathulata, Lag. Elench. Hort. Matr. 1814, p. 30.

TEXAS.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 371), between Vittoria and Tula (*Berlandier*, 2186); SOUTH MEXICO, Oaxaca (*Andrieux*, 271), near Morelia, 8000 feet (*Galeotti*, 2416), Santa Fé (*Bourgeau*, 515). Hb. Kew.

4. **Grindelia lamberti**, G. Don in Loud. Hort. Brit. p. 350; DC. Prodr. v. p. 316.

MEXICO.

5. **Grindelia subdecurrens**, DC. Prodr. v. p. 315.

SOUTH MEXICO, around Villalpando (*Mendez*).

36. PENTACHÆTA.

Pentachæta, Nutt. in Trans. Am. Phil. Soc. vii. p. 336; Benth. et Hook. Gen. Plant. ii. p. 251.

Two small herbaceous species, one Californian and one Mexican.

1. **Pentachæta gracilis**, Benth. in Hook. Ic. Pl. t. 1101.

SOUTH MEXICO, near Juquila, Zacatepec, 4000 to 6500 feet (*Galeotti*, 2057).

37. HETEROTHECA.

Heterotheca, Cass. in Bull. Philom. 1817; Benth. et Hook. Gen. Plant. ii. p. 251.

About six herbaceous species, confined to North America, including Mexico.

1. **Heterotheca chrysoptidis**, DC. Prodr. v. p. 317.

NORTH MEXICO, around Saltillo (*Berlandier*, 1368), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 373). Hb. Kew.

2. **Heterotheca inuloides**, Cass. Dict. li. p. 460, ex DC. Prodr. v. p. 317.

Diplocoma villosa, Don in Sweet's Brit. Fl. Gard. iii. t. 246.

Doronicum mexicanum, Cerv. in Link et Otto, Abbild. t. 22.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 372); SOUTH MEXICO, valley of Mexico (*Bourgeau*, 138; *Schaffner*, 249), Aguas Calientes (*Hartweg*, 109), Chinantla (*Liebmann*), Orizaba (*Sallé*). Hb. Kew.

3. **Heterotheca leptoglossa**, DC. Prodr. v. p. 317.

SOUTH MEXICO, Leon, west of Guanajuato (*Mendez*).

This is probably the same as *H. chrysoptidis*, as the ray-achenes of the latter are sometimes bald and sometimes pappose.

38. CHRYSOPSIS.

Chrysopsis, Nutt. Gen. Plant. N. Am. ii. p. 150; Benth. et Hook. Gen. Plant. ii. p. 252.

Hectorea, DC. Prodr. v. p. 95.

Heyfeldera, Schz. Bip. in Flora, 1853, p. 35.

BIOL. CENT.-AMER., Bot. Vol. II., June 1881.

About twenty species of herbs and undershrubs, restricted to North America, including Mexico.

1. **Chrysopsis foliosa**, Nutt., var., A. Gr. Pl. Wright. ii. p. 81.

NORTH MEXICO, valley between the San Pedro and the Sonoita, Sonora (*Wright*). Hb. Kew.

The typical plant is found in the South-eastern States, westward to Texas and New Mexico.

2. **Chrysopsis graminifolia**, Nutt. ex Torr. & Gray, Fl. N. Am. ii. p. 252.

Diplopappus graminifolius, Less. in Linnæa, v. p. 310.

Aplopappus gramineus, Benth. Pl. Hartw. p. 65.

Heyfeldera sericea, Schz. Bip. in Flora, 1853, p. 36.

CAROLINA, southward to TEXAS.—MEXICO, Mirador (*Liebmann*, 525; *Linden*, 1144, 1247), San Juan Reagi (*Hartweg*, 476), Cordillera of Vera Cruz, 3000 feet (*Galeotti*, 2282); GUATEMALA, Barranca del Sapote (*Bernoulli*, 280). Hb. Kew.

3. **Chrysopsis oliganthes**, Chapm. Fl. S. U. S. p. 216; β . *shaffneri*, Schz. Bip. MSS.

SOUTH MEXICO, savannas near Cordova (*Schaffner*), Vera Cruz to Orizaba (*Müller*, 1792). Hb. Kew.

The typical plant inhabits Florida.

4. **Chrysopsis**, sp. (“*C. villosæ*, Nutt. valde affinis,” Benth. et Hook. Gen. Plant. ii. p. 252.)

Hectorea viscosissima, DC. Prodr. v. p. 95.

SOUTH MEXICO, Real del Monte (*Hænke*).

39. HAPLOPAPPUS.

Haplopappus, Cass. Dict. lvi. p. 168 (*Aplopappus*); Benth. et Hook. Gen. Plant. ii. p. 253.

An exclusively American genus, comprising about sixty species of herbs and undershrubs, inhabiting North America to Guatemala, and Chili and Patagonia.

1. **Haplopappus gracilis**, A. Gr. Pl. Fendl. p. 76; Pl. Wright. ii. p. 81.

TEXAS; NEW MEXICO.—NORTH MEXICO, near the San Pedro, Sonora, and valley of the Rio Grande (*Wright*). Hb. Kew.

2. **Haplopappus phyllocephalus**, DC. Prodr. v. p. 347.

NORTH MEXICO, between San Fernando and Matamoras (*Berlandier*, 2278). Hb. Kew.

3. **Haplopappus ramulosus**, DC. Prodr. v. p. 350.

SOUTH MEXICO, Tlalpuxahua (*Keerl*).

4. **Haplopappus spinulosus**, DC. Prodr. v. p. 347.

ROCKY MOUNTAINS to CALIFORNIA and TEXAS.—NORTH MEXICO, Chiricahui Mountains

(*Wright*), Saltillo (*Gregg*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 374), Zacatecas (*Coulter*, 297), Hb. Kew.

5. **Haplopappus stoloniferus**, DC. Prodr. v. p. 349.

SOUTH MEXICO, Peak of Orizaba, at 8000 to 12,000 feet (*Galeotti*, 2168; *Linden*, 493; *Liebmann*, 493), summit of San Felipe (*Andrieux*, 322), Desierto Viejo (*Bourgeau*, 832); GUATEMALA, crater of the Volcan de Agua, 12,300 feet (*Hartweg*), summit of Volcan de Fuego (*Salvin & Godman*), Volcan de Fuego, at 13,000 feet (*Salvin*). Hb. Kew.

40. BIGELOVIA.

Bigelovia, DC. Prodr. v. p. 329; Benth. et Hook. Gen. Plant. ii. pp. 255, 536.

Chrysothamnus, Natt. in Trans. Am. Phil. Soc. ser. 2, vii. p. 323.

A wholly American genus, consisting of about twenty herbaceous and shrubby species, inhabiting the southern part of North America and the Andes of South America.

Dr. Asa Gray has remodelled this genus. See Proc. Amer. Acad. viii. pp. 638-646, where he enumerates twenty-four species.

1. **Bigelovia coronopifolia**, A. Gr. in Proc. Am. Acad. viii. p. 639.

TEXAS.—NORTH MEXICO, Sonora (*Palmer*).

2. **Bigelovia hartwegi**, A. Gr. in litt.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 376); SOUTH MEXICO, Lagos (*Hartweg*, 114), without locality (*Gregg*, 580). Hb. Kew.

3. **Bigelovia oppositifolia**, A. Gr. in Proc. Am. Acad. xv. p. 32.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 359). Hb. Kew.

4. **Bigelovia pulchella**, A. Gr. in Proc. Am. Acad. viii. p. 643.

Linosyris pulchella, A. Gr. Pl. Wright. i. p. 96.

NEW MEXICO.—NORTH MEXICO, Chihuahua (*Thurber*).

5. **Bigelovia veneta**, A. Gr. in Proc. Am. Acad. viii. p. 638.

Linosyris mexicana, Schl. Hort. Hal. t. 4.

Aplopappus discoideus, DC. Prodr. v. p. 350.

Baccharis veneta, H. B. K. Nov. Gen. et Sp. iv. p. 68.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 375); SOUTH MEXICO, Guadalupe (*Bilimek*, 585), valley of Mexico (*Schaffner*), Tehuacan (*Liebmann*, 526), without localities (*Bates*, *Shepherd*, *Mackenzie*), Cuernavaca (*Humboldt & Bonpland*). Hb. Kew.

6. **Bigelovia wrightii**, A. Gr. in Proc. Am. Acad. viii. p. 639.

Linosyris wrightii, *hirtella* et *heterophylla*, A. Gr. Pl. Wright. i. p. 95.

TEXAS.—NORTH MEXICO, Sonora and valley of the Rio Grande (*Wright*).

41. SOLIDAGO.

Solidago, Linn. Gen. Plant. n. 995; Benth. et Hook. Gen. Plant. ii. p. 256.

A genus of about eighty species, herbaceous or, in a few instances, woody at the base. They are nearly all North-American, one of them being also widely dispersed in temperate Europe and Asia. Two or three are common in Extratropical South America; and one (*S. mexicana*, Linn. ?) is naturalized (?) and very abundant in the Azores.

1. ***Solidago californica***, Nutt. in Trans. Am. Phil. Soc. n. s. vii. p. 238.

CALIFORNIA.—NORTH MEXICO, Chihuahua (*Thurber*).

2. ***Solidago marshalli***, Rothr. in Bot. Wheeler's Surv. 1878, p. 146.

NORTH MEXICO, Chiricahua (*Rothrock*).

3. ***Solidago mexicana***, Linn. Sp. Pl. p. 879; H. B. K. Nov. Gen. et Sp. iv. p. 104; Torr. & Gray, Fl. N. Am. ii. p. 211.

Solidago limonifolia, Pers. Syn. ii. p. 449.

SOUTH MEXICO, between Chalco and Chapultepec, at about 7000 feet (*Humboldt & Bonpland*).

There is some uncertainty regarding the native country of the plant described by Linnæus under this name; and there are only cultivated specimens of it in the Kew herbarium.

4. ***Solidago odora***, Ait. Hort. Kew. ed. 1, iii. p. 214; Torr. & Gray, Fl. N. Am. ii. p. 219.

Solidago puncticulata, DC. Prodr. v. p. 332.

Solidago gonoclada, DC. Prodr. v. p. 334 ?

CANADA southward.—MEXICO, Zacuapan (*Linden*, 478), Jalapa, at 3000 feet (*Galeotti*, 2281), around the city of Mexico (*Berlandier*).—Also in Extratropical SOUTH AMERICA, on the west side. Hb. Kew.

5. ***Solidago paniculata***, DC. Prodr. v. p. 340.

Solidago mexicana, H. B. K. Nov. Gen. et Sp. iv. p. 104 ?

MEXICO (*Alaman*).

6. ***Solidago scabrida***, DC. Prodr. v. p. 331.

NORTH MEXICO, San Luis Potosi to Tampico (*Palmer*, 1098), valley of Mexico and Orizaba (*Bourgeau*, 376). Hb. Kew.

7. ***Solidago simplex***, H. B. K. Nov. Gen. et Sp. iv. p. 103.

SOUTH MEXICO, near Santa Rosa, at 7800 feet (*Humboldt & Bonpland*).

8. ***Solidago spathulata***, DC. Prodr. v. p. 339.

MEXICO (*Hænke*).

9. **Solidago velutina**, DC. Prodr. v. p. 332.

SOUTH MEXICO, around the city of Mexico (*Alaman, Berlandier*), valley of Mexico (*Schaffner, 252*), Real del Monte (*Hænke*); San Luis Potosi (*Schaffner*). Hb. Kew.

42. LESSINGIA.

Lessingia, Cham. in Linnæa, iv. p. 203, t. 2. fig. 2; Benth. et Hook. Gen. Plant. ii. p. 257.

Five species of slender herbs inhabiting California, and one of them extending into North-western Mexico.

1. **Lessingia ramulosa**, A. Gr. in Benth. Pl. Hartw. p. 314.

CALIFORNIA.—NORTH MEXICO, near Sonora (*Hartweg*), San Rafael (*American Expedition*). Hb. Kew.

43. EGLETES.

Egletes, Cass. in Bull. Philom. 1817; Benth. et Hook. Gen. Plant. ii. p. 261.

About six herbaceous species, restricted to Tropical and Subtropical America.

1. **Egletes liebmanni**, Schz. Bip. in herb. Liebm. n. 277.

SOUTH MEXICO, Papantla (*Liebmann, 277*), hills of the Antigua, Cordillera of Vera Cruz (*Galeotti, 2263*). Hb. Kew.

2. **Egletes obovata**, Benth. in Vidensk. Meddel. 1852, p. 103.

NICARAGUA, Granada (*Ersted, 83*). Hb. Kew.

3. **Egletes viscosa**, Less. Syn. p. 252; DC. Prodr. vi. p. 42.

SOUTH MEXICO, Yucatan and Tabasco (*Johnson, 23*); NICARAGUA, Granada (*Ersted, 72, 73*).—Southward to Brazil and in the WEST INDIES. Hb. Kew.

4. **Egletes**, sp.

BRITISH HONDURAS (*Temple*). Hb. Kew.

5. **Egletes**, sp.

SOUTH MEXICO, valley of Cordova (*Bourgeau, 2117*). Hb. Kew.

This and the last may be *E. viscosa*.

44. APHANOSTEPHUS.

Aphanostephus, DC. Prodr. v. p. 310; Benth. et Hook. Gen. Plant. ii. p. 262.

Four or five herbaceous species, inhabiting Mexico and the country immediately to the north.

1. **Aphanostephus humilis**, A. Gr. Pl. Wright. i. p. 93.

Aphanostephus arizonicus, A. Gr. in Proc. Am. Acad. xvi. p. 81.

Egletes humilis, Torr. & Gray, Fl. N. Am. ii. p. 411.

Leucopsidium humile, Benth. Pl. Hartw. p. 18.

TEXAS.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry &*

Palmer, 378), without locality (*Gregg*); SOUTH MEXICO, Guadalupe (*Bourgeau*, 586), Leon (*Hartweg*), Real del Monte to Zacatecas (*Coulter*, 301). Hb. Kew.

2. **Aphanostephus ramosissimus**, DC. Prodr. v. p. 310.

Egletes ramosissima, A. Gr. Pl. Fendl. p. 71.

Aphanostephus riddellii, Torr. & Gray, Fl. N. Am. ii. p. 189.

TEXAS.—NORTH MEXICO, Monterey and Buena Vista (*Gregg*). Hb. Kew.

3. **Aphanostephus ramosus**, A. Gr. in Proc. Am. Acad. xvi. p. 81.

Keerlia ramosa, DC. Prodr. v. p. 310.

SOUTH MEXICO, Tlalpujahuia (*Keerl*).

45. BELLIS.

Bellis, Linn. Gen. Plant. n. 962; Benth. et Hook. Gen. Plant. ii. p. 265.

About eight herbaceous species, widely dispersed in the northern hemisphere.

1. **Bellis xanthocomoides**, A. Gr. in litt.

Brachycome xanthocomoides, Less. in Linnæa, ix. p. 265.

SOUTH MEXICO, near La Joya (*Schiede & Deppe*), Cerro Leon (*Liebmann*, 497). Hb. Kew.

2. **Bellis mexicana**, A. Gr. Pl. Wright. i. p. 93.

SOUTH MEXICO, between Mazatlan and Mexico (*Gregg*), Desierto Viejo, valley of Mexico (*Bourgeau*, 840). Hb. Kew.

46. TOWNSENDIA.

Townsendia, Hook. Fl. Bor.-Am. ii. p. 16, t. 119; Benth. et Hook. Gen. Plant. ii. p. 268.

About eight species of herbs, inhabiting North America.

1. **Townsendia mexicana**, A. Gr. Pl. Fendl. p. 70.

NORTH MEXICO, Saltillo and near Buena Vista (*Gregg*), plain of San Luis Potosi (*Galeotti*, 2430). Hb. Kew.

2. **Townsendia strigosa**, Nutt. in Trans. Am. Phil. Soc. n. s. vii. p. 305, et

Torr. & Gray, Fl. N. Am. ii. p. 186.

NEW MEXICO.—NORTH MEXICO, Chihuahua.

47. DISTASIS.

Distasis, DC. Prodr. v. p. 279; Benth. et Hook. Gen. Plant. ii. p. 268.

Diplostelma, A. Gr. Pl. Fendl. p. 72.

Limited to the following herbaceous species:—

1. **Distasis modesta**, DC. Prodr. v. p. 279.

Diplostelma bellioides, A. Gr. Pl. Fendl. p. 73.

TEXAS.—NORTH MEXICO, Monterey and Buena Vista (*Gregg*). Hb. Kew.

2. **Distasis ? heterophylla**, Hemsley, n. sp.

Perennis, nana, multicaulis, foliis sessilibus angustis integris trifidis vel pinnatifidis, capitulis subglobosis terminalibus multifloris, involucri bracteis fere æqualibus, ligulis minimis angustissimis, acheniis immaturis pilosulis, pappi paleis 4-5 laceratis, seta 0 vel 1 (1-3 ex Benth. et Hook.).

Herba perennis, basi suffruticosa, multicaulis, caulibus in exemplari Coulteriano unico $2\frac{1}{2}$ - $3\frac{1}{2}$ -pollicaribus, 1-capitatis. *Folia* sessilia, infra pollicaria, linearia, integra, trifida vel pinnatifida, pilosa. *Capitula* terminalia, subglobosa, 4-5 lineas diametro, multiflora; involucri bracteæ numerosæ, subæquales, 2-3-seriatæ, lineares, acutæ, pilosæ; receptaculum nudum, conicum; corollæ ligulatæ 2-3-seriatæ, minimæ, angustissimæ, stylum non superantes; corollæ tubulosæ, 4-5-meræ. *Achenia* immatura pilosula, marginata; pappi paleæ 4-5-laceræ, seta 0 vel interdum 1 (1-3 ex Benth. et Hook. *loc. cit.*), caducissima.

SOUTH MEXICO, Jalapa (*Coulter*, 406). Hb. Kew.

48. PSILACTIS.

Psilactis, A. Gr. Pl. Fendl. p. 71; Benth. et Hook. Gen. Plant. ii. p. 269.

Three slender herbaceous species.

1. **Psilactis asteroides**, A. Gr. Pl. Fendl. p. 72.

TEXAS, NEW MEXICO.—NORTH MEXICO, llanos in the Sierra Madre, west of Chihuahua (*Wislizenus*). Hb. Kew.

2. **Psilactis brevingulata**, Schz. Bip.; Hemsley, Diag. Pl. Nov. pars altera, p. 34.

Herba annua, erecta, circiter sesquipedalis, puberula, superne parce ramosa, caule ramisque teretibus, striatis. *Folia* rigida, scabra, linearia, circiter pollicaria, sursum gradatim breviora, obtusa, interdum paucidentata. *Capitula* parva, solitaria, pedunculata; involucri bracteæ angustæ, 3-seriatæ, extus glanduloso-puberulæ; receptaculum planum, foveolatum. *Flores* radii brevissimi, pappo ad annulum reducto; disci tubulosi, pappo e setis circa 20 æqualibus. *Achenia* pubescentia.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 390); SOUTH MEXICO, near Tacubaya (*Schaffner*). Hb. Kew.

3. **Psilactis coulteri**, A. Gr. Pl. Fendl. p. 72.

NORTH MEXICO, Sonora Alta (*Coulter*, 295). Hb. Kew.

49. ACHÆTOGERON.

Achætogeron, A. Gr. Pl. Fendl. p. 72 et in Proc. Am. Acad. viii. p. 651; Benth. et Hook. Gen. Plant. ii. p. 1232.

“Pappus simplex, coroniformis, e squamellis 4-6 basi plus minus coalitis, cæt. *Erigerontis*.”—A. Gr.

1. **Achætogeron galeottii**, Gray, MSS.

Ultrapedalis e radice perenni, hirsutulus vel pubescens; foliis caulinis lanceolatis seu linearibus plerumque dentibus paucis angustissimis patentibus instructis; involucri bracteis sublanceolatis fere tomentosis; ligulis parum 100 linearibus (albīs); acheniis glabris, 2-4-nerviis, pappo brevissimo, 3-4-dentato (denticulis subulatis basi parum coalitis) instructis.

SOUTH MEXICO, in woods on the peak of Orizaba (*Galeotti*, 2166), Sierra San Pedro Nolasco (*Jurgensen*, 227). Hb. Kew.

A slender and weak form, with smaller heads, fewer rays, and nearly entire cauline leaves (radical ones spatulate and serrate), is from Desierto Viejo (*Bourgeau*, 840).

2. **Achætogeron seemannii**, A. Gr. in litt.

Polyactidium seemannii, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 301.

Boltonia seemannii, Benth. et Hook. Gen. Plant. ii. p. 269.

NORTH MEXICO, Sierra Madre (*Seemann*, 2026). Hb. Kew.

3. **Achætogeron wislizeni**, A. Gr. Pl. Fendl. p. 72.

Facie *Erigerontis pumili*, subpedalis, hirsutus; foliis omnibus linearibus trinerviis, imis inciso-dentatis, cæteris integerrimis; involucri bracteis linearibus dorso villosis; ligulis (albis) numerosissimis (circa 400) angustissimis; acheniis parce hirtellis, 4-nerviis; pappo conspicuo, e paleis 5-6 laciniato-denticulatis, basi concretis.

NORTH MEXICO, Sierra Madre, west of Chihuahua (*Wislizenus*).

50. BOLTONIA.

Boltonia, Lhér. Sert. Angl. p. 27; Benth. et Hook. Gen. Plant. ii. p. 269.

About a dozen herbaceous species, inhabiting North America and Northern and Sub-tropical Asia.

1. **Boltonia campestris**, Benth. et Hook. Gen. Plant. ii. p. 269.

Dichætophora campestris, A. Gr. Pl. Fendl. p. 73.

TEXAS.—NORTH MEXICO, Monterey and Chihuahua (*Gregg*, 49). Hb. Kew.

51. ASTER.

Aster, Linn. Gen. Plant. n. 954; Benth. et Hook. Gen. Plant. ii. p. 271.

Herbaceous plants. About 350 species have been founded; but Bentham and Hooker think there are not many over 200. They are mostly natives of the temperate and cold regions of the northern hemisphere, and have by far their greatest concentration in North America. A few species occur in the Andes of South America and in South Africa. The Mexican species greatly need revision.

1. **Aster asperrimus**, Less. in Linnæa, v. p. 142.

SOUTH MEXICO, near Hacienda de la Laguna (*Schiede & Deppe*).

2. **Aster canescens**, Pursh, Fl. Am. Sept. ii. p. 547.

Machæranthera canescens, A. Gr. Pl. Wright. i. p. 89.

Western NORTH AMERICA, from BRITISH TERRITORY southwards.—NORTH MEXICO, Ojo de Vaca (*Torrey*).

3. **Aster carnosus**, A. Gr. Synop. Fl. N. Am. ined.

Linosyris? *carnosa*, A. Gr. Pl. Wright. i. p. 80.

Bigelovia carnosus, Benth. et Hook. Gen. Plant. ii. pp. 255, 536.

NORTH MEXICO, Chiricahui Mountains, S. Arizona (*Wright*). Hb. Kew.

4. **Aster divaricatus**, Nutt. in Torr. & Gray, Fl. N. Am. ii. p. 163.

SOUTH CAROLINA and FLORIDA to TEXAS.—NORTH MEXICO, along the Rio Grande and in SONORA (*Wright*), San Luis Potosi (*Parry & Palmer*, 380, 382); SOUTH MEXICO, Zimapan (*Coulter*, 294), Chapultepec (*Schaffner*), Vera Cruz to Orizaba (*Müller*, 915); GUATEMALA, Volcan de Fuego, at 5500 feet (*Salvin*).—Southward to PERU, SOUTH BRAZIL, and URUGUAY, and in the WEST INDIES. Hb. Kew.

5. **Aster ehrenbergii**, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 302.

NORTH MEXICO, Sierra Madre (*Seemann*, 2003), without locality (*Ehrenberg*, 791, 947). Hb. Kew.

6. **Aster ericæfolius**, Rothr. in Coulter's Bot. Gaz. 1877, p. 70, et in Bot. Wheeler's Exped. p. 152.

Diplopappus ericoides, Torr. & Gray, Fl. N. Am. ii. p. 182.

TEXAS, NEW MEXICO.—NORTH MEXICO, Chihuahua and Buena Vista (*Gregg*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 387). Hb. Kew.

7. **Aster gymnocephalus**, A. Gr. Pl. Wright. i. p. 97, adnot., et in Proc. Am. Acad. xv. p. 32.

Aplopappus gymnocephalus, DC. Prodr. v. p. 346.

Machæranthera setigera, Less. in Linnæa, xix. p. 792?

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 379), Zacatecas to Real del Monte (*Coulter*, 303); SOUTH MEXICO, Zimapan (*Coulter*, 302), near Tacubaya (*Schaffner*), around the city of Mexico (*Berlandier*, *Alaman*), without localities (*Tate*, *Bates*). Hb. Kew.

8. **Aster incanus**, A. Gr. Bot. Calif. i. p. 322.

Diplopappus incanus, Lindl. Bot. Reg. t. 1693; Bot. Mag. t. 3382.

Dieteria incana, Torr. & Gray, Fl. N. Am. ii. p. 100.

CALIFORNIA.—NORTH MEXICO, Sonora (*Smith*).

9. **Aster inconspicuus**, Less. in Linnæa, v. p. 143.

Erigeron expansus, Pœpp. in Spreng. Syst. iii. p. 518.

SOUTH MEXICO, near Los Cocos, Vera Cruz (*Schiede & Deppe*).—CUBA.

10. **Aster jamaicensis**, Less. in Linnæa, v. p. 144.

Erigeron jamaicense, Linn. Amœn. Acad. v. p. 406; DC. Prodr. v. p. 288.

SOUTH MEXICO, near Vera Cruz (*Schiede & Deppe*).—WEST INDIES.

11. **Aster lima**, Lindl. in DC. Prodr. v. p. 230.

MEXICO.

This was founded upon a specimen in Bentham's herbarium, which we have been unable to determine. Dr. Gray refers Parry and Palmer's nos. 385 and 386 to this species. Whatever name is adopted, the species to which *A. lima* belongs should

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probably include *A. riparius*, H. B. K., *A. moranensis*, H. B. K., *A. lindeni*, Schz. Bip., and *A. ehrenbergii*, and perhaps also *A. purpurascens*, Schz. Bip.

12. **Aster lindeni**, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 302.

SOUTH MEXICO, Mirador, Vera Cruz (*Linden*, 1170). Hb. Kew.

13. **Aster moranensis**, H. B. K. Nov. Gen. et Sp. iv. p. 93.

Diplostegium moranense, Nees, Ast. p. 198; DC. Prodr. v. p. 273.

SOUTH MEXICO, Cerro Ventoso and Moran, at 8650 feet (*Humboldt & Bonpland*), Cordillera of Oaxaca, at 6000 to 7500 feet (*Galeotti*, 2141), Orizaba (*Botteri*, 1133). Hb. Kew.

See remark under *A. lima*.

14. **Aster multiflorus**, Ait. Hort. Kew. ed. 1, iii. p. 116; DC. Prodr. v. p. 243;

A. Gr. Pl. Wright. i. p. 90.

Aster hebecladus, DC. Prodr. v. p. 242.

Aster scoparius, DC. Prodr. v. p. 242.

TEXAS.—NORTH MEXICO, along the valley of the Rio Grande and below Saltillo (*Gregg*).

15. **Aster parviflora**, Hemsley.

Machæranthera parviflora, A. Gr. Pl. Wright. i. p. 90.

NORTH MEXICO, Chiricahui Mountains, Sonora (*Wright*). Hb. Kew.

16. **Aster pauciflorus**, Nutt. Gen. ii. p. 154; A. Gr. Pl. Wright. ii. p. 76.

Aster caricifolius, H. B. K. Nov. Gen. et Sp. iv. p. 92, t. 333.

Tripolium caricifolium, Schauer in Linnæa, xix. p. 721.

NEW MEXICO.—NORTH MEXICO, west of the Chiricahui Mountains, Sonora (*Wright*); SOUTH MEXICO, near the city of Mexico, at about 7000 feet (*Humboldt & Bonpland*), marshes near Mexico (*Bourgeau*, 370), Tacubaya (*Schaffner*), Cordillera of Oaxaca, in ravines near the Pacific Ocean (*Galeotti*, 2096), Chiapas (*Linden*, 425). Hb. Kew.

✓ Var. ? **gracilis**, Benth. in Vidensk. Meddel. 1852, p. 81.

COSTA RICA, Cartago (*Ersted*, 254). Hb. Kew.

17. **Aster potosinus**, A. Gr. in Proc. Am. Acad. xv. p. 32.

NORTH MEXICO, mountains of San Luis Potosí, 6000 to 8000 feet (*Parry & Palmer*, 384). Hb. Kew.

18. **Aster purpurascens**, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 156.

SOUTH MEXICO, Real del Monte (*Ehrenberg*, 474).

19. **Aster riparius**, H. B. K. Nov. Gen. et Sp. iv. p. 92.

Aster sonora, A. Gr. Pl. Wright. ii. p. 76.

NORTH MEXICO, west of the Chiricahui Mountains, Sonora (*Wright*); SOUTH MEXICO, near Lake Cuisco, at 5400 feet (*Humboldt & Bonpland*), Cordillera of Vera Cruz (*Galeotti*, 2303). Hb. Kew.

20. **Aster scaberrimus**, Less. in Linnæa, v. p. 143.
SOUTH MEXICO, woods near Jalapa (*Schiede & Deppe*).
21. **Aster simplex**, Willd. Enum. ii. p. 287; DC. Prodr. v. p. 239; Torr. & Gray, Fl. N. Am. ii. p. 131.
CANADA southward.—NORTH MEXICO, banks of the Babocomori, Sonora (*Wright*).
22. **Aster ? spinosus**, Benth. Pl. Hartw. p. 20.
NORTH MEXICO, Sonora (*Wright*), below Saltillo (*Gregg*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 381); SOUTH MEXICO, Aguas Calientes (*Hartweg*).
Hb. Kew.
23. **Aster tanacetifolius**, H. B. K. Nov. Gen. et Sp. iv. p. 95.
Machæranthera tanacetifolia, Nees, Ast. p. 224.
Dieteria coronopifolia, Nutt. in Torr. & Gray, Fl. N. Am. p. 101.
CALIFORNIA; NEW MEXICO; TEXAS.—NORTH MEXICO, Salado, Chihuahua (*Wright*), San Antonio de las Alanzanes (*Gregg*). Hb. Kew.
24. **Aster**, sp.
SOUTH MEXICO, Orizaba (*Botteri*, 1153, 1154; *Bourgeau*, 3341). Hb. Kew.
25. **Aster**, sp.
SOUTH MEXICO, valley of Cordova (*Bourgeau*, 3341 bis), Orizaba (*Botteri*, 1155).
Hb. Kew.
26. **Aster**, sp.
SOUTH MEXICO, Zimapan (*Coulter*, 298, 300). Hb. Kew.

52. ERIGERON.

Erigeron, Linn. Gen. Plant. n. 951; Benth. et Hook. Gen. Plant. ii. p. 279.

About 100 species of herbs, widely dispersed in temperate regions, rarer in the tropics. Two or three annual species are almost ubiquitous weeds of cultivation. There are probably not more than ten or twelve distinct species within our limits.

1. **Erigeron affinis**, DC. Prodr. v. p. 289.
SOUTH MEXICO, around the city of Mexico (*Berlandier*).
- ✓ 2. **Erigeron bonariensis**, Linn. Sp. Pl. p. 1211; Griseb. Fl. Brit. W. Ind. p. 365.
SOUTH MEXICO, valley of Mexico (*Bourgeau*, 1080, 1081), Vera Cruz (*Linden*, 1216); NICARAGUA, Chontales (*Tate*, 458); COSTA RICA, Alajuela (*Polakowsky*).—WEST INDIES and southward to Chili and URUGUAY. Hb. Kew.
3. **Erigeron canadensis**, Linn. Sp. Pl. p. 1211; DC. Prodr. v. p. 289.
This widely dispersed weed is common throughout MEXICO and CENTRAL AMERICA.
Hb. Kew.

4. **Erigeron delphinifolius**, Willd. Hort. Berol. t. 90.
Polyactidium delphinifolium, DC. Prodr. v. p. 282.
 ARIZONA, TEXAS.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 389); SOUTH MEXICO, valley of Mexico (*Schaffner*, 209; *Bourgeau*, 717), Zimapan (*Coulter*, 307), without localities (*Tate*, *Parkinson*, *Mairet*, *Bates*). Hb. Kew.
5. **Erigeron diplopappoides**, Schauer in Linnæa, xix. p. 722.
 MEXICO (*Aschenborn*).
6. **Erigeron divergens**, Torr. & Gr. Fl. N. Am. ii. p. 175.
Erigeron cinereus, A. Gr. in Pl. Fendl. p. 68, ex A. Gr. in Proc. Am. Acad. xvi. p. 95.
 NEBRASKA TO CALIFORNIA.—NORTH MEXICO, Buena Vista and Encantada (*Gregg*).
7. **Erigeron eriophyllus**, A. Gr. Pl. Wright. ii. p. 77.
 NORTH MEXICO, Sonora (*Wright*).
8. **Erigeron ervendbergii**, A. Gr. in Proc. Am. Acad. viii. p. 650.
 NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 391, 393); SOUTH MEXICO, near Tantoyuca (*Ervendberg*), San Angel, valley of Mexico (*Bourgeau*, 166). Hb. Kew.
9. **Erigeron gnaphalioides**, H. B. K. Nov. Gen. et Sp. iv. p. 88, t. 331.
 NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 403); SOUTH MEXICO, Guanajuato (*Humboldt & Bonpland*). Hb. Kew.
10. **Erigeron karwinskianus**, DC. Prodr. v. p. 285.
 MEXICO (*Karwinski*).
11. **Erigeron leucanthifolius**, Schauer in Linnæa, xix. p. 723.
 MEXICO (*Aschenborn*).
12. **Erigeron longipes**, DC. Prodr. v. p. 285.
 MEXICO (*Karwinski*).
 Dr. Gray informs us that he thinks this may be *E. scaposum*.
13. **Erigeron maximus**, Otto ex DC. Prodr. v. p. 284.
Leptostelma maximum, Don in Sweet's Brit. Fl. Gard. ser. 2, t. 38.
Aster maximus, Less. Syn. p. 182.
 MEXICO.
- ✓ 14. **Erigeron mucronatus**, DC. Prodr. v. p. 285.
 NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 392); SOUTH MEXICO, valley of Mexico (*Bourgeau*, 167), Chinantla (*Liebmann*, 499), Vera Cruz to Orizaba (*Müller*, 269), Zimapan (*Coulter*, 306); GUATEMALA, Coban (*Türkheim*, 7). VENEZUELA. Hb. Kew.

15. **Erigeron palmeri**, A. Gr. in Proc. Am. Acad. xv. p. 32.
NORTH MEXICO, mountains of Alvarez, south-east of San Luis Potosi (*Parry & Palmer*, 395); SOUTH MEXICO, Zimapan (*Coulter*, 308, 311). Hb. Kew.
16. **Erigeron pubescens**, H. B. K. Nov. Gen. et Sp. iv. p. 88.
Heterochaeta? pubescens, DC. Prodr. v. p. 283.
SOUTH MEXICO, Moran (*Humboldt & Bonpland*), Zimapan (*Coulter*, 310). Hb. Kew.
17. **Erigeron scaposus**, DC. Prodr. v. 287.
Aster rivularis, Less. in Linnæa, v. p. 143, excl. synonym.
NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 388, 394); SOUTH MEXICO, around Toluca (*Andrieux*, 277), prairies of Jalapa (*Galeotti*, 2292), Real del Monte (*Coulter*, 309), Cordillera of Oaxaca, damp woods, at 7000 to 8000 feet (*Galeotti*, 2356), peak of Orizaba, 9500 feet (*Linden*, 492). Hb. Kew.
18. **Erigeron schiedeanus**, Less. in Linnæa, v. p. 145.
SOUTH MEXICO, Llanos de Perote (*Schiede & Deppe*).
- ✓ 19. **Erigeron subspicatus**, Benth. in Vidensk. Meddel. 1852, p. 82.
COSTA RICA, Volcan de Irazu (*Ersted*, 268). Hb. Kew.
- 20. **Erigeron tenellus**, DC. Prodr. v. p. 288.
NORTH MEXICO, around Tamaulipas (*Berlandier*).
21. **Erigeron velutipes**, Hook. et Arn. Bot. Beech. Voy. p. 434.
SOUTH MEXICO, Tepic (*Beechey*). Hb. Kew.
- ✓ 22. **Erigeron**, sp.
✓ GUATEMALA, Volcan de Fuego (*Salvin*). Hb. Kew.
23. **Erigeron**, sp.
SOUTH MEXICO, valley of Orizaba (*Bourgeau*, 2925). Hb. Kew.

53. CONYZA.

Conyza, Less. Syn. Comp. p. 203; Benth. et Hook. Gen. Plant. ii. p. 283.

About fifty species of herbs, generally dispersed in warm countries.

1. **Conyza adnata**, H. B. K. Nov. Gen. et Sp. iv. p. 74.
SOUTH MEXICO, between Istla bridge and the village of Acanistla, at about 3200 feet (*Humboldt & Bonpland*).
2. **Conyza apurensis**, H. B. K. Nov. Gen. et Sp. iv. p. 73.
Erigeron apurensis, Griseb. Fl. Brit. W. Ind. p. 365.
SOUTH MEXICO, Tintalcingo (*Liebmann*, 433), Orizaba (*Botteri*, 1156); CENTRAL AMERICA, without locality (*Sinclair*).—VENEZUELA; WEST INDIES. Hb. Kew.

3. **Conyza asperifolia**, Benth. et Hook. Gen. Plant. ii. p. 284.
Baccharis asperifolia, Benth. Pl. Hartw. p. 86.
 SOUTH MEXICO, San Nicolas, valley of Mexico (*Bourgeau*, 970, 1228), Sierra San Pedro Nolasco &c. (*Jurgensen*, 372); GUATEMALA, mountains of Mixco (*Hartweg*, 589), Alta Vera Paz (*Türckheim*); COSTA RICA (*Ersted*, 54). Hb. Kew.
4. **Conyza chilensis**, Spreng. Nov. Prov. 1818, p. 14; DC. Prodr. v. p. 378.
 SOUTH MEXICO, Jalapa, at 4000 feet (*Galeotti*, 2257), Vera Cruz (*Linden*, 1194), valley of Mexico (*Bourgeau*, 595).—WEST INDIES and southward to CHILI and SOUTH BRAZIL. Hb. Kew.
5. **Conyza coronopifolia**, H. B. K. Nov. Gen. et Sp. iv. p. 70.
 NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 398); SOUTH MEXICO, plain of Mexico, at 7000 feet (*Humboldt & Bonpland*), valley of Mexico (*Bourgeau*, 161), Chinantla (*Liebmann*, 513), Vera Cruz to Orizaba (*Müller*, 1350; *Botteri*, 1152), Ciudad Real (*Linden*, 433), Zimapan (*Coulter*, 285, 286); GUATEMALA, Quezaltenango (*Hartweg*, 590). Hb. Kew.
6. **Conyza cortesii**, H. B. K. Nov. Gen. et Sp. iv. p. 75.
 SOUTH MEXICO, near Cuernavaca &c. (*Humboldt & Bonpland*).
7. **Conyza fastigiata**, Willd. Enum. Suppl. p. 57.
 COSTA RICA, San José (*Polakowsky*).—TROPICAL AMERICA and TROPICAL AFRICA.
8. **Conyza?** (*Lænnecia filaginoides*, DC. Prodr. v. p. 376).
 SOUTH MEXICO, around the city of Mexico (*Berlandier*, 820).
9. **Conyza gnaphalioides**, H. B. K. Nov. Gen. et Sp. iv. p. 73, t. 327.
Lænnecia gnaphalioides, Cass.
 NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 400, 402), Real del Monte (*Coulter*, 284), Pedregal (*Bourgeau*), without localities (*Aschenborn*, *Parkinson*).—VENEZUELA; COLOMBIA; PERU. Hb. Kew.
10. **Conyza hispida**, H. B. K. Nov. Gen. et Sp. iv. p. 71.
 SOUTH MEXICO, Lake Tezcuco, 7000 feet (*Humboldt & Bonpland*).
11. **Conyza lyrata**, H. B. K. Nov. Gen. et Sp. iv. p. 70.
 NICARAGUA, Granada, Tipitapa, &c. (*Ersted*, 71, 245, 246).—ECUADOR. Hb. Kew.
12. **Conyza microcephala**, Hemsley, n. sp.
 Annuæ, erecta, gracilis, foliis sessilibus sublinearibus sæpe apicem versus paucidentatis suberectis ciliolatis, capitulis minimis (vix 2 lineas diametro) in corymbos compositos densos terminales aggregatis, receptaculo concavo foveolato, acheniis faciebus enerviis parce appresse hirsutis.

Herba annua, erecta, gracilis, striata, a basi racemosa, ramis parce farinoso-pilosis. *Folia* sessilia suberecta, linearia vel lineari-lanceolata, $\frac{1}{2}$ – $1\frac{1}{2}$ poll. longa, acuta vel obtusa, integra vel paucidentata, præcipue margine farinoso-pilosa. *Capitula* multiflora, vix 2 lineas diametro, in corymbos compositos densos terminales aggregata; involucri bracteæ subbiseriatae, lineari-subulatae, tenues, subscariosæ; receptaculum concavum, foveolatum, foveolis integris; corollæ glabræ. *Achenia* compressa, oblonga, enervia, parce appresse hirsuta; pappi albi setæ uniseriatae, scabridæ.

NORTH MEXICO, San Luis Potosi (*Schaffner*, 221; *Parry & Palmer*, 396). Hb. Kew. Closely allied to the common Indian *C. absinthifolia*, DC., but differing in the kind of hairiness in the expanded receptacle and in the pappus.

13. ***Conyza obtusa***, H. B. K. Nov. Gen. et Sp. iv. p. 71.

SOUTH MEXICO, between the city of Mexico and Toluca, at about 8000 feet (*Humboldt & Bonpland*; *Berlandier*, 537; *Andrieux*, 274). Hb. Kew.

✓ 14. ***Conyza panamensis***, Willd. Sp. Pl. iii. p. 1942.

PANAMA.

15. ***Conyza* ?** (*Lænnecia parvifolia*, DC. Prodr. v. p. 376).

SOUTH MEXICO, around Toluca (*Berlandier*, 1124).

16. ***Conyza sophiæfolia***, H. B. K. Nov. Gen. et Sp. iv. p. 72, t. 326.

Conyza pulchella, H. B. K. Nov. Gen. et Sp. iv. p. 72.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 397, 399), Zacatecas (*Coulter*, 283); SOUTH MEXICO, between Chalco and Lake Tezcuco, and near Moran, 7000 to 8000 feet (*Humboldt & Bonpland*), Tacubaya (*Bourgeau*, 499), Cerro Leon (*Liebmann*, 515), Regla, at 6500 feet (*Galeotti*, 2427). Hb. Kew.

17. ***Conyza subdecurrens***, DC. Prodr. v. p. 379.

TEXAS.—NORTH MEXICO, Mount Graham, S. Arizona (*Rothrock*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 401 $\frac{1}{2}$), without locality (*Hænke*, *Graham*, 69). Hb. Kew.

18. ***Conyza thesiifolia***, H. B. K. Nov. Gen. et Sp. iv. p. 75.

MEXICO ?

19. ***Conyza***, sp.

SOUTH MEXICO, Real del Monte (*Coulter*, 284, in part). Hb. Kew.

20. ***Conyza***, sp.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 424). Hb. Kew.

21. ***Conyza***, sp.

SOUTH MEXICO, Cañada (*Bilimek*, 586), without locality (*Bates*, 5). Hb. Kew.

54. BACCHARIS.

Baccharis, Linn. Gen. Plant. n. 949; Benth. et Hook. Gen. Plant. ii. p. 286.

An exclusively American genus, comprising about 275 shrubby and half-shrubby species, the majority inhabiting the tropics.

1. **Baccharis alamani**, DC. Prodr. v. p. 402.

MEXICO (*Alaman*).

Possibly the same as *B. cærulescens*.

2. **Baccharis angustifolia**, Michx. ? A. Gr. Pl. Lindh. ii. p. 224.

NORTH MEXICO, Sonora (*Schott, Bigelow*).

The true plant inhabits Eastern North America, from South Carolina to Florida and Louisiana.

3. **Baccharis asperula**, Schauer in Linnæa, xix. p. 725.

SOUTH MEXICO, Zimapan (*Aschenborn*).

4. **Baccharis bigelovii**, A. Gr. in Torr. Bot. Emory Exped. p. 84.

NORTH MEXICO, Sonora and the neighbouring country.

5. **Baccharis brachyphylla**, A. Gr. Pl. Wright. ii. p. 83.

NORTH MEXICO, between Conde's Camp and the Chiricahui Mountains (*Wright*).

6. **Baccharis cærulescens**, DC. Prodr. v. p. 402.

CALIFORNIA; NEW MEXICO; TEXAS.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 409), around Matamoras (*Berlandier*), Zacatecas (*Coulter*, 289); SOUTH MEXICO, valley of Mexico, Pedregal (*Bourgeau*, 386, 387), Santa Barbara (*Liebmann*, 61), Orizaba (*Bilimek*, 556; *Müller*, 1684), Cordillera of Oaxaca, at 7000 feet (*Galeotti*, 2115), Leon (*Hartweg*, 139), Yavezia and Tehuacan (*Liebmann*, 60, 62). Hb. Kew.

7. **Baccharis conferta**, H. B. K. Nov. Gen. et Sp. iv. p. 55.

Baccharis xalapensis, H. B. K. Nov. Gen. et Sp. iv. p. 56?

Baccharis cuneata, DC. Prodr. v. p. 408.

Conyza tricuneata, Willd. Sp. Pl. iii. p. 1946.

SOUTH MEXICO, near Cuernavaca and Jalapa, 4000 to 5000 feet (*Humboldt & Bonpland*), between Pachuca and Real del Monte (*Graham*), woods, Real del Monte, at 8000 feet (*Galeotti*, 2389), Jalapa (*Linden*, 479), Orizaba (*Botteri*, 947), valley of Mexico (*Bourgeau*, 173), Huatusco (*Liebmann*, 102), without localities (*Gregg, Alaman, Mairet*). Hb. Kew.

8. **Baccharis congesta**, DC. Prodr. v. p. 410.

SOUTH MEXICO, Real del Monte (*Hænke*).

9. **Baccharis divergens**, DC. Prodr. v. p. 400.

MEXICO (*Hænke*).

10. **Baccharis elegans**, H. B. K. Nov. Gen. et Sp. iv. p. 60, t. 324.
MEXICO? (*Humboldt & Bonpland*).

Var. **seemannii**, Sch. Bip. in Seem. Bot. Voy. 'Herald,' p. 303.
NORTH MEXICO, Sierra Madre (*Seemann*, 2015). Hb. Kew.

11. **Baccharis emoryi**, A. Gr. in Torr. Bot. Emory Exped. p. 83.
CALIFORNIA.—NORTH MEXICO, along the Gila.

12. **Baccharis hænkei**, DC. Prodr. v. p. 401.
SOUTH MEXICO, around Real del Monte (*Hænke*).

13. **Baccharis heterophylla**, H. B. K. Nov. Gen. et Sp. iv. p. 62.
NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 405),
Sierra Madre (*Seemann*, 1996); SOUTH MEXICO, valley of Mexico (*Bourgeau*, 169), Tacu-
baya (*Bourgeau*, 173, 175), Chalco (*Schaffner*), Misteca Alta, 7000 to 9000 feet (*Galeotti*,
2138), near Guanajuato, 7200 feet (*Humboldt & Bonpland*). Hb. Kew.

14. **Baccharis hieraciifolia**, Hemsley, n. sp.
Herbacea, habitu foliisque *Hieracii tridentati*, ramis apteris, foliis ovato-lanceolatis penninerviis
remotiuscule calloso-dentatis, capitulis laxe corymbosis, involucri bracteis, 3-4-seriatis lineari-
lanceolatis, stylis florum sterilibus alte bifidis longe exsertis, acheniis immaturis puberulis.
Herba erecta, 1-2-pedalis, caulibus teretibus, glutinoso-puberulis, apice tantum ramosis. *Folia*
(caulina tantum visa) alterna, petiolata vel subsessilia, tenuia, ovato-lanceolata, 2-4-pollicaria,
superiora gradatim angustiora et breviora, utrinque attenuata, acuta, remotiuscule calloso-
dentata, supra scabrida, subtus præsertim in nerviis venisque pilosula, penninervia, venis dense
reticulatis. *Capitula* omnia laxe corymbosa, multiflora, ♀ paullo minora; involucri bractæ
3-4-seriatæ, leviter glutinoso-puberulæ, lineari-lanceolatæ, obtusiusculæ, margine scariosæ,
apice rubræ; receptaculum nudum. *Flores* ♂ steriles; corolla puberula; antheræ exsertæ;
stylus alte bifidus, longe exsertus, sat puberulus; pappi setæ elongatæ, uniseriatæ, scabridæ.
Flores ♀ minores; corolla filiformis (fl. 3-4 centrales corollis latioribus 5-fidis, staminodiis non-
nullis inclusis). *Achenia* immatura parcissime puberula; pappus uniseriatus.

SOUTH MEXICO, Desierto Viejo, valley of Mexico (*Bourgeau*, 951, 1230). Hb. Kew.

This species is intermediate between *Conyza* and *Baccharis*, approaching very closely
Conyza rivularis, Gard., a Brazilian species. In some of the specimens all the flowers
are hermaphrodite, with exserted stamens and very long styles; in others all are female,
with filiform corollas, except three or four central ones, which have broader-lobed corollas
and included, apparently barren, stamens or staminodia.

15. **Baccharis hirtella**, DC. Prodr. v. p. 418.

SOUTH MEXICO, Orizaba (*Botteri*, 490, 1144, 1170; *Bilimek*, 516; *Bourgeau*, 2993),
valley of Cordova and San Nicolas (*Bourgeau*, 955, 1637), Consoquitla (*Liebmann*, 52).
Hb. Kew.

16. **Baccharis lancifolia**, Less. in Linnæa, ix. p. 266.

SOUTH MEXICO, near Jalapa (*Schiede & Deppe*).

BIOL. CENT.-AMER., Bot. Vol. II., June 1881.

17. **Baccharis linifolia**, DC. Prodr. v. p. 420.
SOUTH MEXICO, Real del Monte (*Hænke*).
18. **Baccharis longifolia**, DC. Prodr. v. p. 402.
SOUTH MEXICO, around the city of Mexico (*Berlandier*, 624, 653).
19. **Baccharis micrantha**, H. B. K. Nov. Gen. et Sp. iv. p. 60.
SOUTH MEXICO, near Guanajuato, 6400 feet (*Humboldt & Bonpland*).
20. **Baccharis mucronata**, H. B. K. Nov. Gen. et Sp. iv. p. 60, nec Hook. et Arn.
Pluchea floribunda, Hemsl. Diag. Pl. Nov. pars altera, p. 32.
NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 338, 339); SOUTH MEXICO, Orizaba (*Botteri*, 1106, 1114, 1139), valley of Mexico (*Schaffner*, 287; *Bourgeau*, 969, 1096), Mirador (*Linden*, 1171), savannas at 3000 feet, Vera Cruz (*Galeotti*, 2308), Chiapas (*Ghiesbreght*, 524), Cumbre de Estepa (*Liebmann*, 56).
Hb. Kew.
21. **Baccharis multiflora**, H. B. K. Nov. Gen. et Sp. iv. p. 59.
SOUTH MEXICO, Tianguillo and Toluca, 9000 feet (*Humboldt & Bonpland*), around the city of Mexico (*Berlandier*, 900).
22. **Baccharis nervosa**, DC. Prodr. v. p. 399.
COSTA RICA, Aguacate and Pacaca (*Ersted*), Turrialba (*Polakowsky*).—GUADALOUPE; TRINIDAD. Hb. Kew.
23. **Baccharis orizabaensis**, Schz. Bip. in herb. Liebm. n. 353.
SOUTH MEXICO, Peak of Orizaba, at 6000 feet (*Linden*, 1133; *Liebmann*, 353).
Hb. Kew.
24. **Baccharis parviflora**, Less. in Linnæa, v. p. 146.
SOUTH MEXICO, Hacienda de la Laguna (*Schiede & Deppe*).
25. **Baccharis polygalæfolia**, H. B. K. Nov. Gen. et Sp. iv. p. 49.
SOUTH MEXICO, near Moran, 7800 to 9600 feet (*Humboldt & Bonpland*).—Also in PERU, and Monte Video?
26. **Baccharis potosina**, A. Gr. in Proc. Am. Acad. xv. p. 33.
NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 410).
Hb. Kew.
27. **Baccharis ptarmicæfolia**, DC. Prodr. v. p. 419.
NEW MEXICO.—NORTH MEXICO, Sonora (*Wright*), Sierra Madre (*Seemann*, 2009), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 406); SOUTH MEXICO, San Gerónimo (*Bourgeau*, 606). Hb. Kew.

28. **Baccharis pteronioides**, DC. Prodr. v. p. 410.

SOUTH MEXICO, between Tampico and Real del Monte (*Berlandier*, 398), Toluca (*Andrieux*, 272), Tacubaya (*Bourgeau*, 168, 174), without locality (*Graham*, 38). Hb. Kew.

29. **Baccharis ramiflora**, A. Gr. in Proc. Am. Acad. xv. p. 33.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 404, 412). Hb. Kew.

30. **Baccharis ramulosa**, A. Gr. Pl. Thurb. p. 301; et in Torr. Bot. Mex. & U.S. Bound. Surv. p. 84.

Aplopappus (*Aplodiscus*) *ramulosus*, DC. Prodr. v. p. 350.

Linosyris (*Aplodiscus*) *ramulosa*, A. Gr. Pl. Wright. i. p. 97, et ii. p. 80.

NEW MEXICO.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 377); SOUTH MEXICO, Orizaba (*Botteri*, 1130). Hb. Kew.

31. **Baccharis rhexioides**, H. B. K. Nov. Gen. et Sp. iv. p. 66.

SOUTH MEXICO, Mirador (*Liebmann*, 106), Jalapa (*Linden*, 460), Cordillera of Vera Cruz (*Galeotti*, 2223), valley of Cordova (*Bourgeau*, 1849), Pital and Santa Barbara (*Liebmann*, 104, 105), Orizaba (*Botteri*, 1086, 1039, 1089, 1090); GUATEMALA, near Coban, 4400 feet (*Türckheim*, 389); NICARAGUA, Chontales (*Tate*, 209; *Seemann*, 101); COSTA RICA, Aguacate (*Ersted*, 38, 55); PANAMA, Chagres (*Fendler*, 156, 161).—A common species southward to PERU and BRAZIL. Hb. Kew.

32. **Baccharis scandens**, Less. in Linnæa, v. p. 146.

SOUTH MEXICO, San Nicolas (*Bourgeau*, 955); COSTA RICA? (*Ersted*, 42, 43). Hb. Kew.

This may be different from *B. scandens*, Persoon, a Peruvian plant.

33. **Baccharis seemanni**, A. Gr. in Proc. Am. Acad. xv. p. 33.

Baccharis wrightii, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 303, non A. Gr.

NORTH MEXICO, Sierra Madre (*Seemann*, 1995), San Luis Potosi (*Parry & Palmer*, 411). Hb. Kew.

34. **Baccharis sergiloides**, A. Gr. in Torr. Bot. Emory Exped. p. 83.

CALIFORNIA.—NORTH AMERICA, along the Gila (*Emory Exped.*), Camp Grant to Camp Bowie (*Rothrock*).

35. **Baccharis serræfolia**, DC. Prodr. v. p. 403.

SOUTH MEXICO, Mirador (*Liebmann*, 53), ravines near Jalapa, at 3000 feet (*Galeotti*, 2239), Vera Cruz (*Linden*, 1189), Orizaba (*Botteri*, 1111, 1173, 1174). Hb. Kew.

36. **Baccharis serratifolia**, H. B. K. Nov. Gen. et Sp. iv. p. 59.

SOUTH MEXICO, near Guanajuato, 7400 feet (*Humboldt & Bonpland*).

37. **Baccharis sordescens**, DC. Prodr. v. p. 405.
MEXICO (*Hænke*); NORTH MEXICO?, San Luis Potosi to Tampico (*Palmer*, 1094).
Hb. Kew.
38. **Baccharis spathulata**, Schauer in Linnæa, xix. p. 724.
MEXICO (*Aschenborn*).
39. **Baccharis squarrosa**, H. B. K. Nov. Gen. et Sp. iv. p. 67.
SOUTH MEXICO, dry hills near Guanajuato (*Humboldt & Bonpland*).
40. **Baccharis sulcata**, DC. Prodr. v. p. 400.
MEXICO (*Hænke*).
41. **Baccharis texana**, A. Gr. Pl. Fendl. p. 75, adnot.
Linosyris texana, Torr. et Gr. Fl. N. Amer. ii. p. 232.
TEXAS.—NORTH MEXICO, around the town of Matamoros (*Berlandier*, 2332).
Hb. Kew.
42. **Baccharis thesioides**, H. B. K. Nov. Gen. et Sp. iv. p. 61.
SOUTH MEXICO, Santa Rosa, at about 8000 feet (*Humboldt & Bonpland*).
43. **Baccharis trichoclada**, DC. Prodr. v. p. 400.
MEXICO (*Hænke*).
44. **Baccharis vaccinioides**, H. B. K. Nov. Gen. et Sp. iv. p. 50.
SOUTH MEXICO, near Moran, 7000 feet (*Humboldt & Bonpland*).
45. **Baccharis wrightii**, A. Gr. Pl. Wright. i. p. 101.
NORTH MEXICO, Chihuahua (*Wright*). Hb. Kew.
Var. **pyrrhopappa**, A. Gr. Pl. Wright. ii. p. 84.
NORTH MEXICO, near Mapimi (*Gregg*). Hb. Kew.
46. **Baccharis**, sp.
SOUTH MEXICO, valley of Mexico, Montezuma (*Bourgeau*, 1212, 1093, 1094, 1095),
without locality (*Bates*). Hb. Kew.
47. **Baccharis**, sp.
SOUTH MEXICO, Peak of Orizaba, 7000 feet (*Linden*, 1132). Hb. Kew.

Tribe IV. INULOIDEÆ.

Inuloideæ, Benth. et Hook. Gen. Plant. ii. pp. 166, 180.

One hundred and forty-two genera belong to this tribe, which has nearly the same range as the order; but the genera and species are especially numerous in South Africa and Australia, where they form a conspicuous feature of the flora. The Old World numbers about 950 species as against 150 in America.

55. PLUCHEA.

Pluchea, Cass. in Bull. Philom. 1817; Benth. et Hook. Gen. Plant. ii. p. 290.

Shrubs, undershrubs, or, rarely, herbs. About thirty species, inhabiting the warmer regions of America, Africa, Asia, and Australia.

1. *Pluchea auriculata*, Hemsley, Diag. Pl. Nov. pars altera, p. 32.

Caulibus vel ramis subsimplicibus crassiusculis sulcatis strigosis, foliis sessilibus lanceolatis vel oblongis mucronatis calloso-serratis basi auriculatis scabridis, capitulis paucis grandiusculis pedunculatis, involucri bracteis linearibus acutis pluriseriatis scabridis, floribus numerosissimis, pappo corollæ æquilongo, acheniis pubescentibus.

Herba (?) perennis, caulibus vel ramis subsimplicibus, crassiusculis, sulcatis, strigosis. *Folia* caulina sessilia, lanceolato-oblonga, 2-3-pollicaria, mucronata, calloso-serrata, supra scabrida, subtus strigilloso-pubescentia, basi auriculata, auriculis amplexicaulibus. *Capitula* pauca, pedunculata, 6-8 lin. vel ultra diametro; involucri bracteæ lineari-elongatæ, acutæ, pluriseriatæ, scabridæ. *Flores* numerosissimi; pappus corollæ æquilongus. *Achenia* compressa, angulata, pubescentia.—*Pluchea subdecurrens*, Benth. Pl. Hartw. p. 17, nec Cass.

SOUTH MEXICO, Guanajuato (*Hartweg*). Hb. Kew.

2. *Pluchea cortesii*, DC. Prodr. v. p. 452.

Conyza cortesii, H. B. K. Nov. Gen. et Sp. iv. p. 75.

SOUTH MEXICO, near the city of Mexico (*Humboldt & Bonpland*).

✓ 3. *Pluchea odorata*, Cass. Dict. xlii. p. 3; DC. Prodr. v. p. 452.

Conyza odorata, Linn. Sp. Pl. p. 1208.

FLORIDA; BERMUDAS.—NORTH MEXICO (*Berlandier*); SOUTH MEXICO, Orizaba (*Botteri*, 1083), valley of Cordova (*Bourgeau*, 1796), Sierra San Pedro Nolasco &c. (*Jurgensen*); NICARAGUA, Chontales (*Tate*, 146), without locality (*Ersted*, 167).—North part of SOUTH AMERICA and the WEST INDIES. Hb. Kew.

4. *Pluchea purpurascens*, DC. Prodr. v. p. 452.

Conyza purpurascens, Sw. Fl. Ind. Occ. p. 1342.

LOUISIANA.—MEXICO, La Antigua, Vera Cruz (*Galeotti*, 2268), Santiago Estato (*Liebmann*, 59), Yucatan and Tabasco (*Johnson*, 22). Hb. Kew.

5. *Pluchea subdecurrens*, Cass. Dict. xlii. p. 4; DC. Prodr. v. p. 450.

SOUTH MEXICO, between Istla and Acaistla (*Humboldt & Bonpland*), near Tantoyuca (*Ervendberg*, 343), Colipa (*Liebmann*, 432), pine-forests, Chiapas (*Linden*, 427), without locality (*Parkinson*, 3). Hb. Kew.

56. TESSARIA.

Tessaria, Ruiz et Pav. Prodr. Fl. Peruv. p. 112, t. 24; Benth. et Hook. Gen. Plant. ii. p. 291.

About five shrubby species, inhabiting Western America, from California to Chili.

1. **Tessaria borealis**, Torr. & Gray, Bot. Emory Rep. p. 143 ; Sitgreave's Rep. t. 5.

CALIFORNIA ; NEW MEXICO.—NORTH MEXICO, Sonora.

57. EPALTES.

Epaltes, Cass. Dict. xv. p. 6 ; Benth. et Hook. Gen. Plant. ii. p. 293.

About ten herbaceous species, inhabiting the warmer regions of America, Africa, Asia, and Australia.

1. **Epaltes mexicana**, Less. in Linnæa, v. p. 147 ; DC. Prodr. v. p. 462.

Pachythelia mexicana, Steetz in Pet. Mossamb. Bot. p. 454.

SOUTH MEXICO, near Vera Cruz (*Schiede & Deppe*).

58. CHIONOLÆNA.

Chionolæna, DC. Prodr. v. p. 397 ; Benth. et Hook. Gen. Plant. ii. p. 302.

Besides the following, there are two half-shrubby Brazilian species.

1. **Chionolæna corymbosa**, Hemsley, Diag. Pl. Nov. pars altera, p. 32. (Tab. XL. figg. 1-9.)

Gnaphalium seemanni, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 309.

NORTH MEXICO, Sierra Madre (*Seemann*, 1994). Hb. Kew.

We have followed Bentham and Hooker in referring this plant hither, though it would probably be better placed in *Gnaphalium*. Unfortunately we had overlooked Schultz's description of it until after the plate was printed off, under the present name.

EXPLANATION OF TAB. XL. FIGG. 1-9.

Fig. 1, portion of a plant, natural size ; 2, an hermaphrodite flower ; 3, a bristle of its pappus ; 4, an anther ; 5, portion of style with stigma ; 6, an involucre bract ; 7, a sterile flower ; 8, its style ; 9, a bristle of its pappus : all enlarged.

2. **Chionolæna lavandulaceum**, Benth. et Hook. Gen. Plant. ii. p. 302.

Elichrysum lavandulæfolium, H. B. K. Nov. Gen. et Sp. iv. p. 86, non DC.

Gnaphalium lavandulaceum, DC. Prodr. vi. p. 227.

SOUTH MEXICO, Peak of Orizaba, at 14,000 to 15,000 feet (*Liebmann*, 307), at 12,500 feet (*Galeotti*, 2152), at the limits of vegetation (*Linden*, 1135) ; COSTA RICA, Volcan de Irazu, at 11,000 feet (*Ersted*, 278). Hb. Kew.

59. MICROPUS.

Micropus, Linn. Gen. Plant. n. 996 ; Benth. et Hook. Gen. Plant. ii. p. 297.

About six species of annual herbs, inhabiting Europe, Asia, and North America.

1. **Micropus grayana**, Hemsley.

Stylocline micropoides, A. Gr. Pl. Wright. ii. p. 84.

Southern UTAH and CALIFORNIA to TEXAS.—NORTH MEXICO, Fronteras (*Wright*, 1405). Hb. Kew.

60. DIAPERIA.

Diaperia, Nutt. in Trans. Amer. Phil. Soc. ser. 2, vii. p. 337; Benth. et Hook. Gen. Plant. ii. p. 298.

The genus is restricted to North America, and comprises four herbaceous species.

1. **Diaperia multicaulis**, Benth. et Hook. Gen. Plant. ii. p. 298.

Filaginopsis multicaulis, Torr. & Gray, Fl. N. Am. ii. p. 263.

TEXAS.—NORTH MEXICO, Chihuahua (ex *Torrey*).

61. ACHYROCLINE.

Achyrocline, Less. Synop. Comp. p. 332; Benth. et Hook. Gen. Plant. ii. p. 305.

About sixteen half-shrubby species, inhabiting Tropical America from Mexico to Brazil, Tropical Africa, and Madagascar.

1. **Achyrocline ventosa**, Klatt in Linnæa, xlii. p. 112.

SOUTH MEXICO, Cerro Ventoso (*Ehrenberg*, 577).

2. **Achyrocline**, sp.

SOUTH MEXICO, Orizaba (*Botteri*, 1145). Hb. Kew.

62. GNAPHALIUM.

Gnaphalium, Linn. Gen. Plant. n. 946, pro parte; Benth. et Hook. Gen. Plant. ii. p. 305.

About 100 herbaceous and half-shrubby species, dispersed nearly all over the world in temperate and cold regions. The Mexican species are much in need of revision.

1. **Gnaphalium americanum**, Mill. Dict. n. 17; DC. Prodr. vi. p. 234.

SOUTH MEXICO, between Tampico and Real del Monte (*Berlandier*, 310), valley of Mexico (*Bourgeau*).—SAN DOMINGO; BRAZIL. Hb. Kew.

Klatt (Linnæa, xlii. p. 140) treats this and *G. spicatum*, Lam., *G. sphacelatum*, H. B. K., *G. chamissonis*, DC., and *G. simplicicaule*, Willd., as varieties of *G. purpureum*, L.

2. **Gnaphalium attenuatum**, DC. Prodr. vi. p. 228.

SOUTH MEXICO, around Tampico (*Berlandier*, 70), fields near Jalapa, at 4000 feet (*Galeotti*, 2259), Orizaba (*Botteri*, 1150), without locality (*Sallé*); NICARAGUA, Volcan el Viejo (*Ersted*, 258). Hb. Kew.

3. **Gnaphalium berlandieri**, DC. Prodr. vi. p. 223.
TEXAS.—MEXICO, around the city of Mexico (*Berlandier*, 471), Colipa and Huatusco (*Liebmann*, 309, 327). Hb. Kew.
4. **Gnaphalium brachypterum**, DC. Prodr. vi. p. 226.
MEXICO, around Victoria (*Berlandier*); NICARAGUA, Volcan el Viejo (*Ersted*, 262, 263). Hb. Kew.
5. **Gnaphalium canescens**, DC. Prodr. vi. p. 228.
NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 419); SOUTH MEXICO, Leon, Jalisco (*Mendez*). Hb. Kew.
6. **Gnaphalium concinnum**, A. Gr. in Proc. Am. Acad. xv. p. 34.
NORTH MEXICO, in the highest mountains south-east of San Luis Potosi (*Parry & Palmer*, 423). Hb. Kew.
7. **Gnaphalium conoideum**, H. B. K. Nov. Gen. et Sp. iv. p. 85, non Lam. ; DC. Prodr. vi. p. 233.
SOUTH MEXICO, near the city of Mexico, at about 7000 feet (*Humboldt & Bonpland*).
8. **Gnaphalium ehrenbergianum**, Schz. Bip., ex Klatt in Linnæa, xlii. p. 127.
SOUTH MEXICO, near Zamaltepan (*Ehrenberg*, 24).
9. **Gnaphalium gracile**, H. B. K. Nov. Gen. et Sp. iv. p. 83.
NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 414); SOUTH MEXICO, near Guanajuato, at 6600 feet (*Humboldt & Bonpland*). Hb. Kew.
10. **Gnaphalium heteroides**, Klatt in Linnæa, xlii. p. 137.
MEXICO (*Ehrenberg*, 972).
11. **Gnaphalium hirtum**, H. B. K. Nov. Gen. et Sp. iv. p. 82.
SOUTH MEXICO, peak of Chapultepec, at about 7000 feet (*Humboldt & Bonpland*).
12. **Gnaphalium inornatum**, DC. Prodr. vi. p. 225.
SOUTH MEXICO, Las Cruces, valley of Mexico, between Tampico and Real del Monte, and Guchilaca (*Berlandier*, 1195, 740, 1146, 309), in fields, Anganguio (*Hartweg*, 314). Hb. Kew.
13. **Gnaphalium leptophyllum**, DC. Prodr. vi. p. 226.
NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 418, 422); SOUTH MEXICO, Vera Cruz to Orizaba (*Müller*, 178), valley of Mexico (*Bourgeau*, 506), without localities (*Graham*, 68 ; *Coulter*, 450). Hb. Kew.
14. **Gnaphalium leucocephalum**, A. Gr. Pl. Wright. ii. p. 99.
NORTH MEXICO, Sonora (*Wright, Thurber*). Hb. Kew.
15. **Gnaphalium luteo-album**, L. Sp. Pl. p. 1196 ; DC. Prodr. vi. p. 230.
NORTH MEXICO, Sonora ; SOUTH MEXICO, Tepic (*Sinclair*), valley of Mexico (*Bourgeau*); NICARAGUA, Realejo (*Sinclair*).—Found in nearly all warm countries. Hb. Kew.

16. **Gnaphalium oxyphyllum**, DC. Prodr. vi. p. 225.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 417); SOUTH MEXICO, around Villalpando (*Mendez*). Hb. Kew.

✓ **β. semilanatum**, DC. Prodr. vi. p. 225.

SOUTH MEXICO, around Villalpando (*Mendez*); COSTA RICA, Candelaria Mountains (*Ersted*, 277). Hb. Kew.

17. **Gnaphalium polycephalum**, Michx. Fl. Bor.-Am. ii. p. 127; DC. Prodr. vi. p. 227.

CANADA southward to TEXAS and—NORTH MEXICO, Sierra Madre (*Seemann*, 1993); SOUTH MEXICO, Orizaba (*Botteri*, 1148, 1149; *Müller*, 1802), without localities (*Parkinson*, *Sallé*), Jalapa (*Coulter*, 452), Zacuapan (*Linden*, 1200). Hb. Kew.

18. **Gnaphalium purpurascens**, DC. Prodr. vi. p. 225.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 415); SOUTH MEXICO, Zimapan (*Coulter*, 454), without localities (*Mairet*, *Shepherd*). Hb. Kew.

19. **Gnaphalium rhodanthum**, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 310.

SOUTH MEXICO, pine-forests of Titotola (*Linden*, 437), Toluca (*Andrieux*, 276), Vera Cruz to Orizaba (*Müller*, 1290), Cordillera of Oaxaca, at 9500 feet (*Galeotti*, 2188), Sierra San Pedro Nolasco &c. (*Jurgensen*, 377). Hb. Kew.

✓ 20. **Gnaphalium roseum**, H. B. K. Nov. Gen. et Sp. iv. p. 81; DC. Prodr. vi. p. 229.

SOUTH MEXICO, Guanajuato, at 6400 feet (*Humboldt & Bonpland*), valley of Mexico (*Bourgeau*, 505); COSTA RICA, Cartago and Volcan de Irazu, at 11,000 feet (*Ersted*, 271, 272, 274, 275, 279, 280). Hb. Kew.

21. **Gnaphalium schraderi**, DC. Prodr. vi. p. 225.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 417½); SOUTH MEXICO, without locality (*Aschenborn*, 399); GUATEMALA, Volcan de Fuego, 10,000 to 11,000 feet (*Salvin*). Hb. Kew.

22. **Gnaphalium semiamplexicaule**, DC. Prodr. vi. p. 228.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 416, 421), between Vittoria and Tula (*Berlandier*, 2188); SOUTH MEXICO, valley of Mexico (*Bourgeau*, 505). Hb. Kew.

23. **Gnaphalium sphacelatum**, H. B. K. Nov. Gen. et Sp. iv. p. 86.**α. legitimum**, DC. Prodr. vi. p. 234.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 426); SOUTH MEXICO, between the city of Mexico and Huehuetoque, at about 7000 feet (*Humboldt & Bonpland*). Hb. Kew.

β. **rectum**, DC. Prodr. vi. p. 234.

SOUTH MEXICO, around the city of Mexico (*Alaman, Mairet*).

√ 24. **Gnaphalium spicatum**, Lam. Dict. ii. p. 757; DC. Prodr. vi. p. 232.

LOUISIANA?, TEXAS.—MEXICO, Chinantla (*Liebmann, 318*), near Santa Fé (*Bourgeau, 389, 390*), without locality (*Coulter, 456*); GUATEMALA, without locality (*Bernoulli, 260*); near Coban, at 4400 feet (*Türckheim, 380*); COSTA RICA, Chinotega, Volcan de Irazu, &c., 3500 to 7000 feet (*Ersted*); PANAMA, Boquete (*Seemann, 1133*).—Southward to PATAGONIA and the FALKLAND ISLANDS. Hb. Kew.

√ 25. **Gnaphalium sprengelii**, Hook. et Arn. Bot. Beech. Voy. p. 150; Benth. in Vidensk. Meddel. 1852, p. 104.

CALIFORNIA, TEXAS.—NORTH MEXICO, Sonora; NICARAGUA, summit of Volcan el Viejo, and at Chinotega, Segovia (*Ersted*). Hb. Kew.

26. **Gnaphalium stramineum**, H. B. K. Nov. Gen. et Sp. iv. p. 85; DC. Prodr. vi. p. 230.

NORTH MEXICO, Chihuahua (*Potts*); SOUTH MEXICO, between Moran and Omitlan, 7800 feet (*Humboldt & Bonpland*). Hb. Kew.

27. **Gnaphalium tenue**, H. B. K. Nov. Gen. et Sp. iv. p. 83; DC. Prodr. vi. p. 223.

MEXICO?

28. **Gnaphalium viscosum**, H. B. K. Nov. Gen. et Sp. iv. p. 82; DC. Prodr. vi. p. 224.

SOUTH MEXICO, Chapultepec, at 7000 feet (*Humboldt & Bonpland*).

Some of the following unnamed species are very distinct and probably undescribed.

29. **Gnaphalium**, sp.

MEXICO, without locality (*Sallé*). Hb. Kew.

30. **Gnaphalium**, sp.

SOUTH MEXICO, Real del Monte (*Coulter, 450*). Hb. Kew.

31. **Gnaphalium**, sp.

SOUTH MEXICO, peak of Orizaba, at 11000 feet (*Linden, 1124; Galeotti, 2155*), Real del Monte (*Coulter, 451*). Hb. Kew.

√ 32. **Gnaphalium**, sp.

GUATEMALA, summit of Volcan de Agua (*Salvin & Godman, 257, 315*). Hb. Kew.

33. **Gnaphalium**, sp.

SOUTH MEXICO, Santa Fé (*Bourgeau, 1075*). Hb. Kew.

34. **Gnaphalium**, sp.

SOUTH MEXICO, alpine region of the Desierto Viejo (*Bourgeau, 827*). Hb. Kew.

35. **Gnaphalium**, sp.MEXICO (*Mackenzie*). Hb. Kew.√ 36. **Gnaphalium**, sp.GUATEMALA, near Coban, at 4400 feet (*Türkheim*, 383). Hb. Kew.√ 37. **Gnaphalium**, sp.GUATEMALA, without locality (*Skinner*, 4, 25). Hb. Kew.38. **Gnaphalium**, sp.SOUTH MEXICO, forest of the Desierto Viejo (*Bourgeau*, 1225). Hb. Kew.39. **Gnaphalium**, sp.SOUTH MEXICO, valley of Cordova (*Bourgeau*, 1852). Hb. Kew.40. **Gnaphalium**, sp.SOUTH MEXICO, San Cristobal, Orizaba (*Bourgeau*, 3097; *Botteri*, 1146, 1147). Hb. Kew.

Tribe V. HELIANTHOIDEÆ.

Helianthoideæ, Benth. et Hook. Gen. Plant. ii. pp. 166, 189.

This tribe is represented in nearly all tropical countries; but out of 138 genera, 125 are represented in America, and 107 of these are there endemic. Altogether there are nearly 1000 species in America.

63. LAGASCEA.

Lagascea, Cav. in Ann. Cienc. Nat. vi. p. 323, t. 44 (*Lagasca*), ex DC. Prodr. v. p. 91; Benth. et Hook. Gen. Plant. ii. p. 342.

Restricted, at present, to the following species, which are either herbs, half-shrubs, or shrubs.

1. **Lagascea angustifolia**, DC. Prodr. v. p. 92.

NORTH MEXICO, Sierra Madre (*Seemann*, 2058); SOUTH MEXICO, San Blas to Tepic (*Sinclair*), around Leon (*Mendez*). Hb. Kew.

2. **Lagascea biflora**, Hemsley, Diag. Pl. Nov. pars altera, p. 33. (Tab. XLIV. figg. 5-10.)

Foliis ovato-lanceolatis obscure denticulatis, capitulis numerosis aggregatis pedunculatis sæpissime bifloris, floribus glabris ex involucri villosulo longiuscule exsertis, pappi paleis æquilongis brevissime fimbriatis.

Frutex vel *suffrutex*, ramis graciliusculis, sulcatis, pubescentibus. *Folia* petiolata, ovato-lanceolata, superiora 1-2 poll. longa, obscure denticulata, supra scabridula, subtus pubescentia. *Capitula* pedunculata, numerosa, aggregata; involucri villosulo, sæpissime (an semper?) biflorum, subæqualiter dentatum, floribus triente brevius; flores glabri, leviter curvati, 6-8 lineas longi. *Achenia* hirsuta; pappi paleæ inter se æquilongæ, brevissime fimbriatæ.

MEXICO, without locality (*Parkinson*). Hb. Kew.

EXPLANATION OF TAB. XLIV. FIGG. 5-10.

Fig. 5, a portion of a plant, natural size; 6, a flower-head; 7, a flower removed from the involucre; 8, a corolla laid open; 9, a stamen; 10, a portion of the pappus: all enlarged.

3. **Lagascea decipiens**, Hemsley, Diag. Pl. Nov. pars altera, p. 33. (Tab. XLIV. figg. 1-4.)

Foliis late ovatis subtrinerviis distincte crenato-callosodentatis, capitulis numerosissimis aggregatis subsessilibus unifloris, floribus puberulis ex involucre villosa subæqualiter dentato vix exsertis, acheniis glabris, pappi paleis æquilongis longiuscule fimbriatis.

Frutex vel *suffrutex*, ramis leviter sulcatis, junioribus molliter albo-pubescentibus. *Folia* petiolata, late ovata, subtrinervia, 2-3-pollicaria, distincte crenato-callosodentata, acuminata, obtusiuscula, utrinque pubescentia, supra vix scabridula. *Capitula* numerosissima, aggregata, breviter pedunculata; involucre villosum, uniflorum, subæqualiter dentatum, floribus paullo brevius; flores minute puberuli, recti, 5-6 lineas longi. *Achenia* glabra; pappi paleæ inter se æquilongæ, longiuscule fimbriatæ.—*L. mollis*, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 298, nec Cav.

NORTH MEXICO, Sierra Madre (*Seemann*, 2056). Hb. Kew.

EXPLANATION OF TAB. XLIV. FIGG. 1-4.

Fig. 1, a portion of a plant, natural size; 2, a flower-head; 3, a flower; 4, a portion of the pappus: all enlarged.

This is very distinct from *L. mollis*, to which Schultz had referred it, being a more woody plant, with very differently shaped general involucre bracts &c.

4. **Lagascea heteropappus**, Hemsley, Diag. Pl. Nov. pars altera, p. 33.

Foliis ovato-oblongis acutis subtrinerviis supra scabridis subtus sericeo-villosis, capitulis aggregatis sessilibus unifloris, involucre inæqualiter dentato longe sericeo-villoso, quam flores pubescentes dimidio brevior, acheniis glabris, pappi paleis inter se valde dissimilibus.

Frutex vel *suffrutex*, ramis crassiusculis, leviter sulcatis, junioribus albo-villosis. *Folia* breviter petiolata, ovato-oblonga, 2-3-pollicaria, acutiuscula, integra vel denticulata, subtrinervia, supra scabrida, subtus molliter sericeo-villosa, alba. *Capitula* dense aggregata, sessilia, uniflora; involucre valde sericeo-villosum, inæqualiter dentatum, floribus dimidio brevius; flores pubescentes, corollæ tubo infra medium angusto. *Achenia* glabra; pappi paleæ inter se valde dissimiles, quarum 2 oppositæ, lineari-subulatæ et ceteris multoties longiores sunt, omnes hirsutæ.

MEXICO, without locality (*Parkinson*). Hb. Kew.

This species differs strikingly from the others in its relatively short involucre, and in two opposite scales of the pappus being much longer than the others.

5. **Lagascea moçiniana**, DC. Prodr. v. p. 92; Calques des Dess. Fl. Mex. 571. MEXICO (*Moçino*, *Hænke*).

6. **Lagascea mollis**, Cav. Ann. Cienc. Nat. vi. p. 333, t. 44; DC. Prodr. v. p. 91.

Lagascea kunthiana et *L. campestris*, Gard. in Hook. Lond. Journ. Bot. v. p. 238.

MEXICO; NICARAGUA, Segovia (*Ersted*).—CUBA, VENEZUELA, &c. to BRAZIL, and naturalized in the East Indies. Hb. Kew.

7. **Lagascea rubra**, H. B. K. Nov. Gen. et Sp. iv. p. 24, t. 311.

SOUTH MEXICO, valley of Mexico (*Bourgeau*, 1235; *Schaffner*, 293), Cuernavaca (*Bourgeau*, 1205), without localities (*Shepherd*, *Bates*). Hb. Kew.

8. **Lagascea suaveolens**, H. B. K. Nov. Gen. et Sp. iv. p. 24.

Lagascea helianthifolia, H. B. K. loc. cit.

Lagascea latifolia, DC. Prodr. v. p. 92.

Nocca latifolia, La Llav. et Lex. Nov. Veg. Descr. i. p. 31; Sweet, Brit. Fl. Gard. t. 215.

NORTH MEXICO, Sierra Madre (*Seemann*, 2059); SOUTH MEXICO, on the sea-coast near Acapulco (*Humboldt & Bonpland*), Orizaba (*Bourgeau*, 3342; *Botteri*, 1135), Mirador (*Linden*, 1161; *Liebmann*, 111), Cuernavaca (*Bilimek*, 521), valley of Cordova (*Bourgeau*, 1715), San Blas to Tepic (*Sinclair*), Cordillera of Oaxaca. Cordillera of Vera Cruz (*Galeotti*, 2129, 2213); GUATEMALA, Dueñas, 5000 feet (*Salvin*); NICARAGUA, Matagalpa, near Segovia (*Ersted*, 239). Hb. Kew.

64. ELVIRA.

Elvira, Cass. Dict. xxx. p. 67; Benth. et Hook. Gen. Plant. ii. p. 343.

Three species of annual herbs, two of which are restricted to the Galapagos Islands.

1. **Elvira biflora**, Cass. Dict. xxx. p. 67; DC. Prodr. v. p. 503.

Milleria biflora, Linn. Sp. Pl. p. 1301; Lam. Ill. t. 710. f. 1.

MEXICO (*Bates*); GUATEMALA, Cerro del Carmen (*Bernoulli*, 107), without localities (*Hartweg*, *Skinner*); COSTA RICA (*Endres*, *Ersted*).—Southward to PERU and BRAZIL and in CUBA. Hb. Kew.

65. STACHYCEPHALUM.

Stachycephalum, Sch. Bip.; Benth. in Hook. Ic. Pl. t. 1102; Benth. et Hook. Gen. Plant. ii. p. 344.

One herbaceous species.

1. **Stachycephalum mexicanum**, Schz. Bip., ex Benth. in Hook. Ic. Pl. t. 1102.

SOUTH MEXICO, Oaxaca (*Franco*).

66. MILLERIA.

Milleria, Linn. Gen. Plant. n. 985, pro parte; Benth. et Hook. Gen. Plant. ii. p. 344.

One herbaceous species:—

1. **Milleria quinqueflora**, Linn. Sp. Pl. p. 1301; DC. Prodr. v. p. 503.

Milleria dichotoma, Cav. Ic. i. t. 82.

Milleria glandulosa, DC. Prodr. v. p. 503.

SOUTH MEXICO, Vera Cruz (*Linden*, 1232); NICARAGUA, Granada (*Ersted*); PANAMA, Veraguas (*Seemann*).—COLOMBIA to PERU. Hb. Kew.

67. DESMANTHODIUM.

Desmanthodium, Benth. in Hook. Ic. Pl. t. 1116; Benth. et Hook. Gen. Plant. ii. p. 345.

Herbaceous plants, restricted to Mexico and Central America.

√ 1. **Desmanthodium guatemalense**, Hemsley, n. sp. (Tab. XLV.)

Arborescens, glabrescens, ramis ultimis glaucis crassiusculis, foliis amplis subsessilibus utrinque longe attenuatis, capitulorum glomerulis numerosis, floribus glabris hermaphroditis longe stipitatis corollis fœmineorum tubulosis apice irregulariter dentatis.

Arbor vel *herba arborescens*, ramis ultimis crassiusculis, teretibus, glaucis, internodiis quam folia brevioribus. *Folia* opposita, membranacea, subsessilia, ovato-lanceolata, usque ad 9-pollicaria, utrinque insigniter attenuata, calloso-denticulata, primum minutissime puberula sed cito glaberrima et nitida, subtriplinervia, subtus pallidiora. *Capitula* heterogama, discoidea, pauciflora, sessilia, glomerata; glomeruli ad 6-capitulati, cymoso paniculati; ramuli oppositi, basi bracteati, crassi, lineatim purpuracei, bracteis subscariosis, oblongis, striatis, 3-4 lineas longis instructi; involucri bracteæ 6-8, subscariosæ, late ovatæ, longitudinaliter striatæ, floribus longiores; flores glabri, hermaphroditi longe stipitati, fœmineorum corollæ omnino tubulosæ, apice irregulariter dentatæ vel ruptæ. *Achenia* matura non visa.

GUATEMALA, Volcan de Fuego, at 6000 feet (*Salvin*). Hb. Kew.

EXPLANATION OF TAB. XLV.

Fig. 1, an involucral bract; 2, a female flower enclosed in the bracteole; 3, the same divested of the bracteole; 4, an hermaphrodite flower; 5, a stamen, 6, a pistil, from the same; 7, an hermaphrodite flower on its stalk.

2. **Desmanthodium ovatum**, Benth. in Hook. Ic. Pl. sub tab. 1116.

SOUTH MEXICO, Cordillera of Oaxaca, 7000 to 8000 feet (*Galeotti*, 2081), Mt. San Felipe (*Andrieux*, 319). Hb. Kew.

3. **Desmanthodium perfoliatum**, Benth. in Hook. Ic. Pl. t. 1116.

SOUTH MEXICO, Cordillera of Oaxaca, 4500 feet (*Galeotti*, 2050). Hb. Kew.

68. CLIBADIUM.

Clibadium, Linn. Mant. p. 161; Benth. et Hook. Gen. Plant. ii. p. 345.

About fifteen herbaceous or half-shrubby species, peculiar to America.

√ 1. **Clibadium acuminatum**, Benth. Bot. Voy. 'Sulphur,' p. 114.

CENTRAL AMERICA, Cocos Island (*Barclay*). Hb. Kew.

√ 2. **Clibadium asperum**, DC. Prodr. v. p. 506.

Baillieria aspera, Aubl. Pl. Guian. ii. t. 317.

SOUTH MEXICO, Cordillera of Vera Cruz (*Galeotti*, 2269), Mirador (*Linden*, 725); GUATEMALA, Mazatenango (*Bernoulli*, 81); NICARAGUA, Rio San Juan (*Ersted*, 108). Hb. Kew.

✓ 3. **Clibadium leiocarpum**, Steetz in Seem. Bot. Voy. 'Herald,' p. 152.
PANAMA, Boquete (*Seemann*, 1591), Paraiso (*S. Hayes*, 401). Hb. Kew.

4. **Clibadium**, sp.
SOUTH MEXICO, Orizaba (*Botteri*, 924). Hb. Kew.

✓ 5. **Clibadium**, sp.
COSTA RICA (*Endres*, 90). Hb. Kew.

6. **Clibadium**, sp.
SOUTH MEXICO, rivulets at 3000 feet in the Cordillera of Vera Cruz (*Galeotti*, 2245).
Hb. Kew.

69. TRIGONOSPERMUM.

Trigonospermum, Less. Synop. Comp. p. 214; Benth. et Hook. Gen. Plant. ii. p. 346.

Herbs endemic in Mexico.

1. **Trigonospermum adenospermoides**, Less. Synop. Comp. p. 214, et in Linnæa, ix. p. 267.

SOUTH MEXICO, valley of Orizaba (*Bourgeau*, 2691; *Botteri*, 1189), Jalapa, 4000 feet (*Galeotti*, 4079). Hb. Kew.

2. **Trigonospermum melampodioides**, DC. Prodr. v. p. 509.

NORTH MEXICO, Sierra Madre (*Seemann*, 1983), region of San Louis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 432); SOUTH MEXICO, San Felipe, near Oaxaca (*Andrieux*, 320), Zacoalco (*Bourgeau*, 809). Hb. Kew.

70. POLYMNIA.

Polymnia, Linn. Gen. Plant. n. 987; Benth. et Hook. Gen. Plant. ii. p. 346.

An exclusively American genus of perennial herbs, shrubs, and trees, dispersed from Canada to Buenos Ayres.

1. **Polymnia aspera**, DC. Prodr. v. p. 515.

MEXICO (raised in Munich Botanic Garden from seeds brought home by *Keerl*).

✓ 2. **Polymnia maculata**, Cav. Ic. iii. p. 14, t. 227; DC. Prodr. v. p. 515.

SOUTH MEXICO, valley of Mexico, valley of Cordova, valley of Orizaba (*Bourgeau*, 514, 596, 1635, 2847), Jalapa, at 3000 feet (*Galeotti*, 2255), Jicaltepec (*Liebmann*, 305), Chiapas (*Ghiesbreght*, 106); GUATEMALA, Mazatenango (*Bernoulli*, 576); COSTA RICA (*Polakowsky*). Hb. Kew.

71. DICRANOCARPUS.

Dicranocarpus, A. Gr. in Mem. Amer. Acad. ser. 2, v. p. 322, et in Torr. Bot. Emory Exped. p. 85; Benth. et Hook. Gen. Plant. ii. p. 347.

Monotypical, annual.

1. **Dicranocarpus parviflorus**, A. Gr. in Mem. Amer. Acad. ser. 2, v. p. 322.
Heterospermum dicranocarpum, A. Gr. Pl. Wright. i. p. 109.
 NEW MEXICO; TEXAS.—NORTH MEXICO, San Carlos, Tamaulipas (*Parry*).

72. GUARDIOLA.

Guardiola, Humb. et Bonpl. Pl. Æquin. i. p. 143, t. 41; Benth. et Hook. Gen. Plant. ii. p. 347.

An exclusively Mexican and Central-American genus of herbs.

1. **Guardiola atriplicifolia**, A. Gr. Pl. Wright. i. p. 111.
 SOUTH MEXICO, near Morelia, at 7000 feet (*Galeotti*, 2418). Hb. Kew.
2. **Guardiola mexicana**, Humb. et Bonpl. Pl. Æquin. i. p. 144, t. 41.
 SOUTH MEXICO, Michoacan (*Humboldt & Bonpland*), Jalisco (*Beechey*), Cuernavaca (*Bourgeau*, 1213); COSTA RICA (*Ersted*). Hb. Kew.
3. **Guardiola platyphylla**, A. Gr. Pl. Wright. ii. p. 91.
 NORTH MEXICO, Sonora (*Thurber, Wright, Schott*). Hb. Kew.
4. **Guardiola tulocarpus**, A. Gr. Pl. Wright. i. p. 111.
Tulocarpus mexicanus, Hook. et Arn. Bot. Beech. Voy. p. 298, t. 63.
 SOUTH MEXICO, Tepic (*Lay & Collie*), between the city of Mexico and Mazatlan (*Gregg*).
 Hb. Kew.

73. BALTIMORA.

Baltimora, Linn. Mant. p. 158; Benth. et Hook. Gen. Plant. ii. p. 348.

Limited to the following annual species:—

1. **Baltimora recta**, Linn. Mant. p. 288.
Fougerouxia recta et alba, DC. Prodr. v. p. 510.
 MEXICO (ex *De Candolle*); NICARAGUA, Volcan el Viejo (*Ersted*); CENTRAL AMERICA,
 without locality (*Sinclair*). Hb. Kew.
2. **Baltimora scolopospermum**, Steetz in Seem. Bot. Voy. 'Herald,' p. 154.
Scolopospermum baltimoroides, Less. in Linnæa, v. p. 152, t. 2. figg. 19–31.
Scolopospermum fougerouxia, DC. Prodr. v. p. 509.
 NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 428).
- Var. **panamensis**, Steetz in Seem. Bot. Voy. 'Herald,' p. 154.
 PANAMA, near the city of Panama (*Seemann*; *S. Hayes*, 676).—Southward to
 PERU and BRAZIL. Hb. Kew.

74. MELAMPODIUM.

Melampodium, Linn. Gen. Plant. n. 989; Benth. et Hook. Gen. Plant. ii. p. 348.

An American genus of about eighteen herbaceous species.

1. **Melampodium achillæoides**, Hemsley.
Unxia achillæoides, Less. in Linnæa, v. p. 159.
 SOUTH MEXICO, Llanos de Perote (*Schiede & Deppe*).
2. **Melampodium americanum**, Linn. Sp. Pl. p. 1303; Reliq. Houst. p. 9, t. 21;
 DC. Prodr. v. p. 518.
 SOUTH MEXICO, Vera Cruz (*Houston*).
3. **Melampodium cinereum**, DC. Prodr. v. p. 519.
 NEW MEXICO; TEXAS.—NORTH MEXICO, Coahuila (*Berlandier*). Hb. Kew.
4. **Melampodium coronopifolium**, Schz. Bip. MSS.
 NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 444½);
 SOUTH MEXICO, near Tacubaya (*Schaffner*; *Bilimek*, 593). Hb. Kew.
 The accessible material is insufficient for description.
5. **Melampodium cupulatum**, A. Gr. in Proc. Am. Acad. viii. p. 291.
 NORTH MEXICO, Sonora (*Palmer*).
- ✓ 6. **Melampodium digynum**, Benth. et Hook. Gen. Plant. ii. p. 349.
Unxia digyna, Steetz in Seem. Bot. Voy. 'Herald,' p. 154, t. 30.
 PANAMA (*Seemann*, 46). Hb. Kew.
- ✓ 7. **Melampodium divaricatum**, DC. Prodr. v. p. 520.
Dysodium divaricatum, Rich. in Pers. Ench. ii. p. 489.
Melampodium paludosum, H. B. K. Nov. Gen. et Sp. iv. p. 215.
Alcina ovatifolia, Lag. Nov. Gen. et Sp. n. 403; Jacq. fil. Eclog. t. 78.
Melampodium ovatifolium, Rehb. Iconograph. Exot. t. 42.
 NORTH MEXICO, San Luis Potosi to Tampico (*Palmer*, 1101); SOUTH MEXICO, valleys
 of Cordova and Orizaba (*Bourgeau*, 1629, 1975, 1628, 2031, 2557), without locality
 (*Bates*); GUATEMALA, Chojoja, near Mazatenango (*Bernoulli*, 399); NICARAGUA, Granada
 and between Sapoa and Tortuga (*Ersted*, 145, 89); PANAMA, Empire railway-station
 (*S. Hayes*, 515), without locality (*Halsted*, *Seemann*, 54). Hb. Kew.
- ✓ 8. **Melampodium flaccidum**, Benth. in Vidensk. Meddel. 1852, p. 86.
 NICARAGUA, near Granada (*Ersted*, 78, 79, 117). Hb. Kew.
9. **Melampodium gracile**, Less. in Linnæa, vi. p. 407.
 SOUTH MEXICO, Papantla (*Schiede & Deppe*).
10. **Melampodium heterophyllum**, Lag. Nov. Gen. et Sp. p. 33; DC. Prodr.
 v. p. 518.
 NORTH MEXICO, San Luis Potosi to Tampico (*Palmer*, 1103); SOUTH MEXICO, Papantla
 (*Schiede*), near Tantoyuca and Tampico (*Berlandier*, 128, 2161), Cordova (*Botteri*,
 1126). Hb. Kew.

11. **Melampodium hispidum**, H. B. K. Nov. Gen. et Sp. iv. p. 273, t. 399.
 NEW MEXICO.—NORTH MEXICO, Sonora (*Wright*); SOUTH MEXICO, between Pazcuaro and Valladolid, at 6000 feet (*Humboldt & Bonpland*), near Tacubaya (*Schaffner*), without localities (*Mairet, Tate*). Hb. Kew.
12. **Melampodium kunthianum**, DC. Prodr. v. p. 519.
Melampodium sericeum, H. B. K. Nov. Gen. et Sp. iv. t. 398, non Lag.
 SOUTH MEXICO, between Tehuilotepic and Tasco, at 5300 feet (*Humboldt & Bonpland*).
13. **Melampodium linearilobum**, DC. Prodr. v. p. 518.
 SOUTH MEXICO, Guilotepec and Las Bocas (*Alaman*), near Vera Cruz, at 2500 feet (*Galeotti*, 2272). Hb. Kew.
14. **Melampodium longicorne**, A. Gr. Pl. Thurb. p. 321.
 NORTH MEXICO, Sonora (*Thurber*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 443½). Hb. Kew.
15. **Melampodium microcephalum**, Less. in Linnæa, ix. p. 268.
 SOUTH MEXICO, near Hacienda de la Laguna (*Schiede*).
16. **Melampodium montanum**, Benth. Pl. Hartw. p. 64.
 SOUTH MEXICO, on the Cumbre between La Sierra and Oaxaca (*Hartweg*), Cordillera of Oaxaca, 7000 to 9000 feet (*Galeotti*, 2133), Chiapas (*Ghiesbreght*, 174, 564). Hb. Kew.
17. **Melampodium oblongifolium**, DC. Prodr. v. p. 519.
 SOUTH MEXICO, near Tantoyuca (*Berlandier*, 2153).
18. **Melampodium perfoliatum**, H. B. K. Nov. Gen. et Sp. iv. p. 274; DC. Prodr. v. p. 520.
Alcina perfoliata, Cav. Ic. i. p. 10, t. 15.
 NORTH MEXICO, San Luis Potosi to Tampico (*Palmer*, 1110); SOUTH MEXICO, between Pazcuaro and Valladolid, 6000 feet (*Humboldt & Bonpland*), Real del Monte (*Coulter*, 327), Orizaba (*Sallé, Galeotti*, 2458), valley of Mexico and Tisapan (*Bourgeau*, 841, 151). Hb. Kew.
19. **Melampodium pumilum**, Benth. Pl. Hartw. p. 64.
 MEXICO (*Graham*). Hb. Kew.
20. **Melampodium rhomboideum**, DC. Prodr. v. p. 520.
 NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 444); SOUTH MEXICO, Guadalupe (*Bourgeau*, 808). Hb. Kew.
21. **Melampodium sericeum**, Lag. Elench. Hort. Matr. 1805; DC. Prodr. v. p. 518, non H. B. K.
 SOUTH MEXICO, Cordillera of Oaxaca, savannas at 3000 feet, and Orizaba (*Galeotti*,

2039, 1126); GUATEMALA, Santa Catarina (*Bernoulli*, 709); NICARAGUA, near Granada (*Ersted*, 74; *Lévy*, 176). Hb. Kew.

22. **Melampodium tenellum**, Hook. et Arn. Bot. Beech. Voy. p. 299.
SOUTH MEXICO, Acapulco (*Sinclair*). Hb. Kew.

✓ 23. **Melampodium**, sp.
GUATEMALA, Capetillo, Volcan de Fuego, 4600 feet (*Salvin*, 2). Hb. Kew.

✓ 24. **Melampodium**, sp.
GUATEMALA, Dueñas (*Salvin*, 1). Hb. Kew.

75. ACANTHOSPERMUM.

Acanthospermum, Schrank, Pl. Rar. Hort. Monac. t. 53, ex DC. Prodr. iv. p. 522; Benth. et Hook. Gen. Plant. ii. p. 349.

An exclusively Tropical-American genus of two annual species.

✓ 1. **Acanthospermum humile**, DC. Prodr. v. p. 522.

Melampodium humile, Swartz, Prodr. p. 114.

Centrospermum humile, Less. Synop. Comp. p. 217.

Acanthospermum hispidum, DC. loc. cit.?

NICARAGUA, neighbourhood of Granada (*Lévy*, 228); PANAMA, Chagres (*Fendler*, 171), without locality (*S. Hayes*, 198; *Seemann*, 296).—Widely dispersed in SOUTH AMERICA and the WEST INDIES. Hb. Kew.

76. BERLANDIERA.

Berlandiera, DC. Prodr. v. p. 517; Benth. et Hook. Gen. Plant. ii. p. 350.

Five herbaceous species, limited to Texas and Mexico.

1. **Berlandiera lyrata**, Benth. Pl. Hartw. p. 17.

NEW MEXICO; TEXAS.—NORTH MEXICO, Sonora (*Schott*), Chihuahua (*Gregg*); SOUTH MEXICO, Aguas Calientes (*Hartweg*). Hb. Kew.

77. LINDHEIMERA.

Lindheimera, A. Gr. et Engelm. in Journ. Bost. Nat. Hist. Soc. vi. p. 225; Benth. et Hook. Gen. Plant. ii. p. 351.

Two herbaceous species, one Mexican, the other Texan.

1. **Lindheimera mexicana**, A. Gr. in Proc. Amer. Acad. xv. p. 34.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 447); SOUTH MEXICO, valley of Mexico (*Schaffner*, 279). Hb. Kew.

78. ENGELMANNIA.

Engelmannia, Torr. & Gray, Fl. N. Amer. ii. p. 283, non Kl. nec Pfeiff.; Benth. et Hook. Gen. Plant. ii. p. 351.

An herbaceous monotype.

1. **Engelmannia pinnatifida**, Torr. & Gray, Fl. N. Amer. ii. p. 283; Torr. Bot. Marcy Exped. t. 11.

TEXAS.—NORTH MEXICO, Ojo Caliente, Chihuahua (*Thurber*), Buena Vista (*Gregg*). Hb. Kew.

79. PARTHENIUM.

Parthenium, Linn. Gen. Plant. n. 1058; Benth. et Hook. Gen. Plant. ii. p. 351.

About seven shrubby and herbaceous species, inhabiting North America, Mexico, and the West Indies.

1. **Parthenium argentatum**, A. Gr. in Torr. Bot. U.S. & Mex. Bound. Surv. p. 86.

TEXAS.—NORTH MEXICO, San Luis to San Antonio (*Parry*, 435). Hb. Kew.

We are not certain whether this was collected within our limits.

2. **Parthenium fruticosum**, Less. in Linnæa, v. p. 152; DC. Prodr. v. p. 532.

SOUTH MEXICO, Plan del Rio (*Schiede & Deppe*), Zacuapan (*Linden*, 477), Cordillera of Vera Cruz, in woods at 3000 feet (*Galeotti*, 2123). Hb. Kew.

3. **Parthenium hysterochorus**, Linn. Sp. Pl. p. 1402; DC. Prodr. v. p. 532.

Villanova bipinnatifida, Ort. Dec. p. 48, t. 6.

Argyrochæta bipinnatifida, Cav. Ic. iv. p. 54, t. 378.

LOUISIANA; TEXAS; NEW MEXICO.—NORTH MEXICO, near Parras and Buena Vista (*Gregg*), Monterey (*Eaton & Edwards*); SOUTH MEXICO, Mirador (*Linden*, 1145), region of Orizaba (*Bourgeau*, 2558; *Sallé*), valleys of Cordova and Mexico (*Bourgeau*, 1554, 391), Jalapa (*Coulter*, 400).—WEST INDIES and COLOMBIA to CHILI and URUGUAY; naturalized in India, Bourbon, Mauritius, &c. Hb. Kew.

4. **Parthenium incanum**, H. B. K. Nov. Gen. et Sp. iv. p. 260, t. 391; DC. Prodr. v. p. 532.

Parthenium ramosissimum, DC. Prodr. v. p. 532.

TEXAS.—NORTH MEXICO, San Luis Potosi (*Berlandier*, 1342), Camp Bowie (*Rothrock*), in various localities (*Gregg*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 434); SOUTH MEXICO, mountains around Mexico (*Berlandier*, 632). Hb. Kew.

5. **Parthenium tomentosum**, DC. Prodr. v. p. 532.

SOUTH MEXICO, between Oaxaca and Mitla (*Andrieux*, 281), Oaxaca, at 6000 feet (*Galeotti*, 2123). Hb. Kew.

80. AILOTHECA.

Ailotheca, DC. Prodr. v. p. 508; Benth. et Hook. Gen. Plant. ii. p. 352.

An herbaceous monotype.

1. ***Ailotheca parthenioides***, DC. Prodr. v. p. 508.

NORTH MEXICO, San Luis Potosi (*Berlandier*, 1341).

81. PARTHENICE.

Parthenice, A. Gr. Pl. Wright. ii. p. 85; Benth. et Hook. Gen. Plant. ii. p. 352.

A monotypic herb.

1. ***Parthenice mollis***, A. Gr. Pl. Wright. ii. p. 85.

NORTH MEXICO, Santa Cruz, Sonora (*Wright, Thurber*). Hb. Kew.

82. IVA.

Iva, Linn. Gen. Plant. n. 1059; Benth. et Hook. Gen. Plant. ii. p. 352.

About eight herbaceous species, inhabiting North America, Mexico, and the West Indies.

1. ***Iva asperifolia***, Less. in Linnæa, v. p. 151.

SOUTH MEXICO, pastures near Vera Cruz (*Schiede & Deppe*).

2. ***Iva dealbata***, A. Gr. Pl. Wright. i. p. 104.

NEW MEXICO.—NORTH MEXICO, Chihuahua (*Thurber*), Leon springs (*Bigelow*). Hb. Kew.

83. DICORIA.

Dicoria, Torr. & Gray in Emory Rep. p. 143, ex A. Gr. in Torr. Bot. U.S. and Mex. Bound. Surv. p. 86, t. 30; Benth. et Hook. Gen. Plant. ii. p. 353.

An herbaceous monotype.

1. ***Dicoria brandegei***, Torr. & Gray, Torr. Bot. U.S. & Mex. Bound. Surv. p. 86, t. 30.

NORTH MEXICO, valley of the Gila (*Emory*). Hb. Kew.

84. EUPHROSYNE.

Euphrosyne, DC. Prodr. v. p. 530; Benth. et Hook. Gen. Plant. ii. p. 353.

An herbaceous monotype.

1. ***Euphrosyne parthenifolia***, DC. Prodr. v. p. 530; Deless. Ic. Sel. iv. t. 28.

SOUTH MEXICO, around the city of Mexico (*Berlandier*, 587), valley of Mexico (*Bourgeau*, 158), near San Angel (*Schaffner*). Hb. Kew.

85. HYMENOCLEA.

Hymenoclea, Torr. et Gray in Gr. Pl. Fendl. p. 79; Benth. et Hook. Gen. Plant. ii. p. 354.

Two shrubby species, inhabiting the countries immediately to the north of Mexico, and one extending into Mexico.

1. *Hymenoclea monogyra*, Torr. et Gray in Gr. Pl. Fendl. p. 79.

CALIFORNIA; NEW MEXICO; TEXAS.—NORTH MEXICO, Ojito (*Gregg*), valley of the Gila (*Torrey*), Chihuahua (*Potts*). Hb. Kew.

86. AMBROSIA.

Ambrosia, Linn. Gen. Plant. n. 1057; Benth. et Hook. Gen. Plant. ii. p. 354.

Bentham and Hooker estimate the number of species at about twelve, though many more have been proposed. They are herbs; and all, or nearly all, inhabit America, one or two being also very widely dispersed in the temperate and hot regions of the Old World.

1. *Ambrosia artemisiæfolia*, Linn. Sp. Pl. p. 1401; Lamk. Ill. t. 765. f. 1; DC. Prodr. v. p. 526.

A common plant from NEW JERSEY and the ROCKY MOUNTAINS, southward to—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 433½), Matamoros (*Berlandier*); SOUTH MEXICO, region of Orizaba (*Bourgeau*, 2810), Morelia, 6000 feet (*Galeotti*, 285), Tacubaya (*Schaffner*); NICARAGUA, Tortuga (*Ærsted*).—Southward to URUGUAY and in the WEST INDIES; also in the SANDWICH ISLANDS, where, however, it may have been introduced. Hb. Kew.

2. *Ambrosia cheiranthifolia*, A. Gr. in Torr. Bot. U.S. & Mex. Bound. Surv. p. 87.

NORTH MEXICO, San Fernando, Coahuila (*Berlandier*, 1543, 3043).

3. *Ambrosia confertiflora*, DC. Prodr. v. p. 526.

NORTH MEXICO, Matamoros (*Berlandier*, 2297).

4. *Ambrosia fruticosa*, DC. Prodr. iv. p. 525.

NORTH MEXICO, Tamaulipas (*Berlandier*).

Var. *canescens*, Benth. Pl. Hartw. p. 17.

NORTH MEXICO, Zacatecas (*Coulter*, 395); SOUTH MEXICO, Aguas Calientes (*Hartweg*, 121). Hb. Kew.

5. *Ambrosia peruviana*, Willd. Sp. Pl. iv. p. 377; DC. Prodr. v. p. 526.

SOUTH MEXICO, Real del Monte (*Hænke*).—PERU.

There is some doubt respecting the identity of the Mexican and Peruvian plants.

6. **Ambrosia psilostachya**, DC. Prodr. v. p. 526.

TEXAS.—NORTH MEXICO, between San Fernando and Matamoros (*Berlandier*, 2280), Sonora (*Wright*). Hb. Kew.

87. FRANSERIA.

Franseria, Cav. Ic. ii. p. 78, t. 200; Benth. et Hook. Gen. Plant. ii. p. 354.

About ten herbaceous and half-shrubby species, restricted to North America and Peru and Chili.

1. **Franseria ambrosioides**, Cav. Ic. ii. p. 79, t. 200; A. Gr. in Bot. Calif. i. p. 346.

NORTH MEXICO, Sierra Madre (*Seemann*, 2036); not rare in MEXICO (ex A. Gray, loc. cit.). Hb. Kew.

2. **Franseria deltoidea**, Torr. Pl. Fremont. p. 15, et Bot. U.S. & Mex. Bound. Surv. p. 87.

CALIFORNIA.—NORTH MEXICO, common on the Gila (ex *Torrey*).

3. **Franseria dumosa**, A. Gr. in Rep. Frem. 2nd. Exped. p. 316, et in Bot. Calif. i. p. 345.

Franseria albicaulis, Torr. Pl. Fremont. p. 16.

CALIFORNIA.—NORTH MEXICO, Sonora.

4. **Franseria hookeriana**, Nutt. in Trans. Amer. Phil. Soc. n. ser. vii. p. 345; Torr. & Gray, Fl. N. Am. ii. p. 293.

Ambrosia acanthicarpa, Hook. Fl. Bor.-Am. i. p. 309.

SASKATCHEWAN southward to—NORTH MEXICO, El Paso to Sonora, common; valley west of the Chiricahui Mountains. Hb. Kew.

5. **Franseria tenuifolia**, A. Gr. Pl. Fendl. p. 80, et in Bot. Calif. i. p. 346.

CALIFORNIA; TEXAS.—NORTH MEXICO, Sonora (ex *A. Gray*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 433). Hb. Kew.

88. XANTHIUM.

Xanthium, Linn. Gen. Plant. n. 1056; Benth. et Hook. Gen. Plant. ii. p. 355.

Annual herbs, one or two of which are now widely diffused in warm and temperate regions, though believed to have originally spread from America. Wallroth has described twenty-one species, which Bentham and Hooker would reduce to four.

1. **Xanthium macrocarpum**, DC. Prodr. v. p. 523.

MEXICO, valley of Mexico (*Bourgeau*, 943), without locality (*Graham*).—Widely dispersed in TROPICAL AMERICA, and also in some parts of the OLD WORLD. Hb. Kew.

[**Xanthium spinosum**, Linn., the commonest species all over the world, may be expected to occur in Mexico.]

89. TRAGOCEROS.

Tragoceros, H. B. K. Nov. Gen. et Sp. iv. p. 248, t. 385; Benth. et Hook. Gen. Plant. ii. p. 356.

An exclusively Mexican and Central-American genus of annual herbs.

1. **Tragoceros flavicomum**, DC. Prodr. v. p. 533.

SOUTH MEXICO, near Tehuantepec, Chiguitan, and Iztaltepec (*Alaman*).

√ 2. **Tragoceros microglossum**, DC. Prodr. v. p. 533.

SOUTH MEXICO, Leon, beyond Guanajuato (*Mendez*); GUATEMALA, Santa Catarina (*Bernoulli*, 770). Hb. Kew.

3. **Tragoceros schiedeanum**, Less. in Linnæa, ix. p. 269.

SOUTH MEXICO, Malpays de Naulingo (*Schiede & Deppe*).

√ 4. **Tragoceros zinnioides**, H. B. K. Nov. Gen. et Sp. iv. p. 249, t. 385.

Zinnia bicuspis, DC. Prodr. v. p. 535, et Calques des Dess. Fl. Mex. 573.

SOUTH MEXICO, between Ario, Aguasasca, and Volcan de Jorullo, 2400 to 6000 feet (*Humboldt & Bonpland*), Ario, Michoacan (*Galeotti*, 2455); NICARAGUA, Granada (*Ersted*, 227). Hb. Kew.

90. PHILACTIS.

Philactis, Schrad. Ind. Sem. Hort. Gött. 1831, ex DC. Prodr. v. p. 534; Benth. et Hook. Gen. Plant. ii. p. 356.

An exclusively Mexican genus of herbs.

1. **Philactis longipes**, A. Gr. in Proc. Am. Acad. xv. p. 35.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 465). Hb. Kew.

2. **Philactis zinnioides**, Schrad. Ind. Sem. Hort. Gött. 1831; DC. Prodr. v. p. 534.

MEXICO.

91. ZINNIA.

Zinnia, Linn. Gen. Plant. n. 974; Benth. et Hook. Gen. Plant. ii. p. 357.

About a dozen herbaceous and half-shrubby species, inhabiting Mexico and the countries immediately to the north. Two or three species have become naturalized in other countries.

1. **Zinnia acerosa**, A. Gr. Pl. Wright. i. p. 105.

Diplothrix acerosa, DC. Prodr. v. p. 611.

TEXAS.—NORTH MEXICO, San Luis Potosi (*Berlandier*). Hb. Kew.

2. **Zinnia angustifolia**, H. B. K. Nov. Gen. et Sp. iv. p. 251.

NORTH MEXICO, Cerro de Pinal (*Seemann*, 1489, in part); SOUTH MEXICO, near Guanajuato, at 6600 feet (*Humboldt & Bonpland*), black sands near the foot of the Volcan de Jorullo, at 3000 feet, near Uruapan, at 4000 feet (*Galeotti*, 2409, 2452); NICARAGUA, Realejo (*Sinclair*). Hb. Kew.

3. **Zinnia anomala**, A. Gr. Pl. Wright. i. p. 105.

TEXAS; NEW MEXICO.—NORTH MEXICO, Monterey (*Berlandier*). Hb. Kew.

4. **Zinnia bicolor**, Hemsley.

Mendezia bicolor, DC. Prodr. v. p. 533; Deless. Ic. Sel. iv. t. 29.

NORTH MEXICO, Cerro de Pinal (*Seemann*, 1489, in part), Mazatlan (*Seemann, Coulter*, 335); SOUTH MEXICO, Leon, west of Guanajuato (*Mendez*). Hb. Kew.

Bentham and Hooker (Gen. Plant. ii. p. 381) refer *Mendezia bicolor* to *Spilanthes*; but having very carefully examined Coulter and Seemann's specimens which were referred to *Zinnia*, in Kew herbarium, we identify them with Delessert's figure, and we think it should be referred to this genus. Coulter and Seemann's specimens have rather broader leaves, and are much more branched than the plant figured; but in floral structure they agree almost exactly. The disk-flowers in Coulter's specimens are bidentate and uniaristate, whilst in Seemann's the awn appears to be always wanting.

5. **Zinnia elegans**, Jacq. Coll. iii. p. 152, et Ic. Pl. Rar. t. 589; Bot. Mag. t. 527.

SOUTH MEXICO, Zitacuaro (*Hartweg*), around Cuernavaca (*Berlandier*), without localities (*Parkinson, Bates, Karwinski*). Hb. Kew.

Cultivated and naturalized in other countries.

6. **Zinnia grandiflora**, Nutt. in Torr. & Gray, Fl. N. Am. ii. p. 298; Emory, Recon. Calif. t. 4.

COLORADO; ARIZONA; NEW MEXICO; TEXAS.—NORTH MEXICO, Chihuahua (*Potts*). Hb. Kew.

7. **Zinnia intermedia**, Engelm. Bot. Wislitz. Exped. p. 23.

NORTH MEXICO, common around Cosiquiriachi (*Wislizenus*). Hb. Kew.

8. **Zinnia juniperifolia**, A. Gr. Pl. Wright. i. p. 105.

Diplothrix juniperifolia, DC. Prodr. v. p. 611.

NORTH MEXICO, near San Luis Potosi (*Berlandier*), near Buena Vista (*Gregg*, 68). Hb. Kew.

9. **Zinnia leptopoda**, DC. Prodr. v. p. 535.

SOUTH MEXICO, Orizaba (*Botteri*, 1187, 1188), Tlacolola, Oaxaca (*Andrieux*, 314), Zacoalco (*Bourgeau*, 500), Cordillera of Oaxaca, in fields of maize at 5000 to 7000 feet (*Galeotti*, 2106, 3116); GUATEMALA, valley of the Motagua (*Salvin & Godman*). Hb. Kew.

10. **Zinnia linearis**, Benth. Pl. Hartw. p. 17.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 441); SOUTH MEXICO, Aguas Calientes (*Hartweg*). Hb. Kew.

11. **Zinnia maritima**, H. B. K. Nov. Gen. et Sp. iv. p. 251.

SOUTH MEXICO, sandy sea-shore, Acapulco (*Humboldt & Bonpland*).

12. **Zinnia multiflora**, Linn. Sp. Pl. p. 1269; Linn. fil. Dec. p. 23, t. 12; Bot. Mag. t. 149.

LOUISIANA; TEXAS.—MEXICO, Zimapan (*Coulter*, 444), Velasco (*Hartweg*), Orizaba (*Botteri*, 1186). Hb. Kew.

13. **Zinnia pauciflora**, Linn. Sp. Pl. p. 1269; Lam. Ill. t. 685. fig. 1; DC. Prodr. v. p. 535.

MEXICO ?

14. **Zinnia pumila**, A. Gr. Pl. Fendl. p. 81.

NEW MEXICO; TEXAS.—NORTH MEXICO, Chiricahui Mountains (*Torrey*), Buena Vista (*Gregg*), Chihuahua (*Potts*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 439, 440). Hb. Kew.

15. **Zinnia tenuiflora**, Jacq. Ic. Rar. iii. t. 590; DC. Prodr. v. p. 535; Bot. Mag. t. 555.

NORTH MEXICO, Sonora and Chihuahua (*Schott, Thurber*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 438); SOUTH MEXICO, Tlalpujahua (*Keerl*), Tacubaya (*Schaffner*), Puerto de Santa Cruz (*Liebmann*, 293), near Cinapequara, Valladolid, Guanajuato &c., at 5400 to 7200 feet (*Humboldt & Bonpland*). Hb. Kew.

16. **Zinnia verticillata**, Andr. Bot. Rep. t. 189.

MEXICO. Hb. Kew.

Probably a robust cultivated state of *Z. elegans*.

92. SANVITALIA.

Sanvitalia, Lam. Journ. d'Hist. Nat. ii. p. 176, t. 33; Benth. et Hook. Gen. Plant. ii. p. 357. *Lorentea*, Ort. Dec. p. 41, t. 5, non Less.

About nine herbaceous and low shrubby species, inhabiting Mexico and the countries immediately to the north, and one herbaceous species in Eastern Extratropical South America.

1. **Sanvitalia acapulcensis**, Benth. et Hook. Gen. Plant. ii. p. 358.

Anaitis acapulcensis, DC. Prodr. v. p. 629.

SOUTH MEXICO, Acapulco (*Hænke*).

2. **Sanvitalia acinifolia**, DC. Prodr. v. p. 628.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 442).
Hb. Kew.

3. **Sanvitalia angustifolia**, Engelm. ex A. Gr. Pl. Wright. i. p. 112.

NORTH MEXICO, near Buena Vista (*Gregg*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*). Hb. Kew.

4. **Sanvitalia fruticosa**, Hemsley, n. sp.

Ramis brevibus, foliis angustis, capitulis breviter pedunculatis, involucri bracteis 2-3 extimis foliaceis, paleis calloso-acuminatis, radii stylis longiuscule exsertis, acheniis omnibus saltem junioribus puberulis.

Frutex nanus (exempl. Galeott. miserum 3-pollicare), dense ramosus, ramis brevibus, graciliusculis. *Folia* subsessilia, crassiuscula, 6-10 lineas longa, oblonga et integra vel sæpe ad medium trilobata, utrinque albo-strigosa, scabrida, lobis lateralibus quam terminalis multoties brevioribus. *Capitula* parva, breviter pedunculata; involucri bractee 2-3 extimæ foliaceæ, ceteræ subscariosæ, oblongæ vel rotundatæ, ciliatæ, calloso-mucronatæ; receptaculum conicum; paleæ apice callosæ, complicatæ, flores disci amplectentes et æquilongæ. *Flores radii* ♀; corollæ ligulatæ, persistentes, 9-striatæ, ad 2 lineas longæ et lineam latæ, apice leviter bifidæ; styli longiuscule exserti; achenia puberula (matura non visa), triquetra, triaristata, aristis rigidis, ligulis brevioribus. *Flores disci* ♂ acheniis puberulis, compressis, sæpissime biaristatis.

SOUTH MEXICO, cactiferous mountains of Tehuacan, 5500 feet (*Galeotti*, 2121).
Hb. Kew.

Notwithstanding the discrepancies in the description, this must be closely allied to *Anaitis acapulcensis*, DC., of which, indeed, it may possibly be a stunted condition.

5. **Sanvitalia ocymoides**, DC. Prodr. v. p. 628.

TEXAS.—NORTH MEXICO, Chihuahua (*Potts*), Zacatecas (*Coulter*, 358). Hb. Kew.

6. **Sanvitalia procumbens**, Lam. Journ. d'Hist. Nat. ii. p. 176, t. 33; Ill. t. 686; Bot. Reg. t. 707.

Sanvitalia villosa, Cav. Ic. iv. t. 35.

Lorentea atropurpurea, Ort. Dec. p. 41, t. 5.

SOUTH MEXICO, Oaxaca (*Andrieux*, 300), near Tacubaya (*Bourgeau*, 153; *Schaffner*), Tehuacan, 5000 feet (*Galeotti*, 2120), Vera Cruz (*Linden*, 476), Zimapan and Real del Monte (*Coulter*, 336). Hb. Kew.

7. **Sanvitalia tragiæfolia**, DC. Prodr. v. p. 628.

SOUTH MEXICO, Oaxaca (*Andrieux*, "3001" ex DC., 301?).

93. HELIOPSIS.

Heliopsis, Pers. Syn. Plant. ii. p. 473; Benth. et Hook. Gen. Plant. ii. p. 358.

About six herbaceous species in North America, including Mexico, and one of them extending into South America.

1. **Heliopsis annua**, Hemsley, n. sp.

Nana, diffusa, ramis crassiusculis, foliis ovato-oblongis obtusis parce strigillosis, capitulis parvis breviter pedunculatis, ligulis parvis suborbicularibus, radii acheniis crassis scrobiculatis, disci compressis.

Herba annua, diffusa, semipedalis (specimen unicum tantum visum), a basi ramosa, ramis bifariam puberulis, crassiusculis. *Folia* opposita, petiolata, crassiuscula, ovata vel oblonga, 1-2-poll. carya, remotiuscule calloso-denticulata, obtusa, basi cuneata, subtrinervia, utrinque parce strigillosa. *Capitula* terminalia et axillaria, 6-8 lineas diametro; pedunculi sulcati, 1-2-poll. cares; involucri bracteæ ovato-ellipticæ, 3-seriatæ, subscariosæ, puberulæ; receptaculum conicum; paleæ complicatæ, floribus longiores. *Flores radii* pauci; corollæ ligulæ suborbiculares, ad lineam longæ, tridentatæ, dente intermedio brevioribus; achenia subtrigona, crassa, scrobiculata, puberula. *Flores disci* paleis brevioribus; achenia compressa, puberula.

NORTH MEXICO, Zacatecas (*Coulter*, 358). Hb. Kew.

2. **Heliopsis bupthalmoides**, Dun. in Mém. Mus. v. p. 57; DC. Prodr. v. p. 550.

Heliopsis canescens, H. B. K. Nov. Gen. et Sp. iv. p. 212; Bot. Reg. t. 592.

Anthemis ovalifolia, Ort. Dec. p. 73.

Anthemis bupthalmoides, Jacq. Hort. Schœnb. t. 151.

Andrieuxia mexicana, DC. Prodr. v. p. 559; Deless. Ic. Sel. iv. t. 31.

NORTH MEXICO, Chihuahua (*Thurber*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 431); SOUTH MEXICO, San Felipe (*Andrieux*, 303), region of Orizaba (*Bourgeau*, 2392, 2562; *Müller*, 144), Cordillera of Vera Cruz (*Galeotti*, 2277).—COLOMBIA to PERU. Hb. Kew.

3. **Heliopsis parvifolia**, A. Gr. Pl. Wright. ii. p. 86.

NORTH MEXICO, between Babocomori and Santa Cruz, Sonora (*Wright*), Chiricahua, South Arizona (*Rothrock*). Hb. Kew.

4. **Heliopsis procumbens**, Hemsley, n. sp.

Procumbens, glabrescens, foliis parvis ovato-oblongis vel inferioribus fere orbicularibus, radii floribus ad 9, ligulis oblongo-ellipticis, acheniis striatis radii subtrigonis disci subtetragonis.

Herba perennis, procumbens, ramosa, ramis gracilibus, puberulis. *Folia* opposita, petiolata, membranacea, ovata, oblonga vel inferiora fere orbicularia, $\frac{1}{2}$ - $1\frac{1}{2}$ poll. longa, integra vel obscure paucidentata, glabra vel cito glabrescentia, subtrinervia. *Capitula* solitaria, terminalia vel axillaria; pedunculi usque ad semipedales; involucri bracteæ biseriatae, herbaceæ, oblongæ, obtusiusculæ; receptaculum conicum; paleæ complicatæ, apice callosæ, floribus paullo breviores. *Flores radii* ad 9, uniseriati; ligulæ 9-striatæ, latæ, 5-6 lineas longæ; achenia subtrigona, striata, glabra. *Flores disci* numerosissimi; achenia subtetragona, cetera ut in radiis.

SOUTH MEXICO, Desierto Viejo (*Bourgeau*, 837). Hb. Kew.

Associated with the habit of *Sanvitalia* this has the exaristate achenes and conical receptacle of *Heliopsis*.

94. AGANIPPEA.

Aganippea, DC. Prodr. vi. p. 3; Benth. et Hook. Gen. Plant. ii. p. 358.

Heliogenes, Benth. Pl. Hartw. p. 42.

Herbaceous plants. The genus is endemic in Mexico.

1. **Aganippea bellidiflora**, DC. Prodr. vi. p. 3; Calq. des Dess. Fl. Mex. 700; Hook. Ic. Pl. t. 1117.

Heliogenes longifolia, Benth. Pl. Hartw. p. 42.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 430); SOUTH MEXICO, Regla (*Hartweg*, 323), near the city of Mexico (*Berlandier*, 363), Tacubaya (*Bourgeau*, 145). Hb. Kew.

2. **Aganippea dentata**, DC. Prodr. vi. p. 3.

SOUTH MEXICO, Regla (*Hartweg*, 322), near the city of Mexico (*Berlandier*, 901). Hb. Kew.

95. RUMFORDIA.

Rumfordia, DC. Prodr. v. p. 549; Benth. et Hook. Gen. Plant. ii. p. 359.

A shrubby monotype.

1. **Rumfordia floribunda**, DC. Prodr. v. p. 550; Deless. Ic. Sel. iv. t. 30.

SOUTH MEXICO, Orizaba (*Botteri*, 1100), Cordillera of Oaxaca, 7000 feet (*Galeotti*, 2020), without locality (*Hahn*). Hb. Kew.

96. SIEGESBECKIA.

Siegesbeckia, Linn. Gen. Plant. n. 973; Benth. et Hook. Gen. Plant. ii. p. 359.

Glandular annual herbs. Bentham and Hooker (*loc. cit.*) reduce the species to two—one widely dispersed in warm countries, and the other American.

✓ 1. **Siegesbeckia flosculosa**, L'Hérit. Stirp. Nov. p. 37, t. 19.

Siegesbeckia agrestis, Pœpp. et Endl. Nov. Gen. et Sp. t. 256.

GUATEMALA, Coban (*Türckheim*, 387).—PERU. Hb. Kew.

2. **Siegesbeckia orientalis**, Linn. Sp. Pl. p. 1269; Hort. Cliff. t. 23.

Siegesbeckia cordifolia, H. B. K. Nov. Gen. et Sp. i. p. 283.

Siegesbeckia jorullensis, H. B. K. loc. cit. p. 284; Bot. Reg. t. 1061.

Siegesbeckia droseroides, Sweet, Brit. Fl. Gard. t. 203.

Generally dispersed in warm countries, and common in MEXICO and CENTRAL AMERICA. Hb. Kew.

97. JÆGERIA.

Jægeria, H. B. K. Nov. Gen. et Sp. iv. p. 277; Benth. et Hook. Gen. Plant. ii. p. 360.

An exclusively American genus of herbs, ranging from Mexico to Buenos Ayres. About six species are known.

1. **Jægeria hirta**, Less. Syn. p. 223; DC. Prodr. v. p. 544.

Acmella hirta, Lag. Nov. Gen. et Sp. p. 30.

SOUTH MEXICO, valley of Cordova (*Bourgeau*, 50, 1553), Cordillera of Vera Cruz

(*Galeotti*, 2317; *Linden*, 1221), valley of Mexico (*Schaffner*); GUATEMALA, Volcan de Fuego, 8300 feet (*Salvin*); COSTA RICA, San José (*Ersted*).—Southward to PERU and URUGUAY. Hb. Kew.

2. **Jægeria macrocephala**, Less. Syn. p. 223; Linnæa, ix. p. 270.

SOUTH MEXICO, near Jalapa (*Schiede & Deppe*).

3. **Jægeria mnioides**, H. B. K. Nov. Gen. et Sp. p. 278, t. 400.

SOUTH MEXICO, Ario, 6000 feet (*Humboldt & Bonpland*); COSTA RICA (*Ersted*). Hb. Kew.

4. **Jægeria pedunculata**, Hook. et Arn. Bot. Beech. Voy. p. 299.

SOUTH MEXICO, Jalisco (*Beechey*). Hb. Kew.

5. **Jægeria**, sp.

SOUTH MEXICO, Desierto Viejo (*Bourgeau*, 1132). Hb. Kew.

98. ECLIPTA.

Eclipta, Linn. Mant. p. 157; Benth. et Hook. Gen. Plant. ii. p. 361.

Annual herbs, one species being generally dispersed in warm countries, a second inhabiting Australia, and a third South America.

1. **Eclipta erecta**, Linn. Mant. p. 286; DC. Prodr. v. p. 490; Schk. Handb. t. 255.

Eclipta brachypoda, Michx. Fl. Bor.-Am. ii. p. 130.

KENTUCKY and ARKANSAS, southward through MEXICO and CENTRAL AMERICA to SOUTH BRAZIL, and common in the OLD WORLD. Hb. Kew.

99. SELLOA.

Selloa, H. B. K. Nov. Gen. et Sp. iv. p. 265; Benth. et Hook. Gen. Plant. ii. p. 361.

An herbaceous monotype.

1. **Selloa plantaginea**, H. B. K. Nov. Gen. et Sp. iv. p. 266, t. 395.

SOUTH MEXICO, between Aguasarco and Ario, at about 6000 feet (*Humboldt & Bonpland*).

100. AXINIPHYLLUM.

Axiniphyllum, Benth. in Hook. Ic. Plant. t. 1118; Benth. et Hook. Gen. Plant. ii. p. 362.

Two herbaceous species.

1. **Axiniphyllum corymbosum**, Benth. in Hook. Ic. Pl. t. 1118.

SOUTH MEXICO, Cordillera of Oaxaca, at 7500 feet (*Galeotti*, 2089). Hb. Kew.

2. **Axiniphyllum tomentosum**, Benth. in Hook. Ic. Pl. sub t. 1118.

MEXICO, without locality (*Bates*). Hb. Kew.

101. ABASOLOA.

Abasoloa, Llav. et Lex. Nov. Descr. i. p. 11; Benth et Hook. Gen. Plant. ii. p. 362.

Herbaceous monotype.

1. **Abasoloa taboada**, Llav. et Lex. Nov. Veg. Descr. i. p. 11; DC. Prodr. vii. p. 253.

SOUTH MEXICO, San José del Corral, banks of the Huehucapa (*La Llave*).

102. ZALUZANIA.

Zaluzania, Pers. Syn. ii. p. 473; Benth. et Hook. Gen. Plant. ii. p. 362.

Herbs and small shrubs, restricted to the Mexican region.

1. **Zaluzania angusta**, Schz. Bip. in Flora, 1861, p. 563.

Zaluzania megacephala, Schz. Bip. loc. cit.

Ferdinanda angusta, Lag. Gen. et Sp. Nov. p. 31, t. 2.

Ferdinanda lutescens, DC. Prodr. v. p. 553.

Anthemis lutescens, Llav. et Lex. Nov. Veg. Descr. i. p. 30.

Chrysophania fastigiata, Kunth in Less. Syn. p. 224.

MEXICO, Cerro Ventoso (*Hartweg*, 321), Zacoalco (*Bourgeau*, 803), Guadalupe (*Bilimek*, 541), without locality (*Aschenborn*, *Tate*, *Mackenzie*). Hb. Kew.

2. **Zaluzania asperrima**, Schz. Bip. in Flora, 1864, p. 218.

SOUTH MEXICO, Chapulco (*Liebmann*, 544). Hb. Kew.

3. **Zaluzania coulteri**, Hemsley, Diag. Sp. Nov. pars altera, p. 33. (Tab. XLVI.)

Ramis crassiusculis sulcatis, foliis amplis ovatis ellipticis vel fere rotundatis denticulatis, capitulis corymbosis, corollis ligulatis latis circiter 11–13-nerviis extus puberulis, corollis tubulosis basi inflatis, paleis complicatis hirsutis.

Frutex, ramis rectis, elongatis, crassiusculis, sulcatis, junioribus pubescentibus. *Folia* alterna, subsessilia, ovato-oblonga, elliptica vel fere rotundata, 2–3 poll. longa et usque 2½ poll. lata, basi rotundata vel fere truncata, et subito in petiolum brevissimum attenuata, apice mucronulata, margine calloso-denticulata, utrinque tomentosa, subtus albida. *Capitula* corymbosa; involucri bracteæ oblongæ, obtusiusculæ, uniseriatæ. *Corollæ ligulatæ* emarginatæ, circiter 11–13-nerviæ, extus puberulæ. *Corollæ tubulosæ* glabræ, basi inflatæ, paleis complicatis paulo brevioribus hirsutis amplectentibus. *Achenia* glabra.

SOUTH MEXICO, Real del Monte (*Coulter*, 350). Hb. Kew.

EXPLANATION OF TAB. XLVI.

Portions of plant, natural size. Fig. 1, a pale; 2, hermaphrodite flower; 3, style of ditto; 4, stamen; 5, a ligulate flower; 6, style of ditto: all enlarged.

4. **Zaluzania globosa**, Schz. Bip. in Flora, 1861, p. 564.

Anthemis globosa, Ort. Dec. p. 46; Jacq. Hort. Schœnb. iii. t. 371.

Chiliophyllum globosum, DC. Prodr. v. p. 554.

Zaluzania myriophylla, Schz. Bip. in Flora, 1861, p. 565.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 527); SOUTH MEXICO, Aguas Calientes (*Hartweg*, 111), valley of Mexico (*Bourgeau*, 385). Hb. Kew.

5. **Zaluzania mollissima**, A. Gr. in Proc. Am. Acad. xv. p. 35.

NORTH MEXICO, region of San Luis Potosi (*Parry & Palmer*, 446). Hb. Kew.

6. **Zaluzania montagnæfolia**, Schz. Bip. in Flora, 1861, p. 563.

Ferdinanda montagnæfolia, Schz. Bip. in Koch's Berl. allgem. Gartenz. 1858, p. 179.

SOUTH MEXICO, between Vera Cruz and Orizaba (*Müller*, 293). Hb. Kew.

7. **Zaluzania triloba**, Pers. Ench. ii. p. 473; DC. Prodr. v. p. 553.

Anthemis sinuata, Llav. et Lex. Nov. Veg. Descr. i. p. 30.

Anthemis triloba, Ort. Dec. p. 72.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 445); SOUTH MEXICO, Real del Monte (*Coulter*, 405), Zimapan (*Hartweg*, 329), Guadalupe (*Bourgeau*, 704). Hb. Kew.

103. SABAZIA.

Sabazia, Cass. Dict. xlvi. p. 480; Benth. et Hook. Gen. Plant. ii. p. 362.

Baziassa, Steud. Nom. Bot. ed. 2, p. 192.

A genus of about eight herbaceous species, extending from Mexico to Colombia.

1. **Sabazia humilis**, Cass. Dict. xlvi. p. 481; DC. Prodr. v. p. 496.

Eclipta humilis, H. B. K. Nov. Gen. et Sp. iv. p. 264, t. 394.

SOUTH MEXICO, near Ario and Pazcuaro, 6000 feet (*Humboldt & Bonpland*), San Nicolas, valley of Mexico (*Bourgeau*, 958). Hb. Kew.

Bourgeau's specimens are more than a foot high; but in other respects they look like the plant figured by H. B. K.

2. **Sabazia microglossa**, DC. Prodr. v. p. 497.

SOUTH MEXICO, mountains around Mexico (*Berlandier*).

β . **puberula**, DC. loc. cit.

SOUTH MEXICO, around Mexico (*Berlandier*).

3. **Sabazia sarmentosa**, Less. in Linnæa, v. p. 148.

SOUTH MEXICO, Cerro Colorado (*Schiede*), peak of Orizaba, 9000 to 11,000 feet (*Linden*, 1122; *Galeotti*, 2167), Cordillera of Oaxaca, 8000 feet (*Galeotti*, 2036). Hb. Kew.

We have not seen an authentic specimen of Lessing's plant; and Linden and Galeotti's specimens may belong to a different species.

✓
4. **Sabazia urticæfolia**, DC. Prodr. v. p. 497.*Wiborgia urticæfolia*, H. B. K. Nov. Gen. et Sp. iv. p. 257, t. 389.*Galinsoga urticæfolia*, Benth. in Vidensk. Meddel. 1852, p. 102.SOUTH MEXICO, plains of Quilo (*Jurgensen*, 260); NICARAGUA, Granada (*Ersted*); COSTA RICA, San José (*Ersted*).—ECUADOR. Hb. Kew.

104. VARILLA.

Varilla, A. Gray, Pl. Fendl. in Mem. Amer. Acad. i. p. 106; Benth. et Hook. Gen. Plant. ii. p. 363.

The following and one Texan species; both are undershrubs.

1. **Varilla mexicana**, A. Gr. in Mem. Amer. Acad. i. p. 106.NORTH MEXICO, between Pelayo and Cadena, Chihuahua (*Wislizenus*), Parras (*Gregg*).

105. GYMNOLOMIA.

Gymnolomia, H. B. K. Nov. Gen. et Sp. iv. p. 217; Benth. et Hook. Gen. Plant. ii. p. 363.*Gymnopsis*, DC. Prodr. v. p. 561, pro parte.*Helioomeris*, Nutt. in Journ. Acad. Philad. ser. 2, i. p. 171.

About twenty-one herbaceous and half-shrubby species, four or five of which are Tropical South American, and one is a native of Georgia.

1. **Gymnolomia cinerascens**, Benth. et Hook. Gen. Pl. ii. p. 362.*Zaluzania cinerascens*, Schz. Bip. in Flora, 1864, p. 219.SOUTH MEXICO, Mineral del Monte (*Ehrenberg*).2. **Gymnolomia ensifolia**, Benth. et Hook. Gen. Plant. ii. p. 362.*Zaluzania ensifolia*, Schz. Bip. in Flora, 1864, p. 216.*Montagnea ensifolia*, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 304.NORTH MEXICO, Sierra Madre (*Seemann*, 2007, in part). Hb. Kew.3. **Gymnolomia flava**, Hemsley, n. sp.*Strigilloso-pilosa*, caulibus subsimplicibus, foliis caulinis inferioribus oppositis omnibus sessilibus lanceolato-oblongis remote calloso-denticulatis, corymbis oligocephalis, capitulis $1\frac{1}{2}$ –2 poll. diametro longe pedunculatis, involucri bracteis interioribus subcoriaceis latioribus obovatis acuminatis ciliatis, paleis puberulis dorso ciliatis.*Herba* erecta, strigilloso-pilosa, ut videtur caulibus basi simplicibus. *Folia* caulina inferiora opposita, superiora alterna, omnia sessilia, lanceolato-oblonga, usque ad 3 poll. longa, obtusiuscula, basi angusta, subtrinervia, utrinque strigoso-pilosa, pilis rigidis basi tuberculatis. *Capitula* corymbosa, longe pedunculata, fere 2 poll. diametro, corymbis oligocephalis; involucri bracteæ 3-seriatæ, subcoriaceæ, apice callosæ, obtusiusculæ, exteriores strigosæ, lanceolato-ovatae, intermediae ovatae, interiores latiores, obovatae, acuminatae; receptaculum convexum; paleæ complicatae, puberulae, dorso ciliatae, acuminatae. *Flores radii* neutri, flavi, oblongi, 9–10 lineas longi. *Flores disci* numerosi, flavi; corollæ infundibuliformes, puberulae. *Achenia* subtetragona, compressa, pallida, glabra.SOUTH MEXICO, Oaxaca (*Ghiesbreght*, 216). Hb. Kew.

BIOL. CENT.-AMER., Bot. Vol. II., June 1881.

4. **Gymnolomia ghiesbreghtii**, Hemsley, n. sp.

Scabrida, foliis caulinis brevissime petiolatis ovato-oblongis lanceolatisve denticulatis subtus inter venas pubescentibus inferioribus oppositis, capitulis paucis longe pedunculatis, involucri bracteis exterioribus minoribus squarrosis, interioribus subscariosis obovatis ciliatis, paleis striatis dorso ciliatis, floribus flavis, ligulis multistriatis, disci corollis pubescentibus, acheniis compressis glabris.

Herba erecta, scabrida, ut videtur caulibus basi simplicibus, oligocephalis, striatis, purpureis. *Folia* caulina inferiora opposita, superiora alterna, omnia brevissime petiolata, crassiuscula, rigida, ovata, oblonga vel lanceolata, usque ad 3 poll. longa, obtusiuscula, subtrinervia, supra strigilloso-scabrida, subtus in nerviis venisque strigillosa, inter venas albido-pubescentia. *Capitula* longe pedunculata, circiter $1\frac{1}{2}$ poll. diametro, pedunculis subaphyllis sub involucri longe squamosopilosis; involucri bracteæ 3-seriatæ, subcoriaceæ vel interiores fere scariosæ, ciliatæ, obovatæ, exteriores breviores, callosa-acuminatæ, squarrosæ, interiores apice rotundatæ; receptaculum convexum; paleæ complicatæ, striatæ, acuminatæ, dorso ciliatæ, floribus vix breviores. *Flores radii* neutri, flavi; ligulæ oblongæ, ad 9 lineas longæ, apice subintegræ, multistriatæ (13-15), leviter puberulæ. *Flores disci* numerosi, flavi; corollæ infundibuliformes, pubescentes. *Achenia* compressa, atra, glabra.

SOUTH MEXICO, Oaxaca (*Ghiesbreght*, 385). Hb. Kew.

5. **Gymnolomia greggii**, A. Gr. in Proc. Amer. Acad. xv. p. 36.

NORTH MEXICO (*Gregg*). Hb. Kew.

6. **Gymnolomia latibracteata**, Hemsley, n. sp.

Erecta ramosa, foliis omnibus (?) alternis subsessilibus lanceolatis subintegræ, capitulis numerosis laxè corymbosis, involucri bracteis nonnullis amplis glabrescentibus, paleis tenuiter scariosis præter costam glabris apice sæpissime 3-5-dentatis; disci corollis infundibuliformibus hirsutis basi achenia obtegentibus.

Herba erecta, ramosa, ramis striatulis, cito glabrescentibus. *Folia* caulina alterna, subsessilia, lanceolata, 3-5-pollicaria (superiora gradatim minora) utrinque valde attenuata, acuta, subtrinervia, integra vel obscure denticulata, supra scabrida. *Capitula* numerosa, laxè corymbosa, pedunculis graciliusculis, erectis; involucri bracteæ subcoriaceæ, resiniferæ, glabrescentes, exteriores lanceolatæ acutæ, interiores majores, oblongo-obovatae, usque ad 5-6 lineas longæ et 2-3 lineas latæ; receptaculum convexum vel fere conicum; paleæ amplæ, tenues, subscariosæ, complicatæ, flores amplectentes, apice sæpissime 3-5-dentatæ, costa leviter scabridæ. *Flores radii* neutri, pauci, 6-7 lineas longi. *Flores disci* numerosissimi; corollæ infundibuliformes, hirsutæ, basi achenia obtegentes. *Achenia* nigra, glabra, subtetragona, compressa.

NORTH MEXICO, Cerro de Pinal (*Seemann*, 1485). Hb. Kew.

7. **Gymnolomia microcephala**, Less. in Linnæa, v. p. 153.

SOUTH MEXICO, near Hacienda de la Laguna (*Schiede & Deppe*), Cordillera of Oaxaca, 7500 feet (*Galeotti*, 2090). Hb. Kew.

8. **Gymnolomia multiflora**, Benth. et Hook. Gen. Plant. ii. p. 364.

Heliomeris multiflora, Nutt. in Journ. Acad. Philad. ser. 2, i. p. 171; A. Gr. Pl. Wright. ii. p. 87.

ROCKY MOUNTAINS to NEW MEXICO and TEXAS.—NORTH MEXICO, Sonora (*Wright*), Sierra Madre (*Wislizenus*), San Luis Potosi to Tampico (*Palmer*, 1102); SOUTH MEXICO, Chiapas (*Ghiesbreght*). Hb. Kew.

9. **Gymnolomia parkinsonii**, Hemsley, n. sp.

Caulibus simplicibus vel ramis elongatis, foliis alternis sessilibus scabridis anguste oblongis trinerviis calloso-dentatis, capitulis subglobosis 2-3 in apicibus ramorum aggregatis, involucri bracteis oblongis strigosis, paleis acutis apice rubro tinctis, ligulis brevibus ellipticis, acheniis basi obliquus.

Herba ut videtur caulibus simplicibus, rectis, rigidis, strigillosis, in parte superiore subnudis, apice 2-3-capitulatis. *Folia* omnia alterna, sessilia, crassiuscula, rigida, anguste oblonga, usque ad 3 poll. longa, obtusa, prominenter trinervia, utrinque strigoso-scabrida, superiora ad bracteas parvas distantes reducta. *Capitula* subglobosa, terminalia 1 poll. diametro, lateralia minora breviter pedunculata; involucri bracteæ 2-3-seriatæ, consimiles, oblongæ, ad 3 lineas longæ, acutæ, strigosæ; receptaculum conicum; paleæ scariosæ, complicatæ, flores amplectentes, glabræ, acutæ, apice rubro tinctæ, floribus paullo breviores. *Flores* omnes rubri vel purpurei, radii circiter 9, neutri; ligulæ ellipticæ, tridentatæ, 2½-3 lineas longæ. *Flores disci* numerosissimi; corollæ infundibuliformes, puberulæ, basi achenia obtegentes. *Achenia* pallida, glabra, valde compressa, fere plana, basi obliqua.

MEXICO, without locality (*Parkinson*). Hb. Kew.

✓ 10. **Gymnolomia patens**, A. Gr. in Proc. Amer. Acad. v. p. 182.

Wedelia cordata, Hook. et Arn. Bot. Beech. Voy. p. 435.

NORTH MEXICO, San Luis Potosi to Tampico (*Palmer*, 1099); SOUTH MEXICO, near Tantoyuca (*Ervendberg*, 95), Orizaba (*Botteri*, 505, 871, 1178); GUATEMALA, Sapote (*Bernoulli*, 242). Hb. Kew.

11. **Gymnolomia pinnatilobata**, Benth. et Hook. Gen. Pl. ii. p. 362.

Zaluzania pinnatilobata, Schz. Bip. in Flora, 1864, p. 219.

SOUTH MEXICO, Tehuacan (*Liebmann*, 384), Cordillera of Oaxaca, 5500 feet (*Galeotti*, 2124). Hb. Kew.

✓ 12. **Gymnolomia rudbeckioides**, H. B. K. Nov. Gen. et Sp. p. 219, t. 374.

Gymnopsis costaricensis, Benth. in Vidensk. Meddel. 1852, p. 90.

Gymnopsis vulcanica, Steetz in Seem. Bot. Voy. 'Herald,' p. 157.

SOUTH MEXICO, Cordillera of Oaxaca, 7500 feet (*Galeotti*, 2090); COSTA RICA, Aguacate and Ujaras (*Ersted*); PANAMA, Boquete, Veraguas (*Seemann*, 1588). Hb. Kew.

13. **Gymnolomia squarrosa**, Benth. et Hook. Gen. Pl. ii. p. 362.

Zaluzania squarrosa, Schz. Bip. in Flora, 1864, p. 217.

SOUTH MEXICO, Guadalaxara (*Oliva*).

✓ 14. **Gymnolomia subflexuosa**, Benth. et Hook. Gen. Pl. ii. p. 364.

Wedelia subflexuosa, Hook. et Arn. Bot. Beech. Voy. p. 435.

SOUTH MEXICO, Orizaba (*Botteri*, 435); NICARAGUA, Realejo (*Sinclair*). Hb. Kew.

15. **Gymnolomia tenuifolia**, Benth. et Hook. Gen. Pl. ii. p. 364.

Heliomeris tenuifolia, A. Gr. Pl. Fendl. p. 84.

NORTH MEXICO, Rinconada, Saltillo, Mapimi and Andabazo (*Gregg*, 317, 477), Durango (*Thurber*). Hb. Kew.

106. SCLEROCARPUS.

Sclerocarpus, Jacq. in Act. Helvet. ix. p. 34; Benth. et Hook. Gen. Plant. ii. p. 364.

This genus comprises about a dozen herbaceous species, inhabiting Tropical Asia and Africa and the warmer parts of America.

1. *Sclerocarpus dentatus*, Benth. et Hook. Gen. Pl. ii. p. 364.

Gymnopsis dentata, DC. Prodr. v. p. 561.

Aldama dentata, Llav. et Lex. Nov. Veg. Descr. i. p. 14.

SOUTH MEXICO, region of Orizaba (*Bourgeau*, 2683, 3343; *Sallé*), Cordillera of Oaxaca (*Galeotti*, 2062), Jalapa (*Coulter*, 360), valley of Cordova (*Bourgeau*, 1626), Campeche, Yucatan (*Linden*, 1246). Hb. Kew.

There may be more than one species included under the above numbers.

√ 2. *Sclerocarpus divaricatus*, Benth. et Hook. Gen. Pl. ii. p. 364.

Gymnopsis divaricata, Benth. Bot. Voy. 'Sulphur,' p. 116.

GUATEMALA (*Friedrichsthal*); HONDURAS, Gulf of Fonseca (*Sinclair*). Hb. Kew.

Probably a variety of the foregoing.

3. *Sclerocarpus schiedeana*, Benth. et Hook. Gen. Pl. ii. p. 364.

Aldama dentata, Less. in Linnæa, v. p. 154, nec Llav. et Lex.

Gymnopsis schiedeana, DC. Prodr. v. p. 561.

SOUTH MEXICO, Jalapa (*Schiede & Deppe*).

4. *Sclerocarpus uniserialis*, Benth. et Hook. Gen. Pl. ii. p. 364.

Gymnopsis uniserialis, Hook. Ic. Pl. t. 145.

NEW MEXICO; TEXAS.—NORTH MEXICO, region of San Luis Potosi (*Parry & Palmer*, 467½; *Palmer*, 1104), Tamaulipas (*Berlandier*), without locality (*Bates*). Hb. Kew.

107. MONTANOA.

Montanoa, Llav. et Lex. Nov. Gen. Mex. ii. p. 11; Benth. et Hook. Gen. Plant. ii. p. 364.

Montagnæa, DC. Prodr. v. p. 564.

Shrubby, or sometimes arboreous. Bentham and Hooker estimate the species at about fourteen, ranging from Mexico to Colombia. Several of the following are only very imperfectly described; and the total number of species growing within our region is probably less than half the number enumerated below.

1. *Montanoa arborescens*, DC. Prodr. v. p. 565.

Montanoa atriplicifolia, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 304.

Verbesina atriplicifolia, Juss. et Desf., ex DC. Prodr. v. p. 613.

NORTH MEXICO, Sierra Madre (*Seemann*, 2012); MEXICO, without locality (*Mairet*, *Tate*, *Parkinson*), Chiapas (*Ghiesbreght*). Hb. Kew.

Schultz Bipontinus, in Seem. Bot. Voy. 'Herald,' p. 304, reduces this to his *M. atriplicifolia*, apparently on the ground of adopting the oldest specific name.

2. **Montanoa aschenbornii**, Sch. Bip.; Koch, Wochenschr. vii. p. 407.
MEXICO (*Aschenborn*).
3. **Montanoa bipinnatifida**, Koch, Wochenschr. vii. p. 407.
Uhdea bipinnatifida, Kunth, Ind. Sem. Hort. Berol. 1847, p. 13.
Montanoa heracleifolia, Brongn.; André in Rev. Hort. 1863, p. 369, cum ic. xylogr.
MEXICO (*Uhde*).
Probably the same as *M. grandiflora*, DC.
4. **Montanoa clematidea**, Walp. in Linnæa, xiv. p. 308; Rep. ii. p. 612.
MEXICO (*Karwinsky*).
5. **Montanoa crenata**, Schz. Bip.; Koch, Wochenschr. vii. p. 407.
MEXICO (*De Berghes*).
6. **Montanoa elegans**, Koch, Wochenschr. vii. p. 408.
MEXICO ?
7. **Montanoa floribunda**, DC. Prodr. v. p. 564.
Eriocoma floribunda, H. B. K. Nov. Gen. et Sp. iv. p. 267, t. 396.
SOUTH MEXICO, between Guadalupe and the city of Mexico, 7200 feet (*Humboldt & Bonpland*), Cordillera of Oaxaca, 6000 to 7000 feet (*Galeotti*, 2008), valley of Mexico (*Bourgeau*, 706). Hb. Kew.
8. **Montanoa frutescens**, Mairet; DC. Prodr. v. p. 565.
MEXICO, without locality (*Mairet, Tate, Aschenborn*); SOUTH MEXICO, valley of Mexico (*Bourgeau*, 592, 966), Cordillera of Oaxaca, 4500 feet (*Galeotti*, 2049). Hb. Kew.
9. **Montanoa gracilis**, Schz. Bip.; Koch, Wochenschr. vii. p. 407.
MEXICO (*Liebmann*).
10. **Montanoa grandiflora**, DC. Prodr. v. p. 565.
MEXICO, without locality (*Bates, Tate*); SOUTH MEXICO, Cuernavaca (*Bourgeau*, 1199).
Hb. Kew.
11. **Montanoa grandiflora**, Benth. Pl. Hartw. p. 19, non DC.
SOUTH MEXICO, Aguas Calientes (*Hartweg*, 134). Hb. Kew.
This is very distinct from *M. grandiflora*, DC.; but we are unable to determine whether it has been described.
- ✓ 12. **Montanoa hibiscifolia**, Benth. in Vidensk. Meddel. 1852, p. 89.
GUATEMALA, base of Volcan de Fuego (*Salvin & Godman*, 49), Mazatenango (*Bernoulli*, 1203), Volcan de Fuego, 5000 feet (*Salvin*); NICARAGUA, Segovia (*Ersted*, 235); COSTA RICA, Volcan de Barba (*Ersted*, 134). Hb. Kew.
13. **Montanoa karwinskii**, DC. Prodr. v. p. 565.
MEXICO (*Karwinski*).

14. **Montanoa microcephala**, Schz. Bip.; Koch, Wochenschr. vii. p. 406.
SOUTH MEXICO, Ejutla (*Liebmann*). Hb. Kew.
15. **Montanoa mollissima**, Brongn.; Koch, Wochenschr. vii. p. 408.
MEXICO?
16. **Montanoa olivæ**, Schz. Bip.; Koch, Wochenschr. vii. p. 406.
SOUTH MEXICO, Guadalupe (*Oliva*).
17. **Montanoa pyramidata**, Schz. Bip.; Koch, Wochenschr. vii. p. 408.
SOUTH MEXICO, Guadalupe (*Oliva*).
18. **Montanoa speciosa**, DC. Prodr. v. p. 565.
SOUTH MEXICO, Cuernavaca (*Berlandier*, 1057).
19. **Montanoa ternifolia**, Schz. Bip.; Koch, Wochenschr. vii. p. 406.
Montanoa tomentosa γ . *ternifolia*, DC. Prodr. v. p. 565.
MEXICO.
20. **Montanoa tomentosa**, Llav. et Lex. Nov. Veg. Descr. ii. p. 11; DC. Prodr. v. p. 564.
Montanoa heterophylla, Schrad. in Linnæa, x. Literatur, p. 70.
Eriocoma fragrans, Sweet, Brit. Fl. Gard. ser. 2, t. 44.
SOUTH MEXICO, Real del Monte (*Née*), Talpujahuá (*Keertl*), at the cascade of Regla (*Hartweg*), Zacoalco &c. (*Bourgeau*, 501, 706), Chapulco and Tehuacan (*Liebmann*, 262, 264), Guadalupe (*Bilimek*). Hb. Kew.
21. **Montanoa triloba**, Schz. Bip.; Koch, Wochenschr. vii. p. 406.
MEXICO?
22. **Montanoa uncinata**, Schz. Bip.; Koch, Wochenschr. vii. p. 406.
SOUTH MEXICO, Cumbre de Estepa (*Liebmann*, 484). Hb. Kew.
23. **Montanoa xanthiifolia**, Schz. Bip.; Koch, Wochenschr. vii. p. 406.
SOUTH MEXICO, Chacalepa Estado (*Liebmann*, 265). Hb. Kew.
24. **Montanoa**, sp.
SOUTH MEXICO, valley of Cordova (*Bourgeau*, 2057). Hb. Kew.
This is a very distinct species, having very numerous flower-heads in dense panicles. Each flower-head we examined contained only three disk-flowers, with no trace of ray-flowers.

108. ISOCARPHA.

Isocarpha, R. Br. in Trans. Linn. Soc. xii. p. 110; Benth. et Hook. Gen. Plant. ii. p. 365.

About six herbaceous species, inhabiting the West Indies and Tropical America from Mexico to Peru.

✓ 1. **Isocarpha divaricata**, Benth. Bct. Voy. 'Sulphur,' p. 110, t. 41.
GUATEMALA (*Friedrichsthal*); NICARAGUA (*Ersted*).—COLOMBIA; PERU. Hb. Kew.

2. **Isocarpha echioides**, Less. in Linnæa, v. p. 141, t. 2. figg. 14–16.
SOUTH MEXICO, near Hacienda de la Laguna (*Schiede & Deppe*).

✓ 3. **Isocarpha oppositifolia**, R. Br. in Trans. Linn. Soc. xii. p. 110; DC. Prodr. v. p. 107.

Dunantia achyranthes, DC. Prodr. vii. p. 291; Deless. Ic. Sel. iv. t. 37.

NORTH MEXICO, San Luis Potosi to Tampico (*Palmer*, 1095); SOUTH MEXICO, Consoquitla (*Liebmann*, 458), Acapulco (*Barclay*); HONDURAS, Gulf of Fonseca (*Sinclair*); NICARAGUA (*Ersted*).—BAHAMAS; JAMAICA; TRINIDAD; VENEZUELA. Hb. Kew.

109. RUDBECKIA.

Rudbeckia, Linn. Gen. Plant. n. 980; Benth. et Hook. Gen. Plant. ii. p. 365.

An exclusively American genus of herbs, comprising about twenty-five species, all inhabiting North America.

1. **Rudbeckia columnaris**, Pursh, Fl. Bor.-Am. ii. p. 575; Bot. Mag. t. 1601.
Obeliscaria columnaris, DC. Prodr. v. p. 559.

SASKATCHEWAN, southward to TEXAS.—NORTH MEXICO, without locality (*Gregg*, 339).
Hb. Kew.

110. CHROMOLEPIS.

Chromolepis, Benth. Pl. Hartw. p. 40; Benth. et Hook. Gen. Plant. ii. p. 366.

An herbaceous monotype.

1. **Chromolepis heterophylla**, Benth. Pl. Hartw. p. 40.
SOUTH MEXICO, Anganguio (*Hartweg*). Hb. Kew.

111. WULFIA.

Wulfia, Neck. Elem. i. p. 35; Benth. et Hook. Gen. Plant. ii. p. 367.

About six herbaceous species, restricted to Tropical America.

✓ 1. **Wulfia platyglossa**, DC. Prodr. v. p. 563.
Chakiatella platyglossa, Cass. Dict. xlv. p. 403.

PANAMA, Lion Hill (*S. Hayes*, 383).—GUIANA; BRAZIL. Hb. Kew.

112. MIRASOLIA.

Mirasolia, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 305 (sub *Tithonia calva*); Benth. et Hook. Gen. Plant. ii. p. 367.

1. **Mirasolia calva**, Benth. et Hook. Gen. Pl. ii. p. 368.

Tithonia calva, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 305, = subgenus *Mirasolia*.

NORTH MEXICO, Sierra Madre (*Seemann*, 2045). Hb. Kew.

✓ 2. **Mirasolia diversifolia**, Hemsley, n. sp. (Tab. XLVII.)

Robusta, foliis integris vel lobatis sæpe trilobatis, capitulis maximis, pedunculis sursum incrassatis, acheniis appresse hirsutis, pappo paleolaceo, paleolis latis fimbriatis persistentibus.

Frutex grandis (*Bourgeau*), ramis crassiusculis, glabris vel glabrescentibus, striatis. *Folia* alterna, petiolata, membranacea, glabra vel puberula, ovata vel fere orbicularia, integra, 3-lobata vel 5-lobata, usque ad 9 poll. longa et 6 poll. lata, crenata, basi cuneata, acuminata (vel lobata, lobis acuminatis). *Capitula* homochroma, aurantiaca, usque ad 6 poll. diametro, terminalia vel lateralia, pedunculis elongatis, nudis, sursum incrassatis, fistulosis; involucri bracteæ 2-3-seriatæ, glabræ vel leviter puberulæ, scarioso-coriaceæ vel interiores membranaceæ, striatæ, exteriores fere orbiculares, interiores longiores, obovatæ; receptaculum fere hemisphæricum; paleæ glabræ, striatæ, complicatæ, abrupte acuminatæ, dorso carinatæ, floribus breviores; ligulæ latæ, neutræ; flores disci numerosissimi; corollæ cylindricæ, deorsum hirsutæ; antheræ basi obtusæ, inappendiculatæ. *Achenia* claviformia, compressa, subtetragona, appresse hirsuta; pappus paleolaceus; paleolæ sæpe 6, inæquales, latæ, inter se liberæ, fimbriatæ, longiores circiter lineam longæ, persistentes.

SOUTH MEXICO, abundant in the valley of Orizaba, also in the valley of Cordova (*Bourgeau*, 2319, 1562); GUATEMALA, Dueñas (*Fraser, Salvin*). Hb. Kew.

This differs from the other species in having an evident chaffy pappus. Though described as a shrub, it is probably a gigantic herb.

EXPLANATION OF TAB. XLVII.

Fig. 1, portion of a ray-flower; 2, a disk-flower; 3, a pale; 4, an anther; 5, an achene: all enlarged.

✓ 3. **Mirasolia scaberrima**, Benth. et Hook. Gen. Plant. ii. p. 368.

Tithonia scaberrima, Benth. in Vidensk. Meddel. 1852, p. 91.

SOUTH MEXICO, Zacuapan (*Linden*, 1158), valley of Cordova (*Bourgeau*, 1851), Mirador (*Liebmann*, 251), Orizaba (*Botteri*, 1191); GUATEMALA, lower part of Volcan de Fuego (*Salvin & Godman*), Volcan de Fuego, at 5300 feet (*Salvin*); NICARAGUA, Segovia (*Ersted*, 141). Hb. Kew.

113. IOSTEPHANE.

Iostephane, Benth. in Benth. et Hook. Gen. Plant. ii. p. 368.

An exclusively Mexican genus of scapose herbs.

1. **Iostephane heterophylla**, Benth. in Benth. et Hook. Gen. Plant. ii. p. 368.

Coreopsis heterophylla, Cav. Ic. t. 268.

Echinacea heterophylla, Don in Sweet Brit. Fl. Gard. ser. 2, t. 32.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 470); SOUTH MEXICO, near San Angelo (*Schaffner*), valley of Mexico (*Bourgeau*, 602), Real del Monte (*Coulter*, 374). Hb. Kew.

2. *Iostephane trilobata*, Hemsley, n. sp.

Foliis cordato-trilobatis, capitulis mediocribus, involucri bracteis densissime squamulosis, ligulis flavis?, acheniis glabris.

Herba scaposa, scapo 2-cephalo, strigoso, 15 poll. alto. *Folia* longiuscule petiolata, crassiuscula, 2½–5 poll. longa, inferiora minora indistincte trilobata, superiora cordato-ovata et profunde trilobata, crenata, utrinque scabrida, lobis lateralibus subquadratis, terminali ovato-orbiculari. *Capitula* vix 1½ poll. diametro; involucri bracteæ 2–3-striatæ, lanceolatæ, acutæ, densissime albido-squamulosæ; receptaculum conicum; paleæ amplæ, complicatæ, flores involventes, striatæ, puberulæ, callosio-acuminatæ, floribus paullo longiores. *Flores radii* neutri, flavi? *Flores disci* flavi; corollæ infundibuliformes, plus minusve pubescentes. *Achenia* glabra, obovata, compressa, striata, basi obliqua, fusca.

SOUTH MEXICO, Chiapas (*Ghiesbreght*, 101). Hb. Kew.

114. BORRICHIA.

Borrichia, Adans. Fam. ii. p. 130; Benth. et Hook. Gen. Plant. ii. p. 368.

Two or three shrubby species, restricted to the warmer parts of America and the West Indies.

1. *Borrichia frutescens*, DC. Prodr. v. p. 489.

Diomedea bidentata, Cass. Dict. xiii. p. 283; Dill. Hort. Elth. i. t. 38. fig. 44; Catesb. Carol. i. t. 93.

Trimetra ficoidea, Moç.; DC. Prodr. vii. p. 262; Calques des Dess. Fl. Mex. 676?

CAROLINA to FLORIDA; TEXAS.—MEXICO, San Luis Potosi to Tampico (*Palmer*, 1105), Antigua, Vera Cruz (*Liebmann*, 397).—BERMUDA; JAMAICA. Hb. Kew.

115. BLAINVILLEA.

Blainvillea, Cass. Dict. xxix. p. 493; Benth. et Hook. Gen. Plant. ii. p. 369.

About ten herbaceous species, scattered over the tropics.

✓ 1. *Blainvillea tampicana*, Benth. et Hook. Gen. Plant. ii. p. 370.

Oligogyne tampicana, DC. Prodr. v. p. 629; Deless. Ic. Sel. iv. t. 38.

Calyplocarpus vialis, Less. Synop. p. 221.

NORTH MEXICO, Matamoros (*Berlandier*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 443); SOUTH MEXICO, Real del Monte to Zimapan (*Coulter*, 332); NICARAGUA (*Ersted*, 147); COSTA RICA, San José (*Polakowsky*), without locality (*Ersted*). Hb. Kew.

116. WEDELIA.

Wedelia, Jacq. Stirp. Amer. p. 217, t. 130; Benth. et Hook. Gen. Plant. ii. p. 370.

This genus comprises between forty and fifty herbaceous and half-shrubby species, generally dispersed in warm countries.

BIOL. CENT.-AMER., Bot. Vol. II., June 1881.

1. **Wedelia acapulcensis**, H. B. K. Nov. Gen. et Sp. iv. p. 215.

SOUTH MEXICO, Acapulco (*Humboldt & Bonpland*); PANAMA, Paraiso (*S. Hayes*, 528).
—Southward to PERU. Hb. Kew.

✓ 2. **Wedelia carnosa**, Rich.; Pers. Ench. ii. p. 490; DC. Prodr. v. p. 538.

GUATEMALA (*Friedrichsthal*); NICARAGUA, Granada (*Ersted*, 102); PANAMA, Aspinwall (*S. Hayes*, 570), Chagres (*Fendler*, 168).—Throughout the WEST INDIES and in Eastern SOUTH AMERICA. Hb. Kew.

✓ 3. **Wedelia filipes**, Hemsley, n. sp.

Procumbens, scabrida, foliis sæpe obscure trilobatis, pedunculis gracilibus, capitulis parvis, involucri bracteis interioribus omnino scariosis, paleis apice dilatatis coloratis, corollis glabris, acheniis puberulis clavatis estriatis, pappo brevi cyathiformi fimbriato.

Herba procumbens, strigilloso-scabrida. *Folia* petiolata, rhomboideo-ovata, 2–3 poll. longa, sæpe obscure trilobata, irregulariter calloso-denticulata, lobis lateralibus brevissimis. *Capitula* ad 1 poll. diametro, pedunculata, pedunculis gracilibus, axillaribus, solitariis vel 2–3 aggregatis, 1½–2 poll. longis; involucri bracteæ 2–3-seriatæ, exteriores longiores, ovato-lanceolatæ, strigosæ, interiores omnino scariosæ, tenues, oblongæ, fimbriatæ; receptaculum convexum; paleæ glabræ, complicatæ, apice dilatatæ, coloratæ, flores æquantés vel superantes. *Flores radii* 10–12, aurantiaci; ligulæ oblongo-ellipticæ, apice emarginatæ, glabræ. *Flores disci* numerosi, aurantiaci; corollæ graciles, infundibuliformes, glabræ. *Achenia* brunnea, clavata, leviter compressa, nec striata nec angulata, puberula, pilis brevibus, appressis, sursum spectantibus; pappus brevis, cyathiformis, fimbriatus.

GUATEMALA, Dueñas (*Salvin*). Hb. Kew.

✓ 4. **Wedelia frutescens**, Jacq. Stirp. Amer. p. 217, t. 130; DC. Prodr. v. p. 541.

PANAMA, Chagres (*Fendler*, 167).—COLOMBIA; VENEZUELA; GUIANA; WEST INDIES.
Hb. Kew.

5. **Wedelia hispida**, H. B. K. Nov. Gen. et Sp. iv. p. 215, t. 371; Bot. Reg. t. 543; DC. Prodr. v. p. 539.

Zexmenia texana, A. Gr. Pl. Wright. i. p. 112.

Lipochata texana, Torr. & Gr. Fl. N. Am. ii. p. 357.

Wirtgenia texana, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 304.

TEXAS.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 449); SOUTH MEXICO, valley of Tenochitl (*Humboldt & Bonpland*), Santa Fé (*Bourgeau*, 594). Hb. Kew.

This plant is either very variable in its pappus, or we have more than one species under this name, though the different specimens are identical in foliage.

✓ 6. **Wedelia paludosa**, DC. Prodr. iv. p. 538.

NICARAGUA, Greytown (*Tate*, 27).—Southward to PERU and BRAZIL. Hb. Kew.

✓ 7. **Wedelia phyllocephala**, Hemsley, n. sp.

Strigosa, foliis lanceolatis, capitulis ramulis terminalibus, involucri bracteis 4–5 exterioribus foliaceis (maximis usque ad 1½–2 poll. longis), acheniis 2–3-angulatis, angulis ciliatis, pappo 2–3-aristato.

Herba vel *frutex*, ramosus, ramis graciliusculis, rigidis, hispidis. *Folia* breviter petiolata, lanceolata, $1\frac{1}{2}$ –3 poll. longa, obtusiuscula, integra, margine revoluta, subtrinervia, supra scabro-strigosa, subtus cinereo-tomentosa. *Capitula* terminalia, solitaria, multiflora; involucri bracteæ 3–4-seriatæ, exteriores foliaceæ, $1\frac{1}{2}$ –2 poll. longæ, supra scabro-strigosæ, subtus cinereo-tomentosæ, interiores scariosæ, ciliatæ, puberulæ vel glabræ; receptaculum convexum; paleæ complicatæ, scariosæ, apice dilatatæ (coloratæ?), fimbriatæ, glabræ, flores æquantes. *Flores* omnes fertiles, flavi. *Achenia* 2–3-angulata, angulis ciliatis; pappus 2–5-aristatus; aristæ hispidulæ, inæquales, longiores corollam fere æquantes, breviores brevissimæ, squamiformes.

GUATEMALA, Vera Paz, between San Cristobal and Rio Chisoy (*Bernoulli*, 1077).
Hb. Kew.

✓ 8. **Wedelia populifolia**, Hook. et Arn. Bot. Beech. Voy. p. 435.

NICARAGUA, Realejo (*Sinclair*). Hb. Kew.

117. ELEUTHERANTHERA.

Eleutheranthera, Poit., ex Bosc in Nouv. Dict. Hist. Nat. ed. 1, viii. p. 498, fide Cass. Dict. xxxv. p. 447; Benth. et Hook. Gen. Plant. ii. p. 371.

One annual species, widely dispersed in Tropical America and the West Indies.

✓ 1. **Eleutheranthera ovata**, Poit. loc. cit.

Ogiera triplinervis, Cass. Dict. xxxv. p. 445.

Wedelia discoidea, Schl. in Linnæa, vi. p. 728; DC. Prodr. v. p. 543.

Kegelia ruderalis, Schz. Bip. in Linnæa, xxi. p. 245.

Melampodium ruderale, Sw. Fl. Ind. Occ. p. 1372.

Gymnopsis microcephala, Gardn.; Walp. Ann. ii. p. 856.

PANAMA, common (*S. Hayes*, 193). Hb. Kew.

118. ASPILIA.

Aspilia, Thouars, Gen. Nov. Madag. p. 12; Benth. et Hook. Gen. Plant. ii. p. 371.

About forty herbaceous and half-shrubby species, inhabiting Tropical America, Africa, and Madagascar.

1. **Aspilia mexicana**, Benth. et Hook. Gen. Pl. ii. p. 372.

Wirtgenia mexicana, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 304.

NORTH MEXICO, Sierra Madre (*Seemann*, 2024). Hb. Kew.

2. **Aspilia strigosa**, Benth. et Hook. Gen. Pl. ii. p. 372.

Wedelia strigosa, Hook. et Arn. Bot. Beech. Voy. p. 435.

SOUTH MEXICO, Acapulco (*Sinclair*), Mirador (*Linden*, 464, 1153), woods near Jalapa, 3000 feet (*Galeotti*, 2247). Hb. Kew.

119. ZEXMENIA.

Zexmenia, Llav. et Lex. Nov. Veg. Descr. i. p. 13; Benth. et Hook. Gen. Plant. ii. p. 373.

A genus of about thirty species, inhabiting America from Texas to Peru and South

Brazil; one species occurring in Cuba. They are chiefly herbaceous or half-shrubby; a few are climbing shrubs; and one is described as arboreous.

1. **Zexmenia aurea**, Benth. et Hook. Gen. Plant. ii. p. 373.

Wedelia? *aurea*, D. Don, Bot. Mag. t. 3384.

Verbesina aurea, DC. Prodr. v. p. 613.

MEXICO (*Graham, Parkinson*). Hb. Kew.

2. **Zexmenia brevifolia**, A. Gr. Pl. Wright. i. p. 112.

NEW MEXICO.—NORTH MEXICO, hills near Messilas (*Gregg*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 451). Hb. Kew.

3. **Zexmenia ceanothifolia**, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 305.

Verbesina ceanothifolia, Willd. Sp. Pl. iii. p. 2225.

Lipochæta umbellata, DC. Prodr. v. p. 610; Deless. Ic. Sel. iv. t. 36.

SOUTH MEXICO, region of Orizaba (*Botteri*, 1132; *Müller*, 1683; *Bourgeau*, 3241), valley of Cordova and Cuernavaca (*Bourgeau*, 1930 bis, 1219), Tepic (*Sinclair*). Hb. Kew.

4. **Zexmenia costaricensis**, Benth. in Vidensk. Meddel. 1852, p. 95.

SOUTH MEXICO, without locality (*Beechey*), Orizaba (*Bilimek*, 538); COSTA RICA, Aguacate (*Ersted*); PANAMA, David, Veraguas (*Seemann*, 1587). Hb. Kew.

The Mexican specimens may belong to a different species.

5. **Zexmenia crocea**, A. Gr. Pl. Wright. i. p. 114.

MEXICO (*Ghiesbreght*).

6. **Zexmenia fasciculata**, Hemsley.

Lipochæta fasciculata, DC. Prodr. v. p. 610.

NORTH MEXICO, San Luis Potosi to Tampico (*Palmer*, 1100); SOUTH MEXICO, valley of Cordova (*Bourgeau*, 1932), Mirador (*Liebmann*, 378), Orizaba (*Botteri*, 1096), Cordillera of Vera Cruz, 3000 feet (*Galeotti*, 2219). Hb. Kew.

This is a very variable species as to the foliage, or we have more than one species under the name.

7. **Zexmenia ghiesbreghtii**, A. Gr. Pl. Wright. i. p. 113.

MEXICO (*Ghiesbreght*).

8. **Zexmenia gnaphalioides**, A. Gr. in Proc. Am. Acad. xv. p. 36.

NORTH MEXICO, region of San Luis Potosi (*Palmer*, 1106). Hb. Kew.

9. **Zexmenia greggii**, A. Gr. Pl. Wright. i. p. 113.

SOUTH MEXICO, between the city of Mexico and Mazatlan (*Gregg*).

10. **Zexmenia helianthoides**, A. Gr. Pl. Wright. i. p. 113.

Lasianthæa helianthoides, Zucc.; DC. Prodr. v. p. 608.

SOUTH MEXICO, Cuernavaca (*Ghiesbreght*, 150, 379), without locality (*Karwinski; Bates*, 9). Hb. Kew.

11. **Zexmenia imbricata**, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 306.
MEXICO (*Hænke*).
12. **Zexmenia lantanifolia**, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 305.
Lipochata lantanifolia, Schauer in Linnæa, xix. p. 729.
SOUTH MEXICO, Zimapan (*Aschenborn*; *Coulter*, 326). Hb. Kew.
13. **Zexmenia lindenii**, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 306.
SOUTH MEXICO, Mirador, Vera Cruz, 3000 feet (*Linden*, 1197).
- ✓ 14. **Zexmenia longipes**, Benth. in Vidensk. Meddel. 1852, p. 95.
COSTA RICA, Volcan el Viejo (*Ersted*, 228). Hb. Kew.
15. **Zexmenia macrocephala**, Hemsley.
Lipochata macrocephala, Hook. et Arn. Bot. Beech. Voy. p. 436.
SOUTH MEXICO, Acapulco (*Hinds*). Hb. Kew.
16. **Zexmenia microcephala**, Hemsley, n. sp.
Fruticosa, cinerea, scabrida, foliis ovato-lanceolatis rugosis, capitulis parvis ad 24-floris, corymbis oligocephalis, involucri bracteis decussatis interioribus apice coloratis, acheniis 2-3-alatis, alis sursum productis, aristis cohærentibus.
Frutæx, ramis teretibus foliisque cinereo-scabridis. *Folia* breviter petiolata, crassiuscula, ovato-lanceolata, 1½-4 poll. longa, minute calloso-serrulata, obtusiuscula, subtrinervia, supra rugosa, simul strigillosa, subtus strigillosa, pallidiora, venis elevatis. *Capitula* fasciculato-corymbosa, 4-8 aggregata, 4-5 lineas longa, 2-3 lineas lata, ad 24-flora, pedunculis gracilibus, usque ad 9 lineas longis; involucri bractæ sæpe 12, decussatæ, subcoriaceæ, oblongæ vel ovatæ, glabrescentes, apice rotundatæ, exteriores minores, interiores apice coloratæ; receptaculum fere planum; paleæ membranaceæ, glabræ, lacerato-lobatæ, lobo centrali longiore, lineari, obtuso, apice colorato. *Flores radii* sæpe 4; ligulæ oblongo-ellipticæ, 2-3 lineas longæ. *Flores disci* ad 20; corollæ infundibuliformes, lobis hirsutis. *Achenia* glabra, 2-3-alata; alæ ciliatæ, sursum productæ, aristis adhærentes; squamulæ nullæ.—*Lipochata umbellata*, Hook. et Arn. Bot. Beech. Voy. p. 436, non DC.
SOUTH MEXICO, between San Blas and Tepic (*Sinclair*). Hb. Kew.
17. **Zexmenia monocephala**, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 306.
Lipochata monocephala, DC. Prodr. v. p. 610.
SOUTH MEXICO, Mirador, Vera Cruz (*Sartorius*).
18. **Zexmenia ovata**, Benth. et Hook. Gen. Pl. ii. p. 373.
Tithonia ovata, Hook. Bot. Mag. t. 3901.
MEXICO.
- ✓ 19. **Zexmenia salvinii**, Hemsley, n. sp.
Foliis late ovatis, capitulis paucis breviter pedunculatis, involucri bracteis decussatis 4 exterioribus strigosis amplis quam flores longioribus, acheniis 2-3-aristatis, aristis alatis, squamulis intermediis sæpius nullis.
Herba caulibus vel ramis crassiusculis, pilosis. *Folia* breviter petiolata, late ovata, 3-4 poll. longa, 1½-2 poll. lata, acuminata, vix acuta, crenato-serrata, supra scaberrima, subtus pilosula. *Capitula* ad 1 poll. diametro, in apicibus ramorum solitaria vel 2-3 aggregata, breviter peduncu-

lata; involucri bracteæ decussatæ, coriaceo-scariosæ, 4 exteriores strigosæ, latæ, obovato-oblongæ, rotundatæ, floribus disci longiores, interiores omnino scariosæ, glabræ, angustiores; receptaculum subplanum; paleæ membranaceo-scariosæ, complicatæ, acuminatæ, glabræ, floribus fere dimidiò breviores; corollæ lobi puberuli. *Achenia* glabræ, pallida, longiuscule 2-3-aristata, aristis inæqualibus, alatis; squamulæ intermediæ subnullæ.

GUATEMALA, Volcan de Fuego, 5300 feet (*Salvin*). Hb. Kew.

20. **Zexmenia scandens**, Hemsley, n. sp.

Ramis ferrugineo-pubescentibus, foliis ovato-oblongis scabridis, capitulis numerosis corymbosis, involucri bracteis imbricatis villosis, paleis apice dilatatis puberulis, acheniis 2-3-alatis longe 2-3-aristatis.

Frutex scandens, ramis oppositis, ferrugineo-pubescentibus. *Folia* petiolata, rigida, ovato-oblonga, 3-5 poll. longa (in ramulis ultimis minora), obtusiuscula, remote callosa-serrulata, supra scabrida, subtus pubescentia. *Capitula* homochroma, flava, in apices ramorum corymbosa, maxima fere 2 poll. diametro, breviter pedunculata; involucri bracteæ imbricatæ, 3-4-seriatæ, exteriores villosæ, late ovatæ, obtusiusculæ, interiores scariosæ, glabræ, oblongæ; receptaculum subplanum; paleæ scariosæ, complicatæ, floribus breviores, apice dilatatæ, puberulæ; ligulæ latæ; corollæ disci lobis puberulis. *Achenia* radii late 3-alata, longe 3-aristata, squamulifera, alis ciliatis vel fimbriatis; disci vix alata, sed longe 2-aristata.

SOUTH MEXICO, valley of Cordova (*Bourgeau*, 1930). Hb. Kew.

21. **Zexmenia seemannii**, A. Gr. Pl. Wright. i. p. 114.

NORTH MEXICO, Sierra Madre and the Cerro de Pinal (*Seemann*, 2019, 1476). Hb. Kew.

22. **Zexmenia serrata**, Llav. et Lex. Nov. Veg. i. p. 13.

Lipochæta? *serrata*, DC. Prodr. v. p. 611.

SOUTH MEXICO, San José del Corral (*La Llave*).

23. **Zexmenia stenantha**, Hemsley, n. sp.

Strigosa, foliis late ovatis subtus villosulis, capitulis multifloris solitariis terminalibus pedunculatis, involucri bracteis decussatis, disci corollis gracilibus elongatis, acheniis biaristatis, radii triaristatis, arista interiore multoties longiore.

Frutex, ramis graciliusculis, teretibus, primum puberulis, lenticellatis. *Folia* breviter petiolata, crassiuscula, late ovata vel elliptica, 1½-2 poll. longa, breviter acuminata, obtusiuscula, callosa-serrulata, supra scabro-strigosa, pilis basi tuberculatis, subtus villosula, pallidiora. *Capitula* homochroma, rosea vel purpurea, multiflora, solitaria, terminalia, pedunculis 2-2½ poll. longis; involucri bracteæ ad 8, decussatæ, ovato-oblongæ, exteriores strigosæ, interiores breviores, scariosæ; receptaculum convexum; paleæ membranaceo-scariosæ, acuminatæ, dorso ciliolatæ, exteriores planæ, interiores complicatæ, acheniis paullo longiores. *Flores radii* 10-12; ligulæ oblongæ, bidentatæ, 11-13-striatæ, ad 6 lineas longæ. *Flores disci* graciles, 8-9 lineas longi; corollæ angustissime infundibuliformes, lobis hirsutis. *Achenia* radii triangulata vel triangularia, triaristata, plurisquamulata, arista interiore multoties longiore, angulis ciliolatis; disci compressa, biaristata, aristis subæqualibus, quam corolla multo brevioribus.

SOUTH MEXICO, Cuernavaca (*Bourgeau*, 1204). Hb. Kew.

24. **Zexmenia strigosa**, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 306.

Lipochæta strigosa, DC. Prodr. v. p. 610.

SOUTH MEXICO, around Tehuantepec, Oaxaca (*Andrieux*, 313).

25. **Zexmenia tagetiflora**, D. Don ; Steud. Nomen. Bot. ed. 2, pars 2, p. 798.
Lipochæta tagetiflora, G. Don ; Steud. Nomen. Bot. ed. 2, pars 1, p. 53.

MEXICO.

We have not found any description of this plant.

26. **Zexmenia trachylepis**, Hemsley, n. sp.

Foliis scaberrimis crassiusculis ovato-oblongis, capitulis mediocribus paucis breviter pedunculatis, involucri bracteis nonnullis apice reflexis pagina superiore scabridis, paleis dorso-alatis apice dilatatis hirsutis, acheniis 2-3-aristatis, squamulis intermediis sat distinctis.

Frutex, ramis teretibus, ferrugineo-furfuraceis. *Folia* petiolata, subcoriacea, ovato-oblonga, 3-4½ poll. longa, obtusa, remotiuscule calloso-serrulata, supra scaberrima, subtus scabrida, venis prominulis. *Capitula* ad 9 lineas diametro, homochroma, flava, breviter pedunculata, sæpe ternata, pedunculis communibus quam folia brevioribus ; involucri bracteæ ad 12, decussatæ, scarioso-coriaceæ, latæ, obtusæ vel rotundatæ, concavæ, ciliatæ, exteriores extus leviter furfuraceæ, apice reflexæ, pagina superiore scabrida ; receptaculum subplanum ; paleæ scariosæ, complicatæ, flores vix æquantes, dorso alatæ, glabræ, apice dilatatæ, rotundatæ, hirsutæ. *Flores* puberuli. *Achenia* 2-3-aristatæ, 2-3-alatæ, multisquamulatæ ; aristæ plus minusve inæquales, floribus paullo breviores.

SOUTH MEXICO, Yucatan and Tabasco (*Johnson*, 24). Hb. Kew.

✓ 27. **Zexmenia villosa**, Polak. in Linnæa, xli. p. 579.

COSTA RICA, San José (*Polakowsky*).

28. **Zexmenia zinnioides**, Hemsley, n. sp.

Ramis graciliusculis elongatis, foliis subsessilibus ovato-oblongis scabridis nitidis, capitulis terminalibus sæpissime solitariis, paleis quam flores disci paullo brevioribus, acheniis latiuscule alatis, radii aristis omnibus brevibus.

Frutex? vel *herba*, ramis graciliusculis, elongatis, scabro-puberulis, interdum ferrugineis, striatis. *Folia* sessilia vel brevissime petiolata, rigida, ovato-oblonga, 2-3 poll. longa, acuta vel obtusiuscula, calloso-serrulata, supra parce strigilloso-scabrida, nitida, subtus præcipue in venis strigilloso-scabrida. *Capitula* homochroma, rosea vel purpurea, sæpissime solitaria, terminalia, 1¼-1½ poll. diametro, pedunculis 9-12 lineas longis ; involucri bracteæ ad 16, decussatæ, scariosæ, exteriores latæ, acutæ, puberulæ, ciliatæ, interiores oblongæ vel lineares, omnino glabræ, apice coloratæ ; receptaculum convexum ; paleæ membranaceo-scariosæ, floribus paullo breviores, apice anguste spathulatæ, coloratæ, dorso obscure ciliolatæ. *Flores* radii 10-12, ligulis latis ; *disci* numerosi, corollis infundibuliformibus, lobis hirsutis. *Achenia* latiuscule 2-3-alata, 2-3-aristata ; alæ ciliolatæ, sursum productæ, aristis adhærentes, aristæ 3 radii fere obsoletæ, disci 2 inæquales, corollis fere triplo breviores.

NORTH MEXICO, Cerro de Pinal (*Seemann*, 1464.) Hb. Kew.

120. OYEDÆA.

Oyedæa, DC. Prodr. v. p. 576 ; Benth. et Hook. Gen. Plant. ii. p. 374.

An exclusively Tropical-American genus, comprising about twenty-four shrubby and herbaceous species. It would be better placed as a section of *Zexmenia*, as the only essential difference is that the ray-flowers are neuter.

- ✓ 1. **Oyedæa acuminata**, Benth. et Hook. Gen. Pl. ii. p. 374.
Viguiera acuminata, Benth. in Vidensk. Meddel. 1852, p. 91.
 COSTA RICA, Volcan de Irazu, 9000 feet (*Ersted*). Hb. Kew.

2. **Oyedæa ampeloides**, Hemsley, n. sp.

Scandens, fere glabra, foliis amplis ovatis parcissime hispidulis supra nitidis, corymbis oligocephalis longiuscule pedunculatis axillaribus terminalibusve, capitulis ad 2 poll. diametro, involucri bracteis herbaceis, ligulis angustis, paleis membranaceis obtusis carinatis, acheniis sæpe 5-6- aristatis, aristis 2 multo longioribus.

Frutex scandens, fere omnino glaber, ramis elongatis, asperulis. *Folia* longiuscule petiolata, subcoriacea, ovata vel ovato-oblonga, in ramis floriferis usque ad 6 poll. longa, obtusiuscula, remotissime obsoleteque calloso-serrulata, utrinque parcissime hispidula, supra nitida (in vivis glutinosa?), subtus opaca, subtrinervia. *Capitula* homochroma, flava, ad 2 poll. diametro, corymbosa; corymbi axillares vel terminales, 3-5-flori, foliis æquales vel longiores, vel pedunculi superiores breviores, interdum monocephali; involucri bracteæ 2-3-seriatæ, herbaceæ, appressæ, planæ, oblongæ, obtusæ; receptaculum convexum; paleæ membranaceæ, glabræ, complicatæ, obtusæ, dorso carinatæ, floribus paullo breviores; ligulæ ad 12, angustæ; disci corollæ fere cylindricæ, lobis hirsutis. *Achenia* compressa, claviformia, glabra, anguste 2-alata, sæpe 6-aristata, alis ciliolatis, aristis in fasciculas duas aggregatis, et 2 multo longioribus.

SOUTH MEXICO, valley of Mexico (*Bourgeau*, 2994). Hb. Kew.

- ✓ 3. **Oyedæa macrophylla**, Benth. et Hook. Gen. Pl. ii. p. 374.
Viguiera macrophylla, Benth. in Vidensk. Meddel. 1852, p. 92.
 COSTA RICA, mountains of Aguacate (*Ersted*, 104). Hb. Kew.

4. **Oyedæa ovalifolia**, A. Gr. in Proc. Amer. Acad. v. p. 183.
 SOUTH MEXICO, near Tantoyuca (*Ervendberg*, 97). Hb. Kew.

121. TITHONIA.

Tithonia, Desf. in Ann. Mus. Par. i. p. 49, t. 4; Benth. et Hook. Gen. Plant. ii. p. 374.
 Robust annual herbs, endemic in Mexico and Central America.

- ✓ 1. **Tithonia aristata**, *Erst.* in Vidensk. Meddel. 1852, p. 114.
 COSTA RICA, Aguacate (*Ersted*).
2. **Tithonia recurrens**, A. Gr. Pl. Fendl. p. 85.
 NORTH MEXICO, Cosiquiriachi, Chihuahua (*Wislizenus*).
- ✓ 3. **Tithonia heterophylla**, Griseb. in Bonplandia, 1858, p. 9.
 PANAMA, Isle of Taboga (*Duchassaing*).
- ✓ 4. **Tithonia scaberrima**, Benth. in Vidensk. Meddel. 1852, p. 91.
 NICARAGUA, Chionotega, Segovia, 5000 feet (*Ersted*).
5. **Tithonia speciosa**, Benth. et Hook. Gen. Pl. ii. p. 375.
Helianthus speciosus, Hook. Bot. Mag. t. 3295.
Leighia? speciosa, DC. Prodr. v. p. 583.

6. **Tithonia tagetiflora**, Desf. in Ann. Mus. Par. i. p. 46, t. 4; Bot. Reg. t. 591.
SOUTH MEXICO, Acapulco (*Sinclair*). Hb. Kew.

There are also specimens in Kew herbarium labelled "Realejo (*Sinclair*)," probably in error.

7. **Tithonia thurberi**, A. Gr. in Proc. Amer. Acad. viii. p. 655.
NORTH MEXICO, Sonora (*Thurber*, 910). Hb. Kew.

✓ 8. **Tithonia tubæformis**, Cass. Dict. xxxv. p. 277; DC. Prodr. v. p. 584.
Helianthus tubæformis, Ort. Dec. p. 101; Bot. Reg. t. 1519.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 456, 459), Zacatecas (*Coulter*, 372); SOUTH MEXICO, Tacubaya, valley of Cordova, and valley of Orizaba (*Bourgeau*, 217, 1566, 3244); GUATEMALA (*Bernoulli*, 217). Hb. Kew.

9. **Tithonia**, sp.
SOUTH MEXICO, valley of Cordova (*Bourgeau*, 962). Hb. Kew.
Perhaps a state of *T. tubæformis*.

121. VIGUIERA.

Viguiera, H. B. K. Nov. Gen. et Sp. iv. p. 224, t. 379; Benth. et Hook. Gen. Plant. ii. p. 375.

An exclusively American genus of about sixty herbaceous or half-shrubby species, dispersed from Mexico to Buenos Ayres.

1. **Viguiera buddleiaformis**, Benth. et Hook. Gen. Plant. ii. p. 375.
Helianthus buddleiaformis, DC. Prodr. v. p. 588.
Tithonia angustifolia, Hook. et Arn. Bot. Beech. Voy. p. 435.
NORTH MEXICO, Cerro de Pinal (*Seemann*, 1481); SOUTH MEXICO, Tepic (*Sinclair*), Tacubaya (*Schaffner*, 159), San Nicolas and Santa Fé (*Bourgeau*, 965, 965 bis), about Villalpando (*Mendez*), without locality (*Bates, Tate, Mairet, &c.*). Hb. Kew.

2. **Viguiera canescens**, DC. Prodr. v. p. 579.
SOUTH MEXICO, Leon, west of Guanajuato (*Mendez*).

3. **Viguiera cordifolia**, A. Gr. Pl. Wright. i. p. 107, ii. p. 88.
NEW MEXICO.—NORTH MEXICO, Santa Cruz, Sonora, and Chihuahua, common (*Wright*).
Hb. Kew.

4. **Viguiera dentata**, Spreng. Syst. iii. p. 15; DC. Prodr. v. p. 579.
Helianthus dentatus, Cav. Ic. iii. p. 10, t. 220.
MEXICO.

5. **Viguiera excelsa**, Benth. et Hook. Gen. Pl. ii. p. 375.
Helianthus excelsus, Willd. Sp. Pl. iii. p. 2243.
Tithonia excelsa, DC. Prodr. v. p. 585.
Helianthus giganteus, Cav. Ic. t. 219, non Linn. nec Lour.

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SOUTH MEXICO, San Angel and Santa Fé, valley of Mexico (*Bourgeau*, 843, 599), between Mexico and Queretaro (*Berlandier*, 1265). Hb. Kew.

6. **Viguiera grammatoglossa**, DC. Prodr. v. p. 580.

SOUTH MEXICO, Tlalpujahua (*Keerl*).

7. **Viguiera helianthoides**, H. B. K. Nov. Gen. et Sp. iv. p. 226, t. 379.

Viguiera laxa, DC. Prodr. v. p. 580; A. Gr. Pl. Wright. ii. p. 89.

Viguiera brevipes, DC. Prodr. v. p. 579.

Viguiera texana, Torr. et Gr. Fl. N. Am. ii. p. 318.

TEXAS; CUBA.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 471½); SOUTH MEXICO, Tehuacan (*Liebmann*), San Nicolas, Cuantepec, and Chapultepec (*Bourgeau*, 960, 1076, 513). Hb. Kew.

8. **Viguiera**, sp.? (*Leighia?* *leptocephala*, DC. Prodr. v. p. 582).

MEXICO?

9. **Viguiera linearis**, Schz. Bip. MSS. in hb. Kew.

Leighia linearis, DC. Prodr. v. p. 581.

Helianthus linearis, Cav. Ic. iii. p. 9, t. 218; Bot. Reg. t. 523.

Helianthus squarrosus, H. B. K. Nov. Gen. et Sp. iv. t. 377.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 434, 455); SOUTH MEXICO, Chapultepec (*Bilimek*, 535), Pedregal, Santa Fé, and Guadalupe (*Bourgeau*, 849, 847, 708), Tacubaya (*Schaffner*), Queretaro (*Née*), Guanajuato, 6600 feet (*Humboldt & Bonpland*). Hb. Kew.

10. **Viguiera oppositipes**, DC. Prodr. v. p. 580.

MEXICO.

11. **Viguiera pachycephala**, Hemsley.

Tithonia pachycephala, DC. Prodr. v. p. 585.

SOUTH MEXICO, Leon, west of Guanajuato (*Mendez*).

12. **Viguiera prostrata**, DC. Prodr. v. p. 579.

MEXICO?

13. **Viguiera rugosus**, Benth. et Hook. Gen. Pl. ii. p. 375.

Helianthus rugosus, Schauer in Linnæa, xix. p. 728.

MEXICO (*Aschenborn*). Hb. Kew.

14. **Viguiera seemannii**, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 305.

NORTH MEXICO, Sierra Madre (*Seemann*, 2005). Hb. Kew.

15. **Viguiera sessilifolia**, DC. Prodr. v. p. 579.

SOUTH MEXICO, Tlalpujahua (*Keerl*), Villalpando (*Mendez*), without locality (*Parkinson, Graham?*). Hb. Kew.

16. **Viguiera sphærocephala**, Hemsley.
Leighia sphærocephala, DC. Prodr. v. p. 582.
 MEXICO (*Alaman*).
17. **Viguiera triquetra**, DC. Prodr. v. p. 579.
 SOUTH MEXICO, near San Angel (*Alaman, Berlandier*, 827, 937).
18. **Viguiera urticiformis**, Hemsley.
Leighia urticiformis, DC. Prodr. v. p. 582.
 SOUTH MEXICO, near Guanajuato (*Mendez*).
19. **Viguiera**, sp.
 SOUTH MEXICO, valley of Mexico (*Bourgeau*, 1222). Hb. Kew.
20. **Viguiera**, sp.
 NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 467);
 SOUTH MEXICO, Chapultepec (*Bourgeau*, 365). Hb. Kew.

122. HELIANTHUS.

Helianthus, Linn. Gen. Plant. n. 979; Benth. et Hook. Gen. Plant. ii. p. 376.

An exclusively American genus of herbs, comprising about fifty species, chiefly north temperate, but extending southward to Peru and Chili.

1. **Helianthus amplexicaulis**, DC. Prodr. v. p. 589.
 SOUTH MEXICO, Leon, west of Guanajuato (*Mendez*).
2. **Helianthus cernua**, Benth. et Hook. Gen. Pl. ii. p. 376.
Flourensia cernua, DC. Prodr. v. p. 593.
 TEXAS; NEW MEXICO.—NORTH MEXICO, Saltillo (*Gregg*), Monterey to Lampasos (*Berlandier*, 1401), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 469).
 Hb. Kew.
3. **Helianthus ciliaris**, DC. Prodr. v. p. 587; A. Gr. in Proc. Amer. Acad. 1862, p. 164.
 TEXAS.—NORTH MEXICO, Sonora (*Thurber*). Hb. Kew.
4. **Helianthus cornifolius**, H. B. K. Nov. Gen. et Sp. iv. p. 223.
 SOUTH MEXICO, Santa Rosa de la Sierra, at 8700 feet (*Humboldt & Bonpland*).
5. **Helianthus laciniatus**, A. Gr. Pl. Fendl. p. 84.
 NORTH MEXICO, valley of Nazas, Bolson de Mapimi, and west of Coahuila (*Gregg*), valley of San Luis Potosi (*Schaffner*). Hb. Kew.
6. **Helianthus laurifolius**, Benth. et Hook. Gen. Pl. ii. p. 376.
Flourensia laurifolia, DC. Prodr. v. p. 592; Deless. Ic. Sel. iv. t. 35.
 NORTH MEXICO, between Vittoria and Tula (*Berlandier*, 2205), San Luis Potosi to Tampico (*Palmer*, 1109). Hb. Kew.

7. **Helianthus longeradiatus**, Bertol. Fl. Guat. p. 36; Walp. Rep. ii. p. 618.
GUATEMALA, Volcan de Agua (*Velasquez*).
8. **Helianthus? mexicanus**, Hemsley.
Harpalum mexicanum, Walp. in Linnæa, xiv. p. 306; Rep. ii. p. 616.
MEXICO (*Karwinski*).
9. **Helianthus micranthus**, Spreng. Syst. iii. p. 618; DC. Prodr. v. p. 589.
Helianthus parviflorus, H. B. K. Nov. Gen. et Sp. iv. p. 222, t. 378.
SOUTH MEXICO, Santa Rosa, 8700 feet (*Humboldt & Bonpland*).
10. **Helianthus occidentalis**, Riddell, Suppl. Cat. Ohio Pl. p. 13; Torr. & Gray, Fl. N. Amer. ii. p. 323.
OHIO to WISCONSIN southward to TEXAS.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 460). Hb. Kew.
11. **Helianthus ovatus**, Lehm. Ind. Sem. Hort. Hamb. 1828, p. 16, et in Linnæa, v. p. 376.
MEXICO.
12. **Helianthus præcox**, Engelm. & Gray, Pl. Lindheim. i. p. 13.
TEXAS.—NORTH MEXICO, around the city of Matamoros (*Berlandier*, 2354). Hb. Kew.
13. **Helianthus quinqueradiatus**, Cav. Ic. iii. p. 38, t. 272; DC. Prodr. v. p. 590.
MEXICO.
14. **Helianthus trilobatus**, Link, Enum. Hort. Ber. ii. p. 352; DC. Prodr. v. p. 591.
MEXICO.
15. **Helianthus**, sp.
NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 452). Hb. Kew.
16. **Helianthus**, sp.
NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 453). Hb. Kew.

123. PERYMENIUM.

Perymenium, Schrad. Ind. Sem. Hort. Gœtt. 1830, ex DC. Prodr. v. p. 608; Benth. et Hook. Gen. Plant. ii. p. 377.

About a dozen herbaceous and shrubby species, inhabiting America from Mexico to Peru.

1. **Perymenium barclayanum**, DC. Prodr. v. p. 609.
MEXICO.

2. **Perymenium berlandieri**, DC. Prodr. v. p. 608.
SOUTH MEXICO, mountains of Guichilapa (*Berlandier*, 1040).
3. **Perymenium buphthalmoides**, DC. Prodr. v. p. 609.
MEXICO (*Alaman*).
4. **Perymenium cervantesii**, DC. Prodr. v. p. 609.
SOUTH MEXICO, Santa Fé (*Bourgeau*, 378), Toluca, 8000 feet (*Galeotti*, 2415), Real del Monte (*Coulter*, 340), without locality (*Graham*). Hb. Kew.
5. **Perymenium discolor**, Schrad. Ind. Sem. Hort. Gœtt. 1830; DC. Prodr. v. p. 608, excl. synonym.
SOUTH MEXICO, Oaxaca (*Andrieux*, 305), Orizaba (*Botteri*, 893; *Bourgeau*, 2927), Cordillera of Oaxaca, at 7000 feet (*Galeotti*, 1999). Hb. Kew.
6. **Perymenium gracile**, Hemsley, n. sp.
Foliis tenuibus minute strigillosis ovato-lanceolatis longiuscule graciliterque petiolatis, capitulis parvis paucifloris numerosis, pedunculis filiformibus, ligulis sæpe 5, acheniis punctulatis, pappi aristis inter se liberis subæqualibus.
Frutex vel *herba*, ramis gracilibus, subtetragonis, obsolete puberulis. *Folia* graciliter petiolata, tenuia, ovato-lanceolata, usque ad 4 poll. longa, superiora gradatim minora, acutissima, remote minuteque calloso-serrulata, utrinque minute scabrido-strigillosa; petiolus usque ad semipollicaris. *Capitula* numerosa, corymbosa (corymbis foliosis), parva (involucrum ad 2 lineas longum et $1\frac{1}{2}$ lineam latum), pauciflora; pedunculi filiformes, $\frac{1}{2}$ –1 poll. longi; involucri bracteæ pluri-seriatæ, coriaceo-scariosæ, latæ, obtusæ, ciliatæ, exteriorès minores; receptaculum parvum; paleæ scariosæ, complicatæ, carinatæ, laceratæ, obtusæ, floribus breviores; ligulæ sæpe 5, ad 4 lineas longæ. *Achenia* subtetragona, compressa, glabra vel leviter puberula, punctulata, basi angustiora, callosa; pappi aristæ numerosæ, subæquales, caducissimæ.
SOUTH MEXICO, San Cristobal, Orizaba (*Bourgeau*, 3206). Hb. Kew.
- ✓ 7. **Perymenium grande**, Hemsley, n. sp.
Ramis crassiusculis furfuraceis, foliis amplis longe petiolatis crenato-serratis, capitulis corymbosis, acheniis 2–3-alatis, alis sursum productis pappo liberis, pappi aristis inæqualibus basi connatis.
Frutex vel *herba*, ramis crassiusculis, subtetragonis, sulcatis, furfuraceis. *Folia* membranacea, longe petiolata, ovata, usque ad 9 poll. longa, acuminata, obtusa, crenato-serrata, supra scabrida, subtus puberula, triplinervia, venis subtus elevatis; petiolus usque ad 2 poll. longus. *Capitula* numerosa, ad sesquipollicem diametro, in corymbos compositos terminales foliosos disposita; pedunculi breves; involucri bracteæ 12–15, 3–4-seriatæ, herbaceo-scariosæ, puberulæ, late ovatæ, oblongæ, obtusæ, vel interiores fere lineares et glabræ; receptaculum convexum; paleæ scariosæ, complicatæ, integræ, dorso alatæ, floribus breviores; ligulæ ad 7; disci corollæ infundibuliformes, lobis leviter puberulis. *Achenia* radii 3-alata, disci 2-alata, compressa; alæ ciliolatæ, sursum productæ, pappo liberæ; pappi aristæ numerosæ, caducæ, basi connatæ, 2 sæpe longiores.
GUATEMALA, Alta Vera Paz, on mountains around Coban, at 4300 feet (*Türkheim*). Hb. Kew.

8. **Perymenium gymnomoides**, DC. Prodr. v. p. 609.
Lipotriche gymnomoides, Less. in Linnæa, vi. p. 408.
 SOUTH MEXICO, Misantla (*Schiede & Deppe*).
9. **Perymenium mendezii**, DC. Prodr. v. p. 608.
 SOUTH MEXICO, Villalpanda (*Mendez*).
10. **Perymenium parvifolium**, A. Gr. in Proc. Am. Acad. xv. p. 36.
 NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 475).
 Hb. Kew.
11. **Perymenium tenellum**, A. Gr. in Proc. Amer. Acad. xv. p. 36.
 NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 450).
 Hb. Kew.
12. **Perymenium verbesinoides**, DC. Prodr. v. p. 608.
 MEXICO (*Berlandier*).
- √ 13. **Perymenium**, sp.
 GUATEMALA, near Coban, 4300 feet (*Türckheim*, 339). Hb. Kew.
14. **Perymenium**, sp.?
 SOUTH MEXICO, Chiapas &c. (*Ghiesbreght*, 563). Hb. Kew.
15. **Perymenium**, sp.
 SOUTH MEXICO, San Nicolas, valley of Mexico (*Bourgeau*, 964). Hb. Kew.
16. **Perymenium**, sp.
 SOUTH MEXICO, Oaxaca (*Andrieux*, 304). Hb. Kew.
17. **Perymenium**, sp.
 SOUTH MEXICO, Real del Monte (*Coulter*, 329). Hb. Kew.

124. MELANTHERA.

Melanthera, Rohr. in Skrivt. Nat. Selsk. Kiöbenh. ii. p. 213; Benth. et Hook. Gen. Plant. ii. p. 377.

About eight herbaceous and shrubby species, inhabiting Tropical Africa and America. The species need revision.

1. **Melanthera deltoidea**, Rich. in Michx. Fl. Bor.-Am. ii. p. 106 (sub *Melanthera*); DC. Prodr. v. p. 545.

Calea aspera, Jacq. Ic. Pl. Rar. t. 583.

SOUTH MEXICO, Orizaba (*Botteri*, 1192; *Bourgeau*, 2653), valley of Cordova (*Bourgeau*, 1878); GUATEMALA, Rio Guacalate (*Salvin*); NICARAGUA (*Tate*, 22, 169); COSTA RICA, San José (*Ersted*, 125); PANAMA, Chagres (*Fendler*, 164).—WEST INDIES and north part of SOUTH AMERICA. Hb. Kew.

2. **Melanthera hastata**, Rich. in Michx. Fl. Bor.-Am. ii. p. 106; DC. Prodr. v. p. 545.

FLORIDA.—MEXICO, Yucatan and Tabasco (*Johnson*); NICARAGUA (*Tate*, 170); COSTA RICA, San José (*Ersted*); PANAMA, Chagres (*Fendler*, 165), Empire station (*S. Hayes*, 514).—WEST INDIES and north part of SOUTH AMERICA. Hb. Kew.

✓ 3. **Melanthera lanceolata**, Benth. in Vidensk. Meddel. 1852, p. 88.

COSTA RICA, Santa Rosa, Guanacaste (*Ersted*, 120, 121). Hb. Kew.

✓ 4. **Melanthera microphylla**, Steetz in Seem. Bot. Voy. 'Herald,' p. 156.

PANAMA, in pastures near the city of Panama (*Seemann*, 254). Hb. Kew.

✓ 5. **Melanthera oxylepis**, DC. Prodr. v. p. 545.

HONDURAS, Gulf of Fonseca (*Sinclair*); NICARAGUA (*Ersted*, 124).—ECUADOR. Hb. Kew.

6. **Melanthera**, sp.

SOUTH MEXICO, Antigua, Vera Cruz (*Linden*, 1150, 1234; *Galeotti*, 2320), without locality (*Jurgensen*, 254). Hb. Kew.

125. ENCELIA.

Encelia, Adans. Fam. ii. p. 128; Benth. et Hook. Gen. Plant. ii. p. 378.

This genus is endemic in America; and about twenty species are known, dispersed from Utah and California to Chili.

1. **Encelia (Geræa) albescens**, A. Gr. in Proc. Amer. Acad. viii. p. 658.

NORTH MEXICO, SONORA (*Palmer*).

2. **Encelia amplexicaulis**, Hemsley.

Simsia amplexicaulis, Pers. Ench. ii. p. 478; DC. Prodr. v. p. 578.

Coreopsis amplexicaulis, Cav. Descr. Pl. p. 226; Ait. Hort. Kew. v. p. 134.

MEXICO.

3. **Encelia cordata**, Hemsley.

Simsia cordata, Cass. Dict. lix. p. 137; DC. Prodr. v. p. 578.

Ximenesia cordata, H. B. K. Nov. Gen. et Sp. iv. p. 228.

SOUTH MEXICO, near Capula and Valladolid, Michoacan, 6300 feet (*Humboldt & Bonpland*).

4. **Encelia exaristata**, A. Gr. in litt.

Simsia exaristata, A. Gr. Pl. Wright. ii. p. 87.

NEW MEXICO.—NORTH MEXICO, SONORA (*Wright*); SOUTH MEXICO, valley of Orizaba (*Bourgeau*, 3320). Hb. Kew.

5. **Encelia fœtida**, Hemsley.

Simsia ficifolia, Pers. Ench. ii. p. 478; DC. Prodr. v. p. 577.

Coreopsis fatida, Cav. Ic. i. p. 55, t. 77.

Ximenesia fatida, Spreng. Syst. iii. p. 606.

MEXICO.

Some of the specimens referred to *E. mexicana* may belong to this species; or this may be the same species.

6. **Encelia (Barrattia) ghiesbreghtii**, A. Gr. in Proc. Amer. Acad. viii. p. 658.

SOUTH MEXICO, Chiapas (*Ghiesbreght*).

√ 7. **Encelia grandiflora**, Hemsley.

Simsia grandiflora, Benth. in Vidensk. Meddel. 1852, p. 92.

NICARAGUA, Volcan el Viejo (*Ersted*, 100). Hb. Kew.

8. **Encelia halimifolia**, Cav. Ic. iii. p. 6, t. 210; DC. Prodr. v. p. 567.

“In MEXICO ex Cav., sed verisim. potius in PERU.”—DC. loc. cit.

9. **Encelia heterophylla**, Hemsley.

Simsia heterophylla, DC. Prodr. v. p. 577, non Cass.

Ximenesia heterophylla, H. B. K. Nov. Gen. et Sp. iv. p. 227, t. 280.

SOUTH MEXICO, Zinepequaro, 5750 feet (*Humboldt & Bonpland*), between Tampico and Real del Monte (*Berlandier*, 442; *Coulter*, 261). Hb. Kew.

10. **Encelia hispida**, Hemsley.

Simsia hispida, Cass. Dict. lix. p. 137; DC. Prodr. v. p. 578.

Ximenesia hispida, H. B. K. Nov. Gen. et Sp. iv. p. 227.

SOUTH MEXICO, Santa Rosa de la Sierra and Valladolid, 5750 feet (*Humboldt & Bonpland*).

11. **Encelia lagascæformis**, A. Gr. in litt.

Simsia lagascæformis, DC. Prodr. v. p. 577.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 472); SOUTH MEXICO, Guanajuato (*Hartweg*). Hb. Kew.

12. **Encelia mexicana**, Mart., ex DC. Prodr. v. p. 578.

Simsia auriculata, DC. Prodr. v. p. 577.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 471); SOUTH MEXICO, around the city of Mexico (*Berlandier*, 850, 927), valley of Mexico (*Bourgeau*, 516, 850, 1078). Hb. Kew.

13. **Encelia microphylla**, A. Gr. in Proc. Amer. Acad. xv. p. 37.

NORTH MEXICO, near Saltillo (*Parry & Palmer*, 462). Hb. Kew.

√ 14. **Encelia polycephala**, Hemsley.

Simsia polycephala, Benth. in Vidensk. Meddel. 1852, p. 93.

NICARAGUA, between Sapoa and Tortuga (*Ersted*, 160). Hb. Kew.

✓ 15. **Encelia** (? **Simsia**) **sericea**, Hemsley, n. sp.

Foliis ovato-lanceolatis subtus sericeo-tomentosis argenteis, floribus flavis, paleis puberulis sursum coloratis, acheniis 2- rarius 3-aristatis appresse hirsutis.

Herba?, ramis teretibus, parce purpureo-puberulis. *Folia* opposita vel superiora tantum alterna, breviter petiolata, crassiuscula, ovato-lanceolata, $1\frac{1}{2}$ -2-pollicaria, remote obscureque callososerrulata, acutiuscula, subtrinervia, supra densissime strigilloso-hirsuta, subtus densissime sericeo-tomentosa, argentea. *Capitula* pauca, corymbosa, vix 1 poll. diametro, homochroma, flava; pedunculi breves; involucri bracteæ hirsutæ, 2-3-seriatæ, lineari-lanceolatæ, acutæ, exteriores breviores; receptaculum parvum, convexum; paleæ scarioso-herbaceæ, complicatæ, integræ, acutissimæ, extus puberulæ, sursum coloratæ, flores æquantem vel paullo excedentes; ligulæ ad 7, latæ, neutræ; corollæ disci infundibuliformes (basi tantum angustæ), puberulæ. *Achenia* appresse hirsuta, maximam partem compressa, 2-aristata, angulis ciliatis, nonnulla (exteriora disci?) 3-aristata, 3-angulata; pappi aristæ subæquales, pilosulæ, corollis dimidio breviores.

GUATEMALA, Motagua valley (*Salvin & Godman*, 133). Hb. Kew.

16. **Encelia sanguinea**, Hemsley.

Simsia sanguinea, A. Gr. Pl. Wright. i. p. 107.

SOUTH MEXICO, Mirador, Consoquitla (*Liebmann*, 492; *Linden*, 1146), Cordillera of Oaxaca, 5000 to 7000 feet (*Galeotti*, 2092). Hb. Kew.

17. **Encelia subaristata**, A. Gr. in litt.

Simsia subaristata, A. Gr. Pl. Fendl. p. 84.

NORTH MEXICO, Bishop's Hill, near Monterey (*Gregg*).

126. HELIANTHELLA.

Helianthella, Torr. & Gr. Fl. N. Amer. ii. p. 333; Benth. et Hook. Gen. Plant. ii. p. 378.

Besides the following, there are six or seven North-American species; they are herbaceous plants.

1. **Helianthella mexicana**, A. Gr. in Proc. Amer. Acad. xv. p. 37.

NORTH MEXICO, valley of San Luis Potosi (*Parry & Palmer*, 463). Hb. Kew.

127. ACTINOMERIS.

Actinomeris, Nutt. Gen. Pl. N. Amer. ii. p. 181; Benth. et Hook. Gen. Plant. ii. p. 379.

About ten herbaceous species, confined to North America, including Mexico.

1. **Actinomeris longifolia**, A. Gr. Pl. Wright. ii. p. 89.

NORTH MEXICO, Sonora (*Wright*). Hb. Kew.

2. **Actinomeris ovata**, Nutt. Gen. Am. ii. p. 181 in adnot (nomen tantum).

Coreopsis ovata, Cav. Ic. iii. p. 41, t. 280 (descr. infra amplif.).

Caulibus late alatis, foliis alternis decurrentibus ovato-oblongis, capitulis densiuscule corymbosis, involucri bracteis coriaceo-herbaceis, interioribus paleisque callosis-acuminatis, corollis pilosulis, acheniis breviter 2-1-aristatis nonnullis muticis.

Herba, caulibus simplicibus (?) late alatis. *Folia* alterna, sessilia, membranacea, longe decurrentia, ovato-oblonga, 3-4 poll. longa, obtusiuscula, callosa-serrulata, utrinque hispidula. *Capitula* densiuscule corymbosa, breviter pedunculata, corymbis pleiocephalis, compositis, terminalibus; involucri bracteæ 2-seriatæ, coriaceo-herbaceæ, hispidulæ, exteriores obovato-oblongæ, rotundatæ, interiores callosa-acuminatæ; receptaculum convexum vel fere conicum; paleæ latæ, complicatæ, leviter puberulæ, glabrescentes, sursum coloratæ, maculatæ, apice incrassatæ, acuminatæ, floribus paullo breviores. *Flores radii* neutri; ligulæ latæ, tubo pilosulæ. *Flores disci* numerosi; corollæ infundibuliformes, basi dilatatæ, pilosulæ. *Achenia* compressa, marginibus ciliolatis; pappi aristæ sæpissime 2, breves, interdum 1, vel achenia florum exteriorum nonnullorum mutica.

SOUTH MEXICO, Real del Monte (Coulter, 363). Hb. Kew.

We had described this as a new species, but afterwards identified it with Cavanille's figure. As his description is incomplete, we let ours stand.

3. *Actinomeris stricta*, Hemsley, n. sp.

Caulibus simplicibus gracilibus, foliis parvis sessilibus confertis subappressis fere linearibus, capitulis simpliciter corymbosis longiuscule pedunculatis, involucri bracteis 1-seriatis herbaceis, receptaculo elongato-conico, acheniis late alatis.

Herba, caulibus simplicibus, elongatis (usque a 2-pedalibus) gracilibus, pilosulis, striatis, sursum interdum subaphyllis. *Folia* conferta, adscendentia vel subappressa, sessilia, nec decurrentia, membranacea, linearia, lineari-oblonga vel interdum lanceolato-oblonga, sæpius $1\frac{1}{2}$ -2 poll. longa, superiora gradatim breviora, obtusiuscula, subintegra, supra scabrida, subtus pubescentia vel villosula. *Capitula* mediocria, simpliciter corymbosa, longiuscule pedunculata, corymbis sæpius 4-8-cephalis; involucri bracteæ 1-2-seriatæ, herbaceæ, pilosulæ, lineari-oblongæ vel obovatæ; receptaculum elongato-conicum; paleæ scariosæ, complicatæ, apice coloratæ, incrassatæ, pilosulæ; corollæ disci infundibuliformes, pilosæ. *Achenia* glabra, nigra, late alata, 2-aristata.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (Parry & Palmer, 461); SOUTH MEXICO, Real del Monte (Coulter, 362), Orizaba (Botteri, 1131; Bourgeau, 2687). Hb. Kew.

4. *Actinomeris tetragona*, DC. Prodr. v. p. 576.

SOUTH MEXICO, around the city of Mexico (Alaman).

5. *Actinomeris tetraptera*, DC. Prodr. v. p. 575.

Coreopsis alata, Cav. Ic. iii. t. 260.

Helianthus tetrapterus, Ort. Dec. vi. p. 74.

Pterophyton alatum, Cass. Dict. xlv. p. 49.

Verbesina scabra, Benth. Pl. Hartw. p. 41.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (Parry & Palmer, 473 $\frac{1}{2}$); SOUTH MEXICO, valley of Cordova (Bourgeau, 2929), Orizaba (Sallé), Zimapan (Coulter, 370), Zitaquaro (Hartweg, 315), valley of Mexico (Bourgeau, 604). Hb. Kew.

6. *Actinomeris wrightii*, A. Gr. Pl. Fendl. p. 85.

TEXAS.—NORTH MEXICO, Camp Bowie, South Arizona (Rothrock).

128. VERBESINA.

Verbesina, Linn. Gen. Plant. n. 975, ex parte; Benth. et Hook. Gen. Plant. ii. p. 379.

An American genus, comprising about fifty herbaceous, half-shrubby, and shrubby species, ranging from Virginia to Buenos Ayres. A few species have become naturalized in the Old World.

1. ***Verbesina alata***, Linn. Sp. Pl. p. 1270; DC. Prodr. v. p. 379; Bot. Mag. t. 1716.

Hamalium alatum, Cass. Dict. xx. p. 261.

MEXICO (according to *De Candolle* and *Grisebach*).—WEST INDIES and north part of SOUTH AMERICA.

We have seen no Mexican specimens.

2. ***Verbesina argentea***, Bertol. Fl. Guat. p. 35; Walp. Rep. ii. p. 621.
GUATEMALA, Volcan de Agua (*Velasquez*).

3. ***Verbesina auriculata***, DC. Prodr. v. p. 617.

SOUTH MEXICO, near Tehuantepec (*Andrieux* 302), Acatlan (*Hahn*). Hb. Kew.

4. ***Verbesina capitaneja***, Nees in Linnæa, xix. p. 729.

Actinomeris pedunculosa, DC. Prodr. v. p. 576.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 473); SOUTH MEXICO, Zimapan (*Coulter*, 341), Santa Fé, valley of Mexico (*Bourgeau*, 377). Hb. Kew.

5. ***Verbesina crocata***, Less. Synop. p. 232; DC. Prodr. v. p. 617.

Bidens crocata, Cav. Ic. t. 99.

Spilanthes crocata, Sims, Bot. Mag. t. 1627.

Platypteris crocata, H. B. K. Nov. Gen. et Sp. iv. p. 201.

SOUTH MEXICO, Cuernavaca (*Bourgeau*, 1220), Maloapan (*Liebmann*, 480), Orizaba (*Botteri*, 1097); COSTA RICA (*Ersted*). Hb. Kew.

6. ***Verbesina encelioides***, Benth. et Hook. Gen. Plant. ii. p. 380.

Ximenesia encelioides, Cav. Ic. ii. p. 60, t. 178.

CAROLINA; FLORIDA; NEW MEXICO.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 468), around Matamoros (*Berlandier*), without locality (*Gregg*).—WEST INDIES and SOUTH AMERICA; also widely naturalized in the tropics of the OLD WORLD. Hb. Kew.

7. ***Verbesina* (§ *Platypteris*) *fraseri***, Hemsley, n. sp. (Tab. XLVIII.)

Scandens, caulibus 4-alatis, foliis oppositis sæpius deltoideo-ovatis, capitulis discoideis multifloris subglobosis, involucri bracteis latis reflexis, paleis apice incrassatis, acheniis late alatis cordiformibus.

Frutex scandens, caulibus crassiusculis, 4-alatis, ramulis patentissimis. *Folia* opposita, longiuscule

petiolata, deltoideo-ovata vel oblonga, $1\frac{1}{2}$ –4 poll. longa, acuta, basi cuneata vel fere truncata, callosa-dentata vel duplicato-dentata, supra scabra, subtus pubescentia vel scabridula. *Capitula* discoidea, subglobosa, usque ad $1\frac{1}{2}$ poll. diametro, terminalia, solitaria vel 2–3 aggregata, longiuscule pedunculata; involucri bracteæ 3–4-seriatæ, exteriores amplæ, oblongo-obovatae, recurvæ vel patentes, scabridæ; receptaculum convexum; paleæ scariosæ, ciliolatae, carinatae, acuminatae, apice incrassatae, floribus breviores; corollæ cylindricæ, puberulæ. *Achenia* late alata, cordiformia, 2-aristata.

GUATEMALA, Dueñas (*Fraser, Salvin & Godman*). Hb. Kew.

EXPLANATION OF TAB. XLVIII.

Fig. 1, a flower; 2, a palet; 3, a stamen; 4, a style; 5, an achene: all enlarged.

✓ 8. *Verbesina gigantea*, Jacq. Ic. Rar. i. t. 175; DC. Prodr. v. p. 615.

PANAMA, near the city of Panama (*Seemann*, 442), Empire station (*S. Hayes*).—WEST INDIES. Hb. Kew.

9. *Verbesina grayi*, Benth. et Hook. Gen. Plant. ii. p. 373.

Zexmenia grayi, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 305.

NORTH MEXICO, Sierra Madre (*Seemann*, 2004). Hb. Kew.

10. *Verbesina hypoleuca*, A. Gr. in Proc. Amer. Acad. xv. p. 37.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*). Hb. Kew.

11. *Verbesina longipes*, Hemsley, n. sp.

Gracilis, foliis oppositis rhomboideo-ovatis grosse crenatis, capitulis radiatis solitariis terminalibus longe pedunculatis, involucri bracteis angustis, acheniis immaturis breviter 2-cornutis.

Herba?, caulibus vel ramis gracilibus, teretibus, apteris, puberulis, internodiis quam folia longioribus.

Folia opposita, sessilia, rhomboideo-ovata, 2– $2\frac{1}{2}$ poll. longa, obtusa vel rotundata, basi semiamplexicaulia, grosse serrata, supra scabra, subtus scabridula. *Capitula* radiata, ad $1\frac{1}{2}$ poll. diametro, solitaria, terminalia, pedunculo ad 6 poll. longo; involucri bracteæ 2–3-seriatæ, exteriores breviores, scabridæ, oblongæ, obtusæ, interiores subscariosæ, acutæ; receptaculum convexum; paleæ scariosæ, complicatæ, acutæ, flores fere æquantæ; corollæ cylindricæ, leviter puberulæ. *Achenia* immatura glabra, breviter 2-cornuta.

MEXICO (*Coulter*, 342). Hb. Kew.

✓ 12. *Verbesina microcephala*, Benth. in Vidensk. Meddel. 1852, p. 98.

SOUTH MEXICO, Mirador (*Linden*, 1173), Cordillera of Oaxaca, 3000 to 4000 feet (*Galeotti*, 2012), Lobani (*Liebmann*, 333), Orizaba (*Sallé*); COSTA RICA, mountains of Candelaria (*Ersted*). Hb. Kew.

13. *Verbesina mollis*, H. B. K. Nov. Gen. et Sp. iv. p. 203.

SOUTH MEXICO, between Guanajuato and Villalpando, 7200 feet (*Humboldt & Bonpland*), Cordillera of Oaxaca, 6500 feet (*Galeotti*, 2002). Hb. Kew.

14. *Verbesina neriifolia*, Hemsley, n. sp.

Fruticosa, ramis anguste alatis, foliis alternis elongatis lineari-lanceolatis, supra obsolete puberulis

subtus argenteo-tomentosis, capitulis radiatis in apicibus ramorum corymbosis, pedunculis quam folia brevioribus, involucri bracteis linearibus sericeo-tomentosis, acheniis immaturis longe 2-aristatis, radii 1-aristatis.

Frutex 4–5-pedalis (*Ghiesbreghtio*), ramis crassiusculis, anguste alatis, minutissime puberulis. *Folia* alterna, subsessilia, crassiuscula, lineari-lanceolata, usque ad 6 poll. longa, utrinque valde attenuata, acuta, integra, supra obsolete puberula, supra viridia, costa venisque pallida, subtus argenteo-tomentosa. *Capitula* radiata, 1–1½ poll. diametro, in apicibus ramorum corymbosa; pedunculi alati, 1–2 poll. longi; involucri bracteæ 3–4-seriatæ, exteriores longiores, lineari-lanceolatæ, sericeo-tomentosæ; receptaculum fere hemisphæricum; paleæ scariosæ, complicatæ, acutæ, ciliolatæ, floribus breviores; corollæ disci cylindricæ, basi leviter puberulæ. *Achenia* (immatura tantum visa) radii 1-aristata (an semper?), disci longe 2-aristata.

SOUTH MEXICO, Chiapas &c. (*Ghiesbreght*, 528). Hb. Kew.

15. *Verbesina oaxacana*, DC. Prodr. v. p. 614.

SOUTH MEXICO, near Tehuantepec, Oaxaca (*Andrieux*, 301); sandhills of the Antigua (*Galeotti*, 2266), Mirador (*Linden*, 1157). Hb. Kew.

Linden and Galeotti's specimens may be specifically distinct from Andrieux's.

✓ 16. *Verbesina ærstediana*, Benth. in Vidensk. Meddel. 1852, p. 96.

COSTA RICA, Volcan Irazu, 8000 to 9500 feet (*Ærsted*). Hb. Kew.

17. *Verbesina ovatifolia*, A. Gr., ubi?

SOUTH MEXICO, Chiapas &c. (*Ghiesbreght*, 523). Hb. Kew.

Allied to *V. crocata* and *V. fraseri*.

✓ 18. *Verbesina pallens*, Benth. Vidensk. Meddel. 1852, p. 97.

COSTA RICA, Volcan el Viejo, 3000 feet (*Ærsted*). Hb. Kew.

19. *Verbesina pauciflora*, Hemsley.

Caulibus apteris, foliis oppositis lanceolato-oblongis, capitulis discoideis numerosissimis ad 9-floris trichotomo-corymbosis, involucri bracteis ad 6 quam flores multo brevioribus, acheniis longe 2-aristatis alatis, alis ciliolatis.

Herba vel *frutex*, ramis crassiusculis, apteris, glabris. *Folia* opposita, breviter petiolata, membranacea, lanceolato-oblonga, usque ad 6 poll. longa, acuminata, vix acuta, supra scabridula, subtus pubescens. *Capitula* discoidea, parva, sæpius 9-flora, numerosissima, trichotomocorymbosa, corymbis densis, terminalibus; involucri bracteæ ad 6, 2-seriatæ, herbaceæ, hirsutæ, oblongæ, obtusæ, floribus multo breviores, exteriores breviores; receptaculum parvum, convexum; paleæ membranaceo-scariosæ, latæ, complicatæ, acutæ, ciliatæ, floribus breviores; corollæ cylindricæ, glabræ. *Achenia* obovata vel fere cordiformia, parce puberula, distincte alata, ciliata, 2-aristata, aristis longis divaricatis.

NORTH MEXICO, Cerro de Pinal (*Seemann*, 1468). Hb. Kew.

20. *Verbesina persicifolia*, DC. Prodr. v. p. 614.

NORTH MEXICO, between Santander and Victoria (*Berlandier*, 2209); SOUTH MEXICO?, San Nicolas (*Bourgeau*, 967), Desierto Viejo (*Bourgeau*, 829), without locality (*Tate*, *Parkinson*). Hb. Kew.

- ✓ 21. **Verbesina pinnatifida**, Cav. Ic. i. p. 67, t. 100; DC. Prodr. v. p. 615.
Verbesina nicaraguensis, Benth. in Vidensk. Meddel. 1852, p. 97.
 SOUTH MEXICO, Cuernavaca and Orizaba (*Bourgeau*, 1210, 3208), without locality (*Mairet*, 73; *Tate*, 76), Tepic (*Sinclair*); NICARAGUA, between Granada and Masaya (*Ersted*, 162). Hb. Kew.
22. **Verbesina podocephala**, A. Gr. Pl. Wright. ii. p. 92.
 NORTH MEXICO, Sonora (*Wright*), Chiricahui Mountains (*Rothrock*). Hb. Kew.
23. **Verbesina pterocaula**, DC. Prodr. v. p. 616; Calques des Dess. Fl. Mex. 597.
 MEXICO, without locality (*Shepherd*, *Bates*, *Tate*, 75; *Mairet*, 74). Hb. Kew.
24. **Verbesina salicifolia**, H. B. K. Nov. Gen. et Sp. iii. p. 205.
 SOUTH MEXICO, near Jalapa, at about 5000 feet (*Humboldt & Bonpland*), Chimalpa (*Bilimek*, 591), Tacubaya (*Schaffner*). Hb. Kew.
 If the specimens are correctly named, this is not different from *V. virgata*, Cav.
25. **Verbesina seemannii**, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 306.
 NORTH MEXICO, Sierra Madre (*Seemann*, 2027). Hb. Kew.
26. **Verbesina sericea**, Kunth et Bouché in Ind. Sem. Hort. Berol. 1848; Walp. Ann. ii. p. 867.
 MEXICO.
27. **Verbesina serrata**, Cav. Ic. iii. p. 7, t. 214; DC. Prodr. v. p. 613.
 SOUTH MEXICO, between Temascatio and Guanajuato (*Humboldt & Bonpland*), Aguas Calientes (*Hartweg*).—CUBA. Hb. Kew.
28. **Verbesina sororia**, A. Gr. in Proc. Amer. Acad. xv. p. 37.
 NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 466). Hb. Kew.
- ✓ 29. **Verbesina sublobata**, Benth. Pl. Hartw. p. 76.
 GUATEMALA, Zunil (*Hartweg*, 536), Volcan de Fuego, 5000 feet (*Salvin*). Hb. Kew.
30. **Verbesina virgata**, Cav. Ic. iii. p. 38, t. 275; DC. Prodr. v. p. 616.
 MEXICO, without locality (*Née*, *Mairet*, *Alaman*, *Graham*), San Nicolas (*Bourgeau*, 963). Hb. Kew.
 Var. ? **conyzoides**, DC. Prodr. v. p. 616; Calques des Dess. Fl. Mex. 596.
 SOUTH MEXICO, Vera Cruz to Orizaba (*Müller*, 1272). Hb. Kew.
31. **Verbesina**, sp.
 SOUTH MEXICO, Zimapan (*Coulter*, 369). Hb. Kew.
32. **Verbesina**, sp.
 SOUTH MEXICO, Cordillera of Oaxaca, 6000 to 7000 feet (*Galeotti*, 2006). Hb. Kew.

33. *Verbesina*, sp.

GUATEMALA, Dueñas (*Salvin*). Hb. Kew.

34. *Verbesina*, sp.

SOUTH MEXICO, Tehuacan, 6000 feet (*Galeotti*, 2118). Hb. Kew.

129. OTOPAPPUS.

Otopappus, Benth. in Benth. et Hook. Gen. Plant. ii. p. 380.

Erect or climbing shrubs, restricted to Mexico and Central America.

We have extended this genus; hence the character requires the following modification:—Capitula radiata vel discoidea; involucri bracteæ pauci-multiseriatæ; pappus paleaceus vel epaleaceus.

1. *Otopappus curviflorus*, Hemsley.

Salmea? *curviflora*, R. Br. in Trans. Linn. Soc. xii. p. 112.

Zexmenia salmeoides, Schz. Bip., ex Benth. et Hook. Gen. Plant. ii. p. 381, sub *Salmea*.

SOUTH MEXICO, Mirador (*Linden*, 1165; *Liebmann*, 388), near Vera Cruz, at 3000 feet (*Galeotti*, 2214), valley of Cordova (*Bourgeau*, 2034); GUATEMALA, Volcan de Fuego 6500 feet (*Salvin*); NICARAGUA, Chontales (*Tate*, 251). Hb. Kew.

2. *Otopappus epaleaceus*, Hemsley, n. sp.

Caulibus vel ramis graciliusculis, corymbis oligocephalis, capitulis radiatis, involucri bracteis 5-6-seriatis exterioribus minoribus, pappo epaleaceo.

Frutex erectus?, ramis graciliusculis, teretibus, strigillosis. *Folia* opposita, breviter petiolata, ovata, 2½-4 poll. longa, acuminata, vix acuta, callosio-denticulata, utrinque scabrida. *Capitula* radiata, multiflora, usque ad 1 poll. diametro, sæpius 2-3 aggregata, terminalia vel in axillis foliorum superiorum, pedunculis quam folia brevioribus; involucri bracteæ parvæ, herbaceo-scariosæ, puberulæ, 5-6-seriatæ, ovato-oblongæ, obtusæ, appressæ, exteriores minores; receptaculum convexum; paleæ complicatæ, angustæ, carinatæ, ciliolatæ, apice appendiculatæ, flores subæquantes; ligulæ angustæ, breves; corollæ disci cylindricæ. *Achenia* epaleacea, fere glabra, radii 3-angulata vel anguste 3-alata, 3-aristata, tantum anguli interioris ala sursum producta, disci compressa, 2-angulata, 2-aristata, angulo interiore apice alato; ala sursum longe producta, arista confluentis.

MEXICO, without locality (*Bates*, 7). Hb. Kew.

3. *Otopappus robustus*, Hemsley, n. sp. (Tab. XLIX.)

Scandens, robustus, foliis amplis, corymbis pleiocephalis, capitulis discoideis, pappo paleaceo.

Frutex scandens, robustus, ramis crassiusculis, striatis, puberulis. *Folia* opposita, longiuscule petiolata, crassiuscula, ovata, acuminata, 5-6 poll. longa, supra scabridula, subtus pubescentia. *Capitula* discoidea, 4-5 lineas diametro, dense corymbosa, breviter pedunculata; corymbi axillares et terminales, 6-12-cephali; involucri bracteæ 5-6-seriatæ, herbaceo-scariosæ, puberulæ, ovato-oblongæ, obtusæ; receptaculum hemisphæricum; paleæ scarioso-membranaceæ, complicatæ, laceratæ, apice appendiculatæ, puberulæ; corollæ breves, infundibulares, leviter puberulæ.

Achenia compressa, 2-aristata, angulo interiore apice alata; ala obliqua, longe sursum producta, arista confluens; pappi paleæ fimbriato-laceratæ, basi connatæ.

SOUTH MEXICO, valley of Cordova (*Bourgeau*, 2030). Hb. Kew.

EXPLANATION OF TAB. XLIX.

Fig. 1, a pappus; 2, a flower; 3, the same, with corolla and stamens removed; 4, an anther and part of the filament: all enlarged.

✓

4. *Otopappus verbesinoides*, Benth. in Hook. Ic. Pl. t. 1153.

NICARAGUA, Chontales (*Tate*, 145; *Seemann*, 106); COSTA RICA (*Endres*, 90). Hb. Kew.

130. PODACHÆNIUM.

Podachænium, Benth. in Vidensk. Meddel. 1852, p. 98; Benth. et Hook. Gen. Plant. ii. p. 380.

Dicalymma, Lemaire, L'Ill. Hort. ii. Misc. p. 37.

Cosmophylla, Koch, Ind. Sem. Hort. Berol. 1854.

A shrubby monotype.

✓

1. *Podachænium paniculatum*, Benth. in Vidensk. Meddel. 1852, p. 99.

Ferdinanda eminens, Lag.; André in Rev. Hort. 1862, p. 110, cum ic. xylog.

SOUTH MEXICO, Orizaba (*Botteri*, 1081), near Tantoyuca (*Ervendberg*, 78), Jicaltepec and Castresane (*Liebmanna*, 545, 261); GUATEMALA, Dueñas (*Fraser*); COSTA RICA (*Ersted*). Hb. Kew.

131. SPILANTHES.

Spilanthès, Linn. Mant. p. 475 (*Spilanthus*); Benth. et Hook. Gen. Plant. ii. p. 380.

Herbaceous plants. About fifty forms have been described as species; but Bentham and Hooker, loc. cit., estimate that there are scarcely twenty, widely spread in warm countries.

✓

1. *Spilanthès alba*, Willd. Sp. Pl. iii. p. 1714; DC. Prodr. v. p. 625.

Bidens ocyimifolia, Lam. Ill. t. 668, fig. 3.

SOUTH MEXICO, Orizaba (*Sallé*; *Bourgeau*, 3098); GUATEMALA (*Hartweg*).—PERU; BRAZIL. Hb. Kew.

The determinations of this and some of the other species require verification.

2. *Spilanthès beccabunga*, DC. Prodr. v. p. 622.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 464); SOUTH MEXICO, valleys of Mexico and Toluca (*Berlandier*, 720, 1160), Tacubaya (*Graham*), valley of Mexico (*Bourgeau*, 154, 603). Hb. Kew.

3. *Spilanthès bicolor*, Benth. et Hook. Gen. Pl. ii. p. 381.

Mendezia bicolor, DC. Prodr. v. p. 553; Deless. Ic. Sel. iv. t. 29.

SOUTH MEXICO, Leon, west of Guanajuato, Mendez.

✓4. **Spilanthes exasperata**, Jacq. Ic. Pl. Rar. iii. t. 584; DC. Prodr. v. p. 626.
COSTA RICA, San José (*Polakowsky*).—VENEZUELA; CAYENNE.

5. **Spilanthes karwinskiana**, DC. Prodr. v. p. 623.
MEXICO (*Karwinski*).

6. **Spilanthes nitida**, Llav. et Lex. Nov. Veg. Mex. i. p. 28; DC. Prodr. v. p. 626.
SOUTH MEXICO, San José del Corral (*Lexarza*).

7. **Spilanthes papposa**, Hemsley, n. sp.
Erecta, caulibus pilosulis, foliis ovato-oblongis usque ad 4 poll. longis supra nitidis, capitulis radiatis longissime pedunculatis, acheniis ciliatis 2-aristatis aristulis plurimis intermediis instructis.
Herba erecta, caulibus (ut videtur) simplicibus, saltem sesquipedalibus, graciliusculis, pilosulis. *Folia* opposita, breviter petiolata vel subsessilia, tenuia, cito glabrescentia, supra nitida, subtus pallidiora, ovato-oblonga, $2\frac{1}{2}$ –4 poll. longa, utrinque cuneata, obtusiuscula, integerrima, subtriplynervia. *Capitula* radiata, fere 1 poll. diametro, terminalia et in axillis foliorum supremorum, longissime pedunculata; pedunculi 4–8 poll. longi, nudi, sulcati; involucri bracteæ puberulæ, herbaceæ, oblongæ, obtusæ; receptaculum elongato-conicum; paleæ membranaceo-scariosæ, complicatæ, glabræ, apice rotundatæ, coloratæ, floribus paullo breviores; ligulæ latæ, 4–5 lineas longæ; disci corollæ lobi puberuli. *Achenia* 2–3-angulata, angulis ciliatis; pappi aristæ 2, aristulæ numerosæ intermediæ brevissimæ.

NICARAGUA, Chontales (*Tate*, 186, 462). Hb. Kew.

✓8. **Spilanthes parvifolia**, Benth. in Vidensk. Meddel. 1852, p. 100.
COSTA RICA, Guanacaste (*Ersted*, 81). Hb. Kew.

9. **Spilanthes ramosa**, Hemsley, n. sp.
Basi suffruticosa, ramosa, ramis pedunculisque gracillimis, foliis parvis, pedunculis longissimis, capitulis radiatis, acheniis marginatis ciliatis 2–3-aristatis.
Suffrutex vel *herba* basi suffruticosa, cito glabrescens, valde ramosa, ramis adscendentibus pedunculisque gracillimis. *Folia* opposita, breviter petiolata, crassiuscula, ovato-oblonga, 4–8 lineas longa, obtusa, integra vel paucirenata. *Capitula* numerosa, radiata, ad 4 lineas longa et lata; pedunculi fere filiformes, rigidi, nudi, sulcati, 3–5 poll. longi; involucri bracteæ herbaceo-scariosæ, late ovatæ vel obovatæ, ciliatæ; receptaculum elongatum; paleæ membranaceo-scariosæ, latæ, complicatæ, carinatæ, 2-striatæ, apice rotundatæ, leviter puberulæ; ligulæ brevissimæ; disci corollæ glabræ. *Achenia* paucituberculata, 2–3-aristata, 2–3-angulata, angulis incrassatis, ciliatis.

SOUTH MEXICO, valley of Cordova (*Bourgeau*, 2284). Hb. Kew.

10. **Spilanthes sessilifolia**, Hemsley, n. sp.
Herbacea, pilosa, foliis sessilibus ovatis vel fere obovatis obtusis trinerviis, capitulis radiatis minimis breviter graciliterque pedunculatis, paleis fimbrillatis, acheniis glabris calvis.
Herba, ramis crassiusculis, pilosis. *Folia* opposita, sessilia, semiamplexicaulia, crassiuscula, ovata, vel interdum fere obovata, usque ad 2 poll. longa, obtusa, obscure crenata, trinervia, utrinque parce pilosula, supra nitida. *Capitula* radiata, ad 3 lineas diametro, solitaria, axillaria vel terminalia; pedunculi filiformes, foliis breviores; involucri bracteæ oblongæ, obtusiusculæ,
BIOL. CENT.-AMER., Bot. Vol. II., October 1881. 2 c

pilosæ; receptaculum conicum; paleæ scariosæ, concavæ, vix complicatæ, acutæ, ciliatæ. *Achenia* nigra, clavata, glabra, calva.

SOUTH MEXICO, Orizaba (*Sallé*, 41). Hb. Kew.

11. ***Spilanthes subhirsuta***, DC. Prodr. v. p. 622.

SOUTH MEXICO, Tampico (*Berlandier*), Mirador (*Linden*, 1204)?, Cordillera of Vera Cruz, 3000 feet (*Galeotti*, 2362)? Hb. Kew.

✓ 12. ***Spilanthes uliginosa***, Sw. Fl. Ind. Occ. p. 1291; DC. Prodr. v. p. 624.

SOUTH MEXICO, Orizaba (*Botteri*, 1190); NICARAGUA, Chontales (*Tate*, 423); COSTA RICA (*Endres*, 256); PANAMA, Veraguas (*Seemann*), Chagres (*Fendler*, 166). Hb. Kew.

132. SALMEA.

Salmea, DC. Cat. Hort. Monsp. p. 140; Benth. et Hook. Gen. Plant. ii. p. 381.

About ten shrubby species, inhabiting the West Indies and Mexico to Colombia and Brazil.

1. ***Salmea angustifolia***, Benth. Bot. Voy. 'Sulphur,' p. 117.

MEXICO (*Barclay*). Hb. Kew.

✓ 2. ***Salmea grandiceps***, Cass. Dict. xvii. p. 88; Griseb. Fl. Brit. W. Ind. p. 375.

Salmea eupatoria et *scandens*, DC. Prodr. v. p. 493.

Bidens scandens, Linn., Bot. Mag. t. 2062.

SOUTH MEXICO, valley of Cordova (*Bourgeau*, 1551), Cordillera of Vera Cruz (*Galeotti*, 2224); GUATEMALA, near Coban (*Türkheim*, 392); NICARAGUA, Chontales (*Tate*); COSTA RICA (*Ersted*, 90); PANAMA, near Cruces (*Seemann*, 447).—WEST INDIES; COLOMBIA. Hb. Kew.

There are perhaps more than one species included under this name.

3. ***Salmea oligocephala***, Hemsley, n. sp.

Foliis subsessilibus subcoriaceis glabris vel glabrescentibus, capitulis pro genere grandibus paucis, paleis apice utrinque papillois, acheniis longe 2-aristatis subæqualibus.

Frutex erectus?, ramis graciliusculis, parcissime puberulis, striatis. *Folia* opposita, brevissime petiolata, subcoriacea, ovato-oblonga, $1\frac{1}{2}$ – $3\frac{1}{2}$ poll. longa, vix acuta, remotiuscule calloso-denticulata, triplinervia, glabra vel glabrescentia. *Capitula* pauca, multiflora, usque ad 6 lineas diametro, breviter pedunculata; pedunculi communi longiores, sæpius 3-cephali; involucri bractæ coriaceo-herbaceæ, hirsutæ, ovato-oblongæ, obtusæ vel subacutæ; receptaculum elongatum; paleæ complicatæ, carinatæ, apice rotundatæ, utrinque papillosæ, flores subæquantés; corollæ breves, infundibuliformes, tubo glabro, lobis papillois. *Achenia* compressa, glabra, ciliata; pappi aristæ subæquales, pilosulæ, corollæ tubum subæquantés.

MEXICO, Zimapan (*Coulter*, 349), without locality (*Bates*). Hb. Kew.

133. HYMENOSTEPHIUM.

Hymenostephium, Benth. in Benth. et Hook. Gen. Plant. ii. p. 382.

Two shrubby or half-shrubby species described. The second is a native of Colombia.

1. **Hymenostephium mexicanum**, Benth. in Hook. Ic. Pl. t. 1154.

SOUTH MEXICO, valley of Cordova (*Bourgeau*, 1932). Hb. Kew.

[*Trichospira menthoides*, H. B. K. Nov. Gen. et Sp. iv. p. 27, t. 312, widely dispersed in South America, and occurring in Cuba, may be looked for in Central America.]

134. SYNEDRELLA.

Synedrella, Gærtn. Fr. ii. p. 456, t. 171; Benth. et Hook. Gen. Plant. ii. p. 383.

Two herbaceous species, both endemic in America.

✓1. **Synedrella nodiflora**, Gærtn. Fr. ii. p. 456, t. 171; Hook. Exot. Fl. t. 60.

SOUTH MEXICO, Campeche (*Humboldt & Bonpland*); GUATEMALA, Volcan de Fuego (*Salvin*); COSTA RICA (*Endres*); PANAMA, Chagres (*Fendler*, 170), Isle of Taboga (*Hinds*).—Widely dispersed in the WEST INDIES and SOUTH AMERICA. Naturalized in some parts of the Old World. Hb. Kew.

135. HETEROSPERMUM.

Heterospermum, Cav. Ic. iii. p. 34 (*Heterosperma*); Benth. et Hook. Gen. Plant. ii. p. 383.

An exclusively Tropical-American genus of annual herbs. Five species have been described, four of which inhabit Western South America.

1. **Heterospermum pinnatum**, Cav. Ic. iii. t. 267; DC. Prodr. v. p. 632.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 476); SOUTH MEXICO, Tacubaya &c., valley of Mexico (*Bilimek*, 496; *Schaffner*, 266, 247; *Bourgeau*, 373, 587), Real del Monte (*Coulter*, 377), Leon, west of Guanajuato (*Mendez*). Hb. Kew.

136. COREOPSIS.

Coreopsis, Linn. Gen. Plant. n. 981; Benth. et Hook. Gen. Plant. ii. p. 385.

About sixty species are known, chiefly herbaceous: fourteen inhabit Tropical Africa; about eight are found in the Sandwich Islands; and the remainder are American, ranging from Massachusetts to Peru.

1. **Coreopsis anthemoides**, DC. Prodr. v. p. 573.

SOUTH MEXICO, Cordillera of Guichilaca (*Berlandier*, 1030), Desierto Viejo (*Bourgeau*, 836)?, without locality (*Coulter*, 378; *Mairet*, 111; *Tate*, 112)? Hb. Kew.

2. **Coreopsis drummondii**, Torr. & Gr. Fl. N. Am. ii. p. 345.

TEXAS.—NORTH MEXICO, Matamoros (*Berlandier*, 2580). Hb. Kew.

3. **Coreopsis galeottii**, Hemsley.

Electra galeottii, A. Gr. Pl. Wright. i. p. 110.

SOUTH MEXICO, Cordillera of Oaxaca, 4500 to 5500 feet (*Galeotti*, 2086), without

locality (*Parkinson, Bates*); GUATEMALA, Volcan de Fuego (*Salvin & Godman*, 122, 182), Baños de los Padres (*Bernoulli*, 196). Hb. Kew.

4. **Coreopsis liebmannii**, Schz. Bip. in *Liebm. Pl. Mex. Exsic. n. 218*.
SOUTH MEXICO, Pelado (*Liebmann*). Hb. Kew.
5. **Coreopsis linearifolia**, DC. Prodr. v. p. 570.
SOUTH MEXICO, Tlalpujahua (*Keerl*).
6. **Coreopsis mexicana**, Hemsley.
Electra mexicana, DC. Prodr. v. p. 630.
SOUTH MEXICO, around Villalpando, beyond Guanajuato (*Mendez, Alaman*).
7. **Coreopsis mutica**, DC. Prodr. v. p. 571.
SOUTH MEXICO, Tlalpujahua (*Keerl*).
- ✓ 8. **Coreopsis œrstediana**, Benth. in *Vidensk. Meddel. 1852*, p. 93.
NICARAGUA, Volcan de Masaya (*Ærsted*, 181). Hb. Kew.
9. **Coreopsis rudis**, Benth. et Hook. Gen. Pl. ii. p. 386.
Epilepis rudis, Benth. Pl. Hartw. p. 17.
SOUTH MEXICO, Bolaños (*Hartweg*, 116). Hb. Kew.
- ✓ 10. **Coreopsis trifoliata**, Bertol. Fl. Guat. p. 36.
GUATEMALA, Volcan de Agua (*Velasquez*).

137. DAHLIA.

Dahlia, Cav. Ic. Pl. i. p. 56, t. 80; Benth. et Hook. Gen. Plant. ii. p. 386.

A Mexican and Central-American genus of about six or eight herbaceous species, some of which are arboreous in habit.

1. **Dahlia coccinea**, Cav. Ic. iii. p. 33, t. 266; Bot. Mag. t. 762.
Georgina coccinea, Willd. Hort. Berol. ii. t. 96.
Georgina frustranea, DC. Ann. du Mus. xv. p. 310.
Dahlia bidentifolia, Salisb. Parad. Lond. t. 19.
Dahlia cervantesii, Lag. in DC. Prodr. v. p. 494?
Georgina cervantesii, Sweet, Brit. Fl. Gard. ser. 2, i. t. 22?
SOUTH MEXICO, Orizaba, Borrego (*Bourgeau*, 2798), at the foot of Mount San Felipe, Oaxaca (*Andrieux*, 309), Santa Fé, valley of Mexico (*Bourgeau*, 550, 735). Hb. Kew.
2. **Dahlia excelsa**, Benth. in *Maund's Botanist*, ii. t. 88.
MEXICO (*Bates*). Hb. Kew.
3. **Dahlia gracilis**, Ortg. in *Regel's Gartenflora*, 1876, p. 97, t. 861.
NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 478).
Hb. Kew.

4. **Dahlia imperialis**, Roezl in Regel's Gartenflora, 1863, p. 243, tt. 407, 408; Bot. Mag. 5183.

MEXICO (*Roezl*), Orizaba, cult. (*Botteri*, 1175)? Hb. Kew.

5. **Dahlia maximiliana**, Hort.

MEXICO. Hb. Kew.

This is a distinct species; but we have mislaid our description, and, at the time of writing, we have not access to specimens.

6. **Dahlia merckii**, Lehm. Delect. Sem. Hort. Hamb. 1839; Linnæa, xiv. Literaturb. p. 130.

Dahlia glabrata, Lindl. Bot. Reg. 1840, t. 29; Bot. Mag. t. 3878.

Dahlia minor, Visiani, Nuovi Saggia della Acad. Sc. Fis. de Padova, v. p. 263.

Dahlia decaisneana, Verlot in Rev. Hort. 1864, p. 31, cum ic. col.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 477), without locality (*Gregg*, 377); SOUTH MEXICO, Real del Monte (*Coulter*, 387), summit of a mountain near Guadalupe (*Bourgeau*, 802). Hb. Kew.

7. **Dahlia scapigera**, Knowles & Westcott, Fl. Cab. iii. t. 118; Maund, Botanist, iv. t. 161.

Georgina scapigera, Link & Otto in Otto & Dietr. Allg. Gartenz. i. p. 197.

MEXICO. Cultivated in Europe. Hb. Kew.

8. **Dahlia variabilis**, Desf. Cat. Hort. Par. ed. 3, p. 182; DC. Prodr. v. p. 494.

Georgina variabilis, Willd. Hort. Berol. ii. tt. 93-95.

Dahlia superflua, Ait. Hort. Kew. ed. 2, v. p. 87.

Georgina superflua, DC. in Ann. du Mus. xv. p. 310.

Dahlia crocata, Lag. Elench. p. 31.

Dahlia pinnata, Cav. Ic. Pl. i. t. 80.

Dahlia rosea, Cav. Ic. Pl. iii. t. 265.

Dahlia sambucifolia, Salisb. Parad. Lond. t. 16.

Coreopsis georgina, Cass. Dict. xviii. p. 441.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 480); SOUTH MEXICO, Oaxaca, in gardens (*Andrieux*, 311), Zimapan (*Coulter*, 389), Santa Fé (*Bourgeau*, 736); GUATEMALA, base of Volcan de Fuego (*Salvin & Godman*, 46)? Hb. Kew.

The specimens from Guatemala may belong to a different species.

9. **Dahlia**, sp.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 479). Hb. Kew.

Apparently a distinct species; but the material is insufficient for description.

138. HIDALGOA.

Hidalgoa, Llav. et Lex. Nov. Veg. Descr. i. p. 15; Benth. et Hook. Gen. Plant. ii. p. 386.

A climbing herbaceous or shrubby monotype.

Bentham and Hooker, *loc. cit.*, state that there are two species: but this seems to be a slip; for we find no evidence of the existence of a second species.

1. **Hidalgoa ternata**, Llav. et Lex. Nov. Veg. Descr. i. p. 15; Less. in Linnæa, vi. p. 213.

Hidalgoa lessingii, DC. Prodr. v. p. 511.

Melampodium? ternatum, DC. Prodr. v. p. 521.

SOUTH MEXICO, Cordova, forest of Chiquihite (*Bourgeau*, 2122), Misantla and Cuesta Grande de Jalacingo (*Schiede & Deppe*), near the last falls of the Rio Blanco, not far from San José del Corral (*La Llave*).—ECUADOR. Hb. Kew.

139. THELESPERMA.

Thelesperma, Less. in Linnæa, p. 511; Benth. et Hook. Gen. Plant. ii. p. 387.

An American genus of about four or five half-shrubby and herbaceous species, whereof one is a native of Extratropical South America, and the rest are natives of the Mexican region.

1. **Thelesperma gracile**, A. Gr. in Hook. Kew Journ. Bot. i. p. 252; in Torr. Bot. U.S. & Mex. Bound. Surv. p. 90.

Bidens gracilis, Torr. in Ann. Lyc. N. York, ii. p. 215.

Cosmidium gracile, Torr. & Gr. Fl. N. Am. ii. p. 350.

ARKANSAS; NEW MEXICO.—NORTH MEXICO, Sonora (*Schott*), without locality (*Gregg*). Hb. Kew.

2. **Thelesperma longipes**, A. Gr. Pl. Wright. i. p. 109.

NORTH MEXICO, Rio San Pedro (*Wright*), Camp Bowie, S. Arizona (*Rothrock*). Hb. Kew.

3. **Thelesperma simplicifolium**, A. Gr. in Hook. Kew Journ. Bot. i. p. 252.

Cosmidium simplicifolium, A. Gr. Pl. Fendl. p. 86.

NORTH MEXICO, San Pedro river, Sonora (*Schott*), Buena Vista, Coahuila (*Gregg*). Hb. Kew.

140. COSMOS.

Cosmos, Cav. Ic. Pl. i. p. 9; Benth. et Hook. Gen. Plant. ii. p. 387.

An exclusively American genus of herbs, dispersed from Mexico to Bolivia. It is difficult to estimate the number of species, as the forms are very numerous; but there must be at least a dozen.

1. **Cosmos bipinnatus**, Cav. Ic. Pl. i. p. 2, t. 14; DC. Prodr. v. p. 606.

Georgia bipinnata, Spreng. Syst. iii. p. 611.

Coreopsis formosa, Bonato in Diss. Pisaur. p. 21, t. 2.

Bidens formosa, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 307.

SOUTH MEXICO, Zimapan (*Coulter*, 382), valley of Mexico (*Bourgeau*, 845; *Schaffner*, 234), Real del Monte (*Coulter*, 384). Hb. Kew.

β. **exaristatus**, DC. Prodr. v. p. 606.

SOUTH MEXICO, around Oaxaca (*Andrieux*, 307), Pazcuaro (*Humboldt & Bonpland*). Hb. Kew.

γ. **parviflorus**, A. Gr. Pl. Wright. ii. p. 90; H. B. K. Nov. Gen. et Sp. iv. p. 241 (species).

Bidens humboldtii, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 307.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 482), Sonora (*Thurber &c.*); SOUTH MEXICO, San Angel (*Schaffner*), between Puerto de Varientos and Santa Rosa de la Sierra, at 7800 feet (*Humboldt & Bonpland*), Pedregal (*Bourgeau*, 826). Hb. Kew.

✓ 2. **Cosmos caudatus**, H. B. K. Nov. Gen. et Sp. iv. p. 240; DC. Prodr. v. p. 606.

Bidens caudata, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 308.

NORTH MEXICO, Cerro de Pinal (*Seemann*, 1487); SOUTH MEXICO, Tepic to San Blas (*Sinclair*); GUATEMALA, Jocotenango (*Bernoulli*, 225); PANAMA, Chagres (*Fendler*, 173).—Southward to PERU and BRAZIL and in the WEST INDIES. Hb. Kew.

3. **Cosmos chrysanthemifolius**, H. B. K. Nov. Gen. et Sp. iv. p. 239, t. 382.

Bidens kunthii, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 308.

MEXICO?

4. **Cosmos crithmifolius**, H. B. K. Nov. Gen. et Sp. iv. p. 242.

Bidens valladolidensis, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 308.

SOUTH MEXICO, near Valladolid, 6000 feet (*Humboldt & Bonpland*), San Felipe (*Andrieux*, 306), Rio Blanco, Orizaba (*Bourgeau*, 2690), Cordillera of Oaxaca (*Galeotti*, 2053), Zimapan (*Coulter*, 375, 383); GUATEMALA, San Gerónimo (*Salvin & Godman*, 394). Hb. Kew.

5. **Cosmos diversifolius**, Otto in Knowles & Westcott's Fl. Cab. ii. p. 4, t. 47.

Cosmos reptans, Benth. Pl. Hartw. p. 40.

Cosmos pulcherrimus, Schz. Bip. in Bull. Soc. Bot. de France, xii. p. 79.

Cosmos atrosanguineus, Ortg. in Regel's Gartenflora, x. p. 406, t. 347; Bot. Mag. t. 5227 (varietas).

Bidens diversifolia et *B. reptans*, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 308.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 481, 483); SOUTH MEXICO, Chiapas (*Ghiesbreght*), valley of Mexico (*Schaffner*, 229), Anganguio (*Hartweg*), without locality (*Coulter*, 386, 388), Cordillera of Oaxaca, 8000 feet (*Galeotti*, 2028).—PERU and BOLIVIA. Hb. Kew.

6. **Cosmos linearifolius**, Hemsley.

Bidens linearifolia, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 307.

NORTH MEXICO, Sierra Madre and Cerro de Pinal (*Seemann*, 2022, 1486). Hb. Kew.

7. **Cosmos pilosus**, H. B. K. Nov. Gen. et Sp. iv. p. 241.

Bidens rosea, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 308.

SOUTH MEXICO, near Santa Rosa de la Sierra, 7800 feet (*Humboldt & Bonpland*).

8. **Cosmos purpureus**, Benth. et Hook. Gen. Pl. ii. p. 387.

Bidens purpurea, DC. Prodr. v. p. 604.

SOUTH MEXICO, Cordillera of Guichilaca (*Berlandier*, 1007).

9. **Cosmos scabiosoides**, H. B. K. Nov. Gen. et Sp. iv. p. 242.

Bidens scabiosoides, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 308.

SOUTH MEXICO, near Pazcuaro, 6700 feet (*Humboldt & Bonpland*), Chinantla (*Liebmann*, 617), Cordillera of Oaxaca, 8000 feet (*Galeotti*, 2028), Vera Cruz to Orizaba (*Müller*, 1899), Real del Monte (*Coulter*, 390), Santa Fé (*Bourgeau*, 549). Hb. Kew.

10. **Cosmos sulphureus**, Cav. Ic. Pl. i. p. 56, t. 79; DC. Prodr. v. p. 606.

Coreopsis artemisiaefolia, Jacq. Ic. Pl. Rar. iii, t. 595.

Bidens sulphurea, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 308.

SOUTH MEXICO, around Oaxaca (*Andrieux*, 308), Gualulu (*Liebmann*, 619), Cuernavaca and Cordova (*Bourgeau*, 1206, 1631), Bolaños (*Coulter*, 379), Cordillera of Oaxaca, at 5000 to 5500 feet (*Galeotti*, 2055). Hb. Kew.

11. **Cosmos tenellus**, H. B. K. Nov. Gen. et Sp. iv. p. 240.

Bidens bonplandii, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 308.

SOUTH MEXICO, between Mexico and Huahuatoca, at 7200 feet (*Humboldt & Bonpland*), Regla (*Ervendberg*). Hb. Kew.

12. **Cosmos tenuifolius**, Lindl. Bot. Reg. t. 2007.

Bidens lindleyi, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 307.

MEXICO.

Apparently not different from *C. bipinnatus*.

13. **Cosmos uhdeanus**, Kunth, Ind. Sem. Hort. Berol. 1846, ex Walp. Rep. vi. p. 721.

MEXICO.

14. **Cosmos**, sp.

NORTH MEXICO, Cerro de Pinal (*Seemann*, 1469). Hb. Kew.

15. **Cosmos**, sp.

SOUTH MEXICO, Cordillera of Oaxaca (*Galeotti*, 2061). Hb. Kew.

141. BIDENS.

Bidens, Linn. Gen. Plant. n. 932; Benth. et Hook. Gen. Plant. ii. p. 387.

A large genus of herbaceous plants, represented in nearly all hot and temperate regions. Nearly 100 species have been described; but Bentham and Hooker (loc. cit.) estimate that they should be reduced to fewer than fifty.

1. ***Bidens alausensis***, H. B. K. Nov. Gen. et Sp. iv. p. 235; DC. Prodr. v. p. 602. SOUTH MEXICO, Cerro Colorado (*Schiede*).—ECUADOR.
2. ***Bidens angustissima***, H. B. K. Nov. Gen. et Sp. iv. p. 233; DC. Prodr. v. p. 601. NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 486); SOUTH MEXICO, near Santa Rosa de la Sierra, 7800 feet (*Humboldt & Bonpland*). Hb. Kew.
3. ***Bidens anthriscoides***, DC. Prodr. v. p. 600. SOUTH MEXICO, Cordillera of Guichilaca (*Berlandier*, 1010, 1052).
4. ***Bidens bipinnata***, Linn. Sp. Pl. p. 1166; DC. Prodr. v. p. 603. CONNECTICUT and ILLINOIS southward.—NORTH MEXICO, Chihuahua and Sonora (*Thurber*); SOUTH MEXICO, Guadalupe (*Bourgeau*, 813),—to CHILI and MONTE VIDEO, and in the WEST INDIES; also a common weed in some parts of the Old World, though perhaps introduced from America. Hb. Kew.
5. ***Bidens brachycarpa***, DC. Prodr. v. p. 600. SOUTH MEXICO, Tampico (*Berlandier*, 5, 113).
- ✓6. ***Bidens canescens***, Bertol. Fl. Guat. p. 31. GUATEMALA, Volcan de Agua (*Velasquez*).
7. ***Bidens caucalidea***, DC. Prodr. v. p. 604. NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 484); SOUTH MEXICO, Guanajuato (*Hartweg*), Toluca (*Berlandier*, 1138), without locality (*Graham, Seemann*). Hb. Kew.
8. ***Bidens chrysanthemoides***, Michx. Fl. Bor.-Am. ii. p. 136; Torr. & Gr. Fl. N. Am. ii. p. 352. Common from CANADA throughout the UNITED STATES east of the Rocky Mountains, and in ARIZONA and CALIFORNIA.—NORTH MEXICO, Ojo Caliente, Chihuahua (*Thurber*). Hb. Kew.
9. ***Bidens costaricensis***, Benth. in Vidensk. Meddel. 1852, p. 94. COSTA RICA, Agucate, San José &c. (*Ersted*). Hb. Kew.
10. ***Bidens daucifolia***, DC. Prodr. v. p. 601. SOUTH MEXICO, valley of Toluca (*Berlandier*).

11. **Bidens decolorata**, H. B. K. Nov. Gen. et Sp. iv. p. 233.

SOUTH MEXICO, between Capula and Valladolid, Michoacan, at about 6500 feet (*Humboldt & Bonpland*).

12. **Bidens dondiæfolia**, Less. in Linnæa, v. p. 155.

SOUTH MEXICO, near Vera Cruz (*Schiede & Deppe*).

13. **Bidens exaristata**, DC. Prodr. v. p. 600.

MEXICO, between Vittoria and Tula (*Berlandier*, 2220).

14. **Bidens ferulæfolia**, DC. Prodr. v. p. 603.

Coreopsis ferulæfolia, Jacq. Hort. Schœnb. t. 375; Bot. Mag. t. 2059.

SOUTH MEXICO, Guadalupe &c., valley of Mexico (*Bourgeau*, 502; *Schaffner*, 231; *Gregg*, 43, 397). Hb. Kew.

15. **Bidens fœniculifolia**, DC. Prodr. v. p. 603.

NORTH MEXICO, Sonora (*Thurber*), Sonoita valley, S. Arizona (*Rothrock*); SOUTH MEXICO, west of Guanajuato (*Mendez*). Hb. Kew.

16. **Bidens grandiflora**, Balb. Cat. Hort. Taur. 1812, p. 19; DC. Prodr. v. p. 602.

Bidens odorata, Dum. Cours Bot. Cult. iv. p. 241, nec Cav.

Coreopsis diversifolia, Jacq. Eclog. p. 80, t. 54.

Cosmea lutea, Sims, Bot. Mag. t. 1689.

SOUTH MEXICO, around the city of Mexico (*Berlandier*, 1168), San Nicolas &c., valley of Mexico (*Bourgeau*, 956; *Schaffner*, 232). Hb. Kew.

17. **Bidens helianthoides**, H. B. K. Nov. Gen. et Sp. iv. p. 230; DC. Prodr. v. p. 595.

Kerneria helianthoides, Cass. Dict. xxiv. p. 399.

SOUTH MEXICO, Yotla (*Andrieux*, 312), Mexicalcingo, Guadalupe, and Tacubaya (*Bourgeau*, 510, 382, 147).—Also widely dispersed in SOUTH AMERICA. Hb. Kew.

18. **Bidens heterophylla**, Ort. Dec. p. 99, t. 12; DC. Prodr. v. p. 597.

Bidens arguta, H. B. K. Nov. Gen. et Sp. iv. p. 231.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 487), Sonora (*Wright*)?; SOUTH MEXICO, San Nicolas, Tacubaya &c., valley of Mexico (*Bourgeau*, 382, 382 bis, 957, 851, 263), Orizaba (*Bourgeau*, 3085; *Sallé*), near Valladolid, at 6000 feet (*Humboldt & Bonpland*), Real del Monte (*Coulter*, 347), Cordillera of Guichilaca &c. (*Berlandier*).—Southward to CHILI and BUENOS AYRES. Hb. Kew.

19. **Bidens hirtella**, H. B. K. Nov. Gen. et Sp. iv. p. 232.

MEXICO?

20. **Bidens longifolia**, DC. Prodr. v. p. 597.

MEXICO (*Berlandier*, *Alaman*).

✓ 21. **Bidens mollis**, Poepp. et Endl. Nov. Gen. et Sp. iii. p. 49; Walp. Rep. ii. p. 619.

GUATEMALA, Calvario (*Bernoulli*, 155).—PERU, ECUADOR. Hb. Kew.

22. **Bidens odorata**, Cav. Ic. Pl. i. p. 9, t. 13; DC. Prodr. v. p. 603.

MEXICO.

23. **Bidens ostruthioides**, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 308.

Delucia ostruthioides, DC. Prodr. v. p. 633; Deless. Ic. Sel. iv. t. 40.

SOUTH MEXICO, Santa Fé &c., valley of Mexico (*Schaffner*, 228; *Bourgeau*, 835), Vera Cruz to Orizaba (*Müller*, 1950), without locality (*Bates*). Hb. Kew.

✓ 24. **Bidens pilosa**, Linn. Sp. Pl. p. 1166; DC. Prodr. v. p. 597.

Bidens leucantha, Willd. Sp. Pl. iii. p. 1719; DC. Prodr. v. p. 598.

FLORIDA, TEXAS, NEW MEXICO.—NORTH MEXICO, Sierra Madre (*Seemann*, 2047); SOUTH MEXICO, Orizaba (*Bourgeau*, 188, 811, 2561), San Angel (*Bourgeau*, 150); GUATEMALA, Dueñas (*Salvin & Godman*); NICARAGUA, Chontales (*Tate*, 184); COSTA RICA (*Endres*, 45).—Southward to CHILI and South BRAZIL, and in the WEST INDIES; and now also a common weed in the tropics of the Old World. Hb. Kew.

25. **Bidens procera**, Don in Bot. Reg. t. 684; DC. Prodr. v. p. 603.

MEXICO.

26. **Bidens procumbens**, H. B. K. Nov. Gen. et Sp. iv. p. 232.

SOUTH MEXICO, near Jalapa? (*Humboldt & Bonpland*).

27. **Bidens sambucifolia**, Cav. Ic. Pl. iii. p. 15, t. 219; DC. Prodr. v. p. 599.

MEXICO?—PERU.

28. **Bidens sartorii**, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 307.

SOUTH MEXICO, near Mirador (*Sartorius*).

29. **Bidens seemannii**, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 307.

NORTH MEXICO, Sierra Madre (*Seemann*, 2014), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 485). Hb. Kew.

✓ 30. **Bidens striata**, Sweet, Brit. Fl. Gard. t. 237; Bot. Mag. t. 3155.

SOUTH MEXICO, valley of Mexico (*Schaffner*, 239), Real del Monte (*Coulter*, 392), Orizaba (*Bourgeau*, 2681); GUATEMALA, Mazatenango (*Bernoulli*, 1205). Hb. Kew.

31. **Bidens tereticaulis**, DC. Prodr. v. p. 598.

Bidens squarrosa, Less. in Linnæa, v. p. 156.

Bidens coreopsidis, DC. Prodr. vii. p. 599.

NORTH MEXICO, region of San Luis Potosi (*Palmer*, 1116); SOUTH MEXICO, Orizaba (*Bilimek*, 203), near Tantoyuca (*Berlandier*, 2148, 2150); NICARAGUA, between Matagalpa and Segovia (*Ersted*).—Widely dispersed in SOUTH AMERICA and the WEST INDIES. Hb. Kew.

32. **Bidens tetragona**, DC. Prodr. v. p. 596.

Coreopsis tetragona, Llav. et Lex. Nov. Veg. i. p. 31.

SOUTH MEXICO, around the city of Mexico.

33. **Bidens triplinervia**, H. B. K. Nov. Gen. et Sp. iv. p. 231.

SOUTH MEXICO, near the city of Mexico and San Augustin de las Cuevas, 7000 feet (*Humboldt & Bonpland*).

√34. **Bidens warszewicziana**, Regel in Flora, xxxii. (1849), p. 183.

GUATEMALA (*Warszewicz*).

We have seen no authentically named specimens of many of the foregoing species, though most of them are probably represented in Kew herbarium by unnamed specimens.

142. CHRYSANTHELLUM.

Chrysanthellum, Rich. in Pers. Syn. Pl. ii. p. 471; Benth. et Hook. Gen. Plant. ii. p. 389.

Annual herbs. Besides the following there is one endemic in the Galapagos Islands.

1. **Chrysanthellum procumbens**, Pers. Syn. Pl. ii. p. 471; DC. Prodr. v. pp. 630, 631, species 4; Deless. Ic. Sel. iv. t. 39; Reichb. Iconogr. Exot. t. 66.

Chrysanthellum integrifolium, Steetz in Seem. Bot. Voy. 'Herald,' p. 160?

SOUTH MEXICO, region of Orizaba (*Sallé, Müller, 159*).—Common nearly throughout TROPICAL AMERICA, AFRICA, and ASIA. Hb. Kew.

143. GALINSOGA.

Galinsoga, Ruiz et Pav. Prodr. Fl. Per. p. 110, t. 24; Benth. et Hook. Gen. Plant. ii. p. 390.

About five annual species, endemic in the warmer parts of America; one is now naturalized in many parts of the Old World.

1. **Galinsoga filiformis**, Hemsley, Diag. Pl. Nov. pars altera, p. 34. (Tab. L.)

Annua, erecta, ramosa, ramis pedunculisque glabris filiformibus, foliis radicalibus oblongis remote denticulatis, caulinis lanceolatis linearibusve, capitulis parvis, receptaculo elongato, paleis angustissimis, floribus disci numerosissimis, pappi paleis sæpissime 10 fimbriatis alternis truncatis alternis setaceo aristatis.

Herba annua, erecta, pedalis ad sesquipedalis, ramosa. *Caulis* gracilis. *Ramuli* et *pedunculi* oppositi vel subverticillati, glabri, filiformes, arcuati. *Folia* parce albido-pilosula, remote denticulata; radicalia rosulata, oblonga vel obovata, circiter pollicaria; caulina pauca, minora, lanceolata vel linearia. *Capitula* parva, multiflora; involucri bracteæ subbiseriatæ, oblongæ, ciliatæ, striatæ; receptaculum elongatum; paleæ angustissimæ, floribus disci fere æquilongæ; ligulæ bifidæ vel trifidæ, tubo hirsuto; disci flores ♀ minuti, numerosissimi; pappi paleæ sæpissime 10, fimbriatæ, alternæ truncatæ, alternæ setaceo-aristatæ. *Achenia* disci angulata, hirsuta; radii glabra.

NORTH MEXICO, Cerro de Pinal (*Seemann, 1473*). Hb. Kew.

EXPLANATION OF TAB. L.

Fig. 1, a ray-flower; 2, a disk-flower and palet; 3, a stamen; 4, stigma of a disk-flower; 5, one of the awned scales of the pappus; 6, receptacle: all enlarged.

✓ 2. **Galinsoga hispida**, Benth. Bot. Voy. 'Sulphur,' p. 119.

SOUTH MEXICO, near Guadalupe (*Bourgeau*, 707), Orizaba (*Sallé*); GUATEMALA, Volcan de Fuego (*Salvin*); NICARAGUA (*Ærsted*, 112); COSTA RICA (*Endres*, 180).—Southward to PERU. Hb. Kew.

3. **Galinsoga parviflora**, Cav. Ic. Pl. iii. p. 41, t. 281; DC. Prodr. v. p. 677.

An exceedingly common weed in Temperate and Tropical AMERICA, and now naturalized in many parts of the OLD WORLD. Hb. Kew.

144. CALEA.

Calea, Linn. Gen. Plant. n. 941, pro parte; Benth. et Hook. Gen. Plant. ii. p. 390.

A tropical and subtropical American genus, comprising about sixty, chiefly shrubby species.

1. **Calea albida**, A. Gr. in Proc. Am. Acad. xv. p. 38.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 448). Hb. Kew.

✓ 2. **Calea axillaris**, DC. Prodr. v. p. 673.

Mocinna serrata, Lag. Nov. Gen. p. 31.

SOUTH MEXICO, valley of Orizaba (*Bourgeau*, 3095; *Sallé*), valley of Cordova (*Bourgeau*, 1675), San Blas to Tepic (*Coulter*, 330); COSTA RICA, Candelaria &c. (*Ærsted*, 188, 190, 191). Hb. Kew.

This should perhaps include *C. urticæfolia*, DC.

✓ 3. **Calea brachiata**, DC. Prodr. v. p. 673.

Mocinna brachiata, Lag. Nov. Gen. p. 31.

PANAMA?, "Panamaide" ex Lagasca.

4. **Calea cacosmoides**, Less. in Linnæa, v. p. 157; DC. Prodr. v. p. 674.

SOUTH MEXICO, near Jalapa (*Schiede & Deppe*).

5. **Calea discolor**, A. Gr. in Proc. Amer. Acad. xv. p. 38.

SOUTH MEXICO, Zimapan (*Coulter*, 351). Hb. Kew.

6. **Calea elegans**, DC. Prodr. v. p. 674.

Oteiza acuminata, Llav. Reg. Trim. Mex. 1832, p. 41.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 491), without locality (*Mairet, Tate, Parkinson*). Hb. Kew.

✓ 7. **Calea integrifolia**, Hemsley.

Allocaurus integrifolius, DC. Prodr. v. p. 676.

SOUTH MEXICO, region of Orizaba (*Botteri*, 1108, 1121, 1161; *Müller*, 1039), valley of Cordova (*Bourgeau*, 1751), Mirador (*Liebmann*, 416, 417; *Linden*, 1162), Cordillera of Vera Cruz, 3000 feet (*Galeotti*, 2228); GUATEMALA, without locality (*Skinner*), near Coban, 4400 feet (*Türckheim*, 379). Hb. Kew.

8. **Calea manicata**, Benth. et Hook. Gen. Pl. ii. p. 391.

Tetrachyron manicatum, Schl. in Linnæa, xix. p. 744.

SOUTH MEXICO, Mirador (*Liebmann*, 392; *Linden*, 1197; at 3000 feet, *Galeotti*, 2309), Orizaba (*Botteri*, 1110, 1123; *Bilimek*, 561). Hb. Kew.

9. **Calea peduncularis**, H. B. K. Nov. Gen. et Sp. iv. p. 295, t. 408.

Calydermos peduncularis, DC. Prodr. v. p. 669.

Calebrachys peduncularis, Cass. Dict. lv. p. 277.

Calydermos longifolius, Lag. Nov. Gen. p. 24?

Calydermos scaber, Lag. loc. cit.?

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 497); SOUTH MEXICO, region of Orizaba (*Bourgeau*, 2692, 3149; *Bilimek*, 544), Chinantla (*Liebmann*, 413), Bolaños (*Hartweg*, 122), Zacuapan (*Linden*, 484), Real del Monte (*Coulter*, 334), Jorullo, at 3000 feet (*Humboldt & Bonpland*). Hb. Kew.

We have followed H. B. K.'s suggestion (loc. sup. cit.) in reducing *Calydermos scaber* to this species. Hartweg's 122 corresponds to the original *C. longifolius*; and it is connected by intermediate forms with *C. scaber*. With the exception of having a pappus, typical *C. peduncularis* does not appear to differ from the others.

↳ 10. **Calea prunifolia**, H. B. K. Nov. Gen. et Sp. iv. p. 294, t. 406.

GUATEMALA (*Friedrichsthal*); NICARAGUA (*Tate*, 43, 178, 180, 289); COSTA RICA (*Ersted*); PANAMA (*S. Hayes*, 550).—COLOMBIA. Hb. Kew.

11. **Calea rugosa**, Hemsley.

Calydermos rugosus, DC. Prodr. v. p. 670.

SOUTH MEXICO, Cuernavaca (*Berlandier*, 2135).

12. **Calea sabazioides**, Hemsley.

Allocarpus sabazioides, Less. in Linnæa, ix. p. 590.

SOUTH MEXICO, near San Miguel del Soldado and La Joya (*Schiede & Deppe*).

13. **Calea salmiæfolia**, Hemsley.

Calydermos salmiæfolius, DC. Prodr. v. p. 670.

NORTH MEXICO, Tamaulipas (*Berlandier*, 2135). Hb. Kew.

14. **Calea scabrifolia**, Benth. et Hook. Gen. Pl. ii. p. 391.

Allocarpus scabrifolius, Hook. et Arn. Bot. Beech. Voy. p. 300.

Ferdinanda oppositifolia, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 303, errore *Zaluzania*, Benth. et Hook. loc. cit.

NORTH MEXICO, Sierra Madre (*Seemann*, 1986); SOUTH MEXICO, Jalisco (*Beechey*). Hb. Kew.

15. **Calea sessilifolia**, Less. in Linnæa, v. p. 158.

MEXICO (*Schiede & Deppe*).

16. **Calea tomentosa**, A. Gr. in Proc. Amer. Acad. xv. p. 38.

NORTH MEXICO, between San Luis Potosi and Tampico (*Palmer*, 1108). Hb. Kew.

17. **Calea urticæfolia**, DC. Prodr. v. p. 674.

Caleacte urticæfolia, R. Br. in Trans. Linn. Soc. xii. p. 109.

SOUTH MEXICO, Vera Cruz (*Linden*, 1184; *Galeotti*, 2233), Orizaba (*Botteri*, 481, 1154), Tantoyuca (*Ervendberg*). Hb. Kew.

18. **Calea zacatechichi**, Schl. in Linnæa, ix. p. 589.

SOUTH MEXICO, Vera Cruz to Orizaba (*Müller*), Vera Cruz (*Linden*, 1186; *Galeotti*, 2235), valley of Cordova and Cuernavaca (*Bourgeau*, 1559, 1218). Hb. Kew.

145. TRIDAX.

Tridax, Linn. Gen. Plant. n. 972; Benth. et Hook. Gen. Plant. ii. p. 392.

An endemic Tropical-American genus, comprising about ten herbaceous species, one of which is naturalized in India and Mauritius.

1. **Tridax balbisioides**, A. Gr. in Proc. Amer. Acad. xv. p. 39.

Galinsogea balbisioides, H. B. K. Nov. Gen. et Sp. iv. p. 253, t. 386.

Sogalgina balbisioides, Cass. Dict. xlix. p. 398.

SOUTH MEXICO, between the valley of Santiago and Lake Palangeo, 5500 feet (*Humboldt & Bonpland*).

Dr. A. Gray doubtfully refers Parry and Palmer's no. 509 to this species, although it has three-cleft instead of entire ligules.

2. **Tridax bicolor**, A. Gr. Pl. Fendl. p. 104.

NORTH MEXICO, Chihuahua (*Thurber*), Sierra Madre (*Wislizenus*).

3. **Tridax brachylepis**, Hemsley, n. sp.

Parce pilosula, foliis crassiusculis ovato-lanceolatis, capitulis discoideis (an semper?) longissime pedunculatis, paleis quam flores multo brevioribus, pappi squamis brevibus.

Herba annua, erecta, ramis gracilibus, glabrescentibus. *Folia* breviter petiolata, crassiuscula (ut videtur subcaruosa, venis obsoletis), ovato-lanceolata, 1-2 poll. longa, obtusa, remote callosodentata, interdum obscure lobata, utrinque parce pilosula. *Capitula* discoidea, flava (ex *Galeottio*), parva; involucri bracteæ glabræ, coriaceo-scariosæ, ovato-oblongæ, apice obtusissimæ vel rotundatæ, purpureæ vel roseæ, exteriores breviores; receptaculum conicum; paleæ floribus fere dimidio breviores, membranacæ, glabræ, striatæ, trifidæ; corollæ anguste infundibuliformes, extus deorsum sericeo-villosæ. *Achenia* appresse sericeo-villosa; pappi squamæ numerosæ, breves, plumosæ.

SOUTH MEXICO, Cordillera of Oaxaca, 7000 feet (*Galeotti*, 2024). Hb. Kew.

4. **Tridax candidissima**, A. Gr. in Proc. Amer. Acad. xv. p. 39.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 510). Hb. Kew.

5. **Tridax coronopifolia**, Hemsley.

Ptilostephium coronopifolium, H. B. K. Nov. Gen. et Sp. iv. p. 255, t. 387.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 508);

SOUTH MEXICO, Guadalupe, Tacubaya, San Angel, &c., valley of Mexico, 6950 feet (*Humboldt & Bonpland*; *Bourgeau*, 164, 705; *Bilimek*, 491; *Schaffner*), Zimapan (*Coulter*, 348; *Galeotti*, 2434), Real del Monte (*Coulter*, 376; *Galeotti*, 2432), Oaxaca, 5000 feet (*Galeotti*, 2119). Hb. Kew.

6. ***Tridax obovata***, Turcz. in Bull. Soc. Nat. Mosc. xxiv. p. 187; Walp. Ann. v. p. 238.

SOUTH MEXICO, Sierra San Pedro Nolasco &c. (*Jurgensen*, 124). Hb. Kew.

7. ***Tridax palmeri***, A. Gr. in Proc. Amer. Acad. xv. p. 38.

NORTH MEXICO, on rocky bluffs at Alvarez, thirty miles south-east of San Luis, at 8000 feet (*Parry & Palmer*, 489, 490, and 482½). Hb. Kew.

✓8. ***Tridax procumbens***, Linn. Sp. Pl. ed. 1, p. 900; DC. Prodr. v. p. 679.

Amellus pedunculatus, Ort., ex Willd.

NORTH MEXICO, Monterey (*Eaton & Edwards*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 520); SOUTH MEXICO, Orizaba (*Sallé*), Yucatan (*Linden*, 1242), Zacuapan &c., Vera Cruz (*Linden*, 486; *Galeotti*, 2275); GUATEMALA, Volcan de Fuego, 3800 feet (*Salvin*); NICARAGUA (*Ærsted*); COSTA RICA (*Ærsted*); PANAMA, old walls about the city of Panama (*S. Hayes*, 692).—North part of SOUTH AMERICA and the WEST INDIES; also naturalized in India and Mauritius. Hb. Kew.

9. ***Tridax trifida***, A. Gr. in Proc. Amer. Acad. xv. p. 39.

Ptilostephium trifidum, H. B. K. Nov. Gen. et Sp. iv. p. 255, t. 388.

SOUTH MEXICO, between Guanajuato and Valladolid, at 5400 feet (*Humboldt & Bonpland*).

Var. ***alboradiata***, A. Gr. in Proc. Amer. Acad. xv. p. 39.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 511). Hb. Kew.

10. ***Tridax trilobata***, Hemsley.

Galinsoga trilobata, Cav. Ic. Pl. iii. p. 42, t. 282; Bot. Mag. t. 1895; Sweet, Brit. Fl. Gard. t. 56.

Sogalgina trilobata, Cass. Dict. xlix. p. 397; DC. Prodr. v. p. 678.

SOUTH MEXICO, Pedregal (*Bourgeau*, 846). Hb. Kew.

146. LAYIA.

Layia, Hook. et Arn. Bot. Beech. Voy. p. 148, non eorund. loc. cit. p. 182; Benth. et Hook. Gen. Plant. ii. p. 395.

A North-American genus of about a dozen herbaceous species, chiefly inhabiting California and New Mexico.

1. ***Layia (Madaroglossa) neomexicana***, A. Gr. Pl. Wright. ii. p. 98.

NEW MEXICO.—NORTH MEXICO, Chihuahua (*Parry*).

Tribe VI. HELENIOIDEÆ.

Helenioideæ, Benth. et Hook. Gen. Plant. ii. pp. 167 et 199.

Fifty-nine genera are included under this tribe, whereof all, except two, are endemic in America, chiefly inhabiting extratropical regions. The species number nearly 300, by far the greater part being herbaceous, or only shrubby at the base.

147. JAUMEA.

Jaumea, Pers. Syn. Plant. ii. p. 397; Benth. et Hook. Gen. Plant. ii. p. 397.

Six species are referred to this genus, two of which (one unpublished) inhabit Tropical Africa, the others California, Mexico, and Buenos Ayres. They are herbs or undershrubs.

1. *Jaumea mexicana*, Benth. et Hook. Gen. Plant. ii. p. 397.

Espejoa mexicana, DC. Prodr. v. p. 660.

MEXICO, San Dionisio (*Alaman*); NICARAGUA, Granada (*Ersted*, 225). Hb. Kew.

2. *Jaumea peduncularis*, Benth. et Hook. Gen. Pl. ii. p. 397.

Chathymenia peduncularis, Hook. et Arn. Bot. Beech. Voy. p. 298, t. 62.

SOUTH MEXICO, Jalisco (*Beechey*). Hb. Kew.

148. OLIVÆA.

Olivæa, Schz. Bip.; Benth. in Hook. Ic. Pl. t. 1103; Benth. et Hook. Gen. Plant. ii. p. 397.

An herbaceous monotype, endemic in Mexico.

1. *Olivæa tricuspis*, Schz. Bip.; Hook. Ic. Pl. t. 1103.

SOUTH MEXICO, near Guadalaxara (*Schaffner*).

149. EUTETRAS.

Eutetras, A. Gr. in Proc. Amer. Acad. xv. p. 39.

A diminutive shrubby monotype, endemic in Mexico.

1. *Eutetras palmeri*, A. Gr. in Proc. Amer. Acad. xv. p. 40. (Tab. XLIII. figg. 6-13.)

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Palmer & Palmer*, 520½), Zacatecas (*Coulter*, 318). Hb. Kew.

EXPLANATION OF TAB. XLIII. FIGG. 6-13.

Fig. 6, portion of plant, nat. size; 7, a ray-flower; 8, a disk-flower; 9, a stamen; 10, style of a disk-flower; 11, a style of a ray-flower; 12, a scale of the pappus; 13, a bristle of the pappus: all enlarged.

150. ROSILLA.

Rosilla, Less. Syn. Comp. p. 245; Benth. et Hook. Gen. Plant. ii. p. 397.

An obscure genus, founded upon a garden plant stated to be of Mexican origin.

1. **Rosilla lutea**, Less. Syn. Comp. p. 245.

MEXICO.

151. LAPHAMIA.

Laphamia, A. Gr. Pl. Wright. i. p. 99, t. 9; Benth. et Hook. Gen. Plant. ii. p. 398.

A genus of about a dozen species of undershrubs and herbs inhabiting Mexico and the adjoining countries to the north.

1. **Laphamia aglossa**, Benth. et Hook. Gen. Pl. ii. p. 398.

Perytyle aglossa, A. Gr. Pl. Wright. ii. p. 107.

NORTH MEXICO, Presidio del Norte, Chihuahua (*Parry*). Hb. Kew.

2. **Laphamia coronopifolia**, Hemsley.

Perytyle coronopifolia, A. Gr. Pl. Wright. ii. p. 82.

NEW MEXICO.—NORTH MEXICO, Sonora (*Schott*).

3. **Laphamia lemmoni**, A. Gr. in Proc. Amer. Acad. xvi. p. 101.

NORTH MEXICO, Tucson, S. Arizona (*Lemmon*).

4. **Laphamia parryi**, Benth. et Hook. Gen. Pl. ii. p. 398.

Perytyle parryi, A. Gr. Pl. Wright. ii. p. 106.

NORTH MEXICO, Chihuahua (*Parry*).

5. **Laphamia**, sp.

MEXICO (*Coulter*, 277). Hb. Kew.

152. PERITYLE.

Perytyle, Benth. Bot. Voy. 'Sulphur,' p. 23, t. 15; Benth. et Hook. Gen. Plant. ii. p. 398.

Four herbaceous species, three of them inhabiting California.

- ✓1. **Perytyle microglossa**, Benth. Bot. Voy. 'Sulphur,' p. 119.

NICARAGUA, Realejo (*Sinclair*). Hb. Kew.

It is possible that this also is a native of California, and not of Central America.

153. OXYPAPPUS.

Oxypappus, Benth. Bot. Voy. 'Sulphur,' p. 118; Benth. et Hook. Gen. Plant. ii. p. 398.

An herbaceous monotype.

1. **Oxypappus scaber**, Benth. Bot. Voy. 'Sulphur,' p. 118, t. 42.

Chrysopsis? *scaber*, Hook. et Arn. Bot. Beech. Voy. p. 434.

Pectis seemannii, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 309.

NORTH MEXICO, Sierra Madre and Cerro de Pinal (*Seemann*, 2038, 1470); SOUTH MEXICO, San Blas to Tepic (*Sinclair*), Cordillera of Oaxaca, 5000 to 6000 feet (*Galeotti*, 2057). Hb. Kew.

154. HECUBÆA.

Hecubæa, DC. Prodr. v. p. 665; Benth. et Hook. Gen. Plant. ii. p. 400.

An herbaceous monotype.

1. ***Hecubæa scorzonæræfolia***, DC. Prodr. v. p. 665; Deless. Ic. Sel. iv. t. 43.

Helenium scorzonæræfolium, var. *ghiesbreghtii*, A. Gr. in Proc. Amer. Acad. vii. p. 359.

SOUTH MEXICO, Desierto Viejo, valley of Mexico (*Bourgeau*, 833), Chiapas, &c. (*Ghiesbreght*, 118, 527). Hb. Kew.

155. RIDDELLIA.

Riddellia, Nutt. in Trans. Amer. Phil. Soc. ser. 2, vii. p. 371; Benth. et Hook. Gen. Plant. ii. p. 401.

Three herbaceous or half-shrubby species, inhabiting the North-Mexican region from Texas to California.

1. ***Riddellia arachnoidea***, A. Gr. Pl. Fendl. p. 94.

Psilostrophe gnaphalodes, DC. Prodr. vii. p. 261.

TEXAS; NEW MEXICO; COLORADO.—NORTH MEXICO, Ojo de San Bernardo (*Gregg*), Monterey (*Berlandier*, *Edwards*), Buena Vista and Saltillo (*Gregg*). Hb. Kew.

2. ***Riddellia tagetina***, Nutt. in Trans. Amer. Phil. Soc. ser. 2, vii. p. 371, ex Torr. & Gr. Fl. N. Am. ii. p. 362; Torr. in Emory's Rep. App. t. 5.

TEXAS; NEW MEXICO.—NORTH MEXICO, Chiricahui Mountains (*Torrey*), Camp Bowie, S. Arizona (*Rothrock*), common on the frontier (ex *A. Gray*). Hb. Kew.

156. HYMENOPAPPUS.

Hymenopappus, Lhér. Diss. cum Ic. ex DC. Prodr. v. p. 658; Benth. et Hook. Gen. Plant. ii. p. 402.

An exclusively North-American genus of seven herbaceous species.

1. ***Hymenopappus flavescens***, A. Gr. Pl. Fendl. p. 97.

TEXAS; NEW MEXICO.—NORTH MEXICO, Frontera (*Wright*).

157. BAHIA.

Bahia, Lag. Elench. Pl. Hort. Matr. Gen. et Sp. Nov. p. 30; Benth. et Hook. Gen. Plant. ii. p. 402.

Shrubs, undershrubs, or herbs inhabiting North America, chiefly the west, and Extra-tropical South America. About twenty species are known.

1. ***Bahia absinthifolia***, Benth. Pl. Hartw. p. 18.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 493), Frontera (*Wright*); SOUTH MEXICO, Aguas Calientes (*Hartweg*, 128). Hb. Kew.

2. **Bahia anthemoides**, A. Gr. in Proc. Amer. Acad. xv. p. 40.
Achyropappus anthemoides, H. B. K. Nov. Gen. et Sp. iv. p. 259, t. 390.
 NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 494);
 SOUTH MEXICO, around Toluca, 8300 feet (*Humboldt & Bonpland*). Hb. Kew.
3. **Bahia dealbata**, A. Gr. Pl. Fendl. p. 99.
 TEXAS; NEW MEXICO.—NORTH MEXICO, Chihuahua (*Gregg*), Nuevo Leon (*Berlandier*).
 Hb. Kew.
4. **Bahia sinuata**, Less. in Linnæa, vi. p. 160; DC. Prodr. v. p. 656.
Bahia nepetæfolia, A. Gr. Proc. Amer. Acad. v. p. 184.
 NORTH MEXICO, San Luis Potosi to Tampico (*Palmer*, 1090); SOUTH MEXICO, near
 Tantoyuca (*Ervendberg*, 65), Santa Barbara (*Liebmann*, 220). Hb. Kew.
5. **Bahia stæchadifolia**, DC. Prodr. v. p. 656.
Eriophyllum stæchadifolium, Lag. Elench. Hort. Matr. p. 28.
 SOUTH MEXICO, Real del Monte (*Hænke*).
6. **Bahia trolliifolia**, DC. Prodr. v. p. 657.
Eriophyllum trolliifolium, Lag. Elench. Hort. Matr. p. 28.
 MEXICO.

158. SCHKUHRIA.

Schkuhria, Roth. Catal. i. p. 116; Benth. et Hook. Gen. Plant. ii. p. 403.

A genus of about eight herbaceous species, ranging from Mexico to South America.

1. **Schkuhria abrotanoides**, Roth. Catal. i. p. 116; DC. Prodr. v. p. 654.
 SOUTH MEXICO, Cordillera of Oaxaca, 4000 feet (*Galeotti*, 2045), Vera Cruz to
 Orizaba (*Müller*, 270), Guadalupe (*Bourgeau*, 372), Real del Monte (*Coulter*, 314).—
 Southward to PERU. Hb. Kew.
2. **Schkuhria biternata**, Benth. et Hook. Gen. Plant. ii. p. 403.
Bahia biternata, A. Gr. Pl. Wright. ii. p. 95.
 NEW MEXICO.—NORTH MEXICO, Sonora (*Schott*).
3. **Schkuhria hopkirkia**, A. Gr. Pl. Wright. ii. p. 94.
Hopkirkia anthemoides, DC. Prodr. v. p. 660.
 NORTH MEXICO, Sonora (*Wright*); SOUTH MEXICO, Real del Monte (*Hænke*). Hb. Kew.
4. **Schkuhria senecioides**, Nees, Del. Sem. Hort. Bonn. 1831.
Achyropappus schkuhrioides, Link et Otto, Ic. Pl. Rar. t. 30; DC. Prodr. v. p. 654.
 MEXICO. Hb. Kew.
5. **Schkuhria virgata**, DC. Prodr. v. p. 654.
 NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 427);
 SOUTH MEXICO, Guanajuato (*Mendez*), near Tacubaya (*Schaffner*), between Mexico and

Queretaro (*Berlandier*), Chapultepec (*Bilimek*); GUATEMALA, Llano de San Juan de Dios (*Bernoulli*, 135). Hb. Kew.

6. **Schkuhria wislizenii**, A. Gr. Pl. Fendl. p. 96.

NORTH MEXICO, Cosiquiriachi, Chihuahua (*Wislizenus*).

7. **Schkuhria wrighti**, A. Gr. Pl. Wright. ii. p. 96.

NORTH MEXICO, Sonora (*Thurber*, *Wright*). Hb. Kew.

159. HYMENOTHRIX.

Hymenothrix, A. Gr. Pl. Fendl. p. 102; Benth. et Hook. Gen. Plant. ii. p. 403.

Limited to the following species, which are herbaceous plants.

1. **Hymenothrix wislizenii**, A. Gr. Pl. Fendl. p. 102.

NEW MEXICO.—NORTH MEXICO, Ojo de Gallejo, between El Paso del Norte and Chihuahua (*Wislizenus*).

2. **Hymenothrix? wrightii**, A. Gr. Pl. Wright. ii. p. 97.

NEW MEXICO.—NORTH MEXICO, Chiricahui, Sonora (*Wright*), Camp Grant, S. Arizoa (*Rothrock*). Hb. Kew.

160. VILLANOVA.

Villanova, Lag. Elench. Hort. Matr. Gen. et Sp. Nov. p. 31, non Ort.; Benth. et Hook. Gen. Plant. ii. p. 404.

About half a dozen herbaceous species, inhabiting the country from Mexico to Peru.

1. **Villanova achillæoides**, Less. Syn. Comp. p. 256; DC. Prodr. vi. p. 75.

Unxia achillæoides, Less. in Linnæa, v. p. 159.

SOUTH MEXICO, Llano de Perote (*Schiede & Deppe*).

[*Villanova oppositifolia*, Lag., does not appear to be a Mexican plant, but a native of South America, from Colombia to Bolivia.]

2. **Villanova pratensis**, Benth. et Hook. Gen. Plant. ii. p. 405.

Chlamysperma pratense, Less. Syn. Comp. p. 256.

Unxia pratensis, H. B. K. Nov. Gen. et Sp. iv. p. 279, t. 401.

Chlamysperma arenarioides, Hook. et Arn. Bot. Beech. Voy. t. 64.

SOUTH MEXICO, Jalisco (*Beechey*), Capula and Valladolid at about 6300 feet (*Humboldt & Bonpland*), Colima, 4000 feet (*Galeotti*, 2449); SALVADOR, Sonsonate (*Bernoulli*, 26); NICARAGUA (*Ersted*, 113; *Lévy*, 140). Hb. Kew.

161. FLORESTINA.

Florestina, Cass. in Bull. Philom. 1815; Benth. et Hook. Gen. Plant. ii. p. 405.

Two herbaceous species, confined to the Mexican region.

1. **Florestina pedata**, Cass. Dict. xvii. p. 155, t. 86; DC. Prodr. v. p. 655.

Stevia pedata, Cav. Ic. Pl. iv. t. 356.

Achyropappus pedatus, Less. Syn. Comp. p. 239.

Ageratum pedatum, Ort. Dec. p. 38.

Hymenopappus pedatus, Lag. Nov. Gen. p. 28.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 495); SOUTH MEXICO, around the city of Mexico (*Berlandier*, 707, 743), near Real del Monte, at 5000 feet (*Galeotti*, 2368), near Belen (*Schaffner*, 285), valley of Mexico (*Bourgeau*, 598). Hb. Kew.

2. **Florestina tripteris**, DC. Prodr. v. p. 655.

TEXAS.—NORTH MEXICO, Boca del Rio (*Liebmann*, 71). Hb. Kew.

162. PALAFOXIA.

Palafoxia, Lag. Elench. Hort. Matr. Gen. et Sp. Nov. p. 26; Benth. et Hook. Gen. Plant. ii. p. 405.

About half a dozen herbaceous and shrubby species, inhabiting Florida and the Mexican region.

1. **Palafoxia latifolia**, DC. Prodr. v. p. 125.

SOUTH MEXICO, around Tehuantepec (*Andrieux*, 286). Hb. Kew.

2. **Palafoxia lindeni**, A. Gr. Pl. Wright. i. p. 120.

SOUTH MEXICO, Antigua, Vera Cruz (*Linden*, 1149), sand-hills near the sea, Vera Cruz (*Galeotti*, 2267). Hb. Kew.

3. **Palafoxia linearis**, Lag. Elench. Hort. Matr. Gen. et Sp. Nov. n. 335; DC. Prodr. v. p. 125; Bot. Mag. t. 2132.

Ageratum lineare, Cav. Ic. Pl. iii. t. 205.

Stevia linearis et lavandulæfolia, Willd.

Paleolaria carnea, Cass. in Bull. Philom. 1816, 1818.

CALIFORNIA; ARIZONA.—NORTH MEXICO, Chihuahua (*Schott*). Cultivated specimens only in Hb. Kew.

4. **Palafoxia texana**, DC. Prodr. v. p. 125.

TEXAS.—NORTH MEXICO, Tamaulipas (*Berlandier*, 1419), San Luis Potosi to San Antonio, Texas (*Parry*, 495½), without locality (*Gregg*). Hb. Kew.

163. PERICOME.

Pericome, A. Gr. Pl. Wright. ii. p. 81; Benth. et Hook. Gen. Plant. ii. p. 406.

Herbaceous plants confined to the Mexican region.

1. **Pericome caudata**, A. Gr. Pl. Wright. ii. p. 81.

COLORADO; NEW MEXICO.—NORTH MEXICO, Cobre &c., within the old boundary (*Bigelow*). Hb. Kew.

2. **Pericome spilanthoides**, Benth. et Hook. Gen. Pl. ii. p. 406.

Galinsogeopsis spilanthoides, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 307.

NORTH MEXICO, Sierra Madre (*Seemann*, 1981, 1982). Hb. Kew.

164. GALEANA.

Galeana, Llav. et Lex. Nov. Veg. Descr. i. p. 12; Benth. et Hook. Gen. Plant. ii. p. 406.

An herbaceous monotype of doubtful affinity.

1. **Galeana hastata**, Llav. et Lex. Nov. Veg. Descr. i. p. 12; DC. Prodr. vii. p. 257.

SOUTH MEXICO, San José del Corral (*La Llave*).

165. MICROSPERMUM.

Microspermum, Lag. Elench. Hort. Matr. Gen. et Sp. Nov. p. 25; Benth. et Hook. Gen. Plant. ii. p. 407.

Prostrate herbs. Probably only one species.

1. **Microspermum debile**, Benth. Pl. Hartw. p. 64.

Miradoria sartorii, Schz. Bip. ex Benth. et Hook. Gen. Pl. ii. p. 407.

SOUTH MEXICO, Cumbre de Tanitze (*Liebmann*), Talea (*Hartweg*), Cordillera of Oaxaca, in the pine region, at 8000 feet (*Galeotti*, 2132). Hb. Kew.

2. **Microspermum nummulariæfolium**, Lag. Elench. Hort. Matr. Gen. et Sp. Nov. p. 25; DC. Prodr. vii. p. 259.

SOUTH MEXICO, at Guanajuato, Queretaro and Salvatierra (ex *Lagasca*).

166. SARTWELLIA.

Sartwellia, A. Gr. Pl. Wright. i. p. 122; Benth. et Hook. Gen. Plant. ii. p. 407.

An herbaceous monotype.

1. **Sartwellia flaveriæ**, A. Gr. Pl. Wright. i. p. 122, t. 6.

TEXAS.—NORTH MEXICO, Coahuila (*Schott*). Hb. Kew.

167. FLAVERIA.

Flaveria, Juss. Gen. Plant. p. 186; Benth. et Hook. Gen. Plant. ii. p. 407.

About seven or eight herbaceous species, one of which is Australian, and the others American, ranging from Mexico and Florida to Chili. The Australian species is hardly distinct from the common American *F. contrayerba*. The Mexican species need revision.

1. **Flaveria angustifolia**, Pers. Ench. ii. p. 489; DC. Prodr. v. p. 635.
Milleria angustifolia, Cav. Ic. Pl. iii. t. 223.
SOUTH MEXICO, Cordillera of Oaxaca, 5000 to 5500 feet (*Galeotti*, 2122; *Andrieux*, 345). Hb. Kew.
2. **Flaveria chloræfolia**, A. Gr. Pl. Fendl. p. 88.
NORTH MEXICO, Playo, Chihuahua (*Wislizenus*, *Palmer*). Hb. Kew.
3. **Flaveria contrayerba**, Pers. Ench. ii. p. 489; DC. Prodr. v. p. 635; Bot. Mag. t. 2400.
Milleria contrayerba, Cav. Ic. Pl. i. t. 4.
TEXAS.—MEXICO, Tehuacan (*Liebmann*, 267), Real del Monte (*Berlandier*), west of Guanajuato (*Mendez*).—Widely dispersed in SOUTH AMERICA. Hb. Kew.
4. **Flaveria linearis**, Lag. Nov. Gen. p. 33; DC. Prodr. v. p. 635.
NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 498, 500).—CUBA. Hb. Kew.
5. **Flaveria longifolia**, A. Gr. Pl. Fendl. p. 88.
TEXAS.—NORTH MEXICO, without locality (*Gregg*); SOUTH MEXICO, Tehuacan (*Liebmann*). Hb. Kew.
6. **Flaveria repanda**, Lag. Nov. Gen. p. 33.
Broteroa trinervata, Pers. Ench. ii. p. 498; DC. Prodr. v. p. 636.
NORTH MEXICO, Chihuahua (*Potts*); SOUTH MEXICO, Tehuacan, 5000 to 6000 feet (*Galeotti*, 2639).—CUBA; BRAZIL. Hb. Kew.

168. POROPHYLLUM.

Porophyllum, Vaill., ex Linn. Hort. Cliff. p. 494; Benth. et Hook. Gen. Plant. ii. p. 408.

As here limited, this is an exclusively American genus, comprising about twenty herbaceous and half-shrubby species, ranging from Mexico to Buenos Ayres.

1. **Porophyllum amplexicaule**, Engelm.; A. Gr. Pl. Wright. i. p. 120.
NORTH MEXICO, Coahuila (*Gregg*, 524). Hb. Kew.
2. **Porophyllum coloratum**, DC. Prodr. v. p. 650.
Kleinia colorata, H. B. K. Nov. Gen. et Sp. iv. p. 158; Mart. Amœn. Monac. p. 23, t. 15.
SOUTH MEXICO, Tlapujahua (*Keerl*), around Guanajuato and Temasco, 6250 feet (*Humboldt & Bonpland*), Zimapan (*Coulter*, 448)? Hb. Kew.
3. **Porophyllum decumbens**, DC. Prodr. v. p. 650.
Kleinia suffruticosa, Lodd. Bot. Cab. t. 1561, non Willd.
MEXICO. Cultivated specimens in Hb. Kew.
4. **Porophyllum greggii**, A. Gr. Pl. Wright. i. p. 120.
NORTH MEXICO, Sonora and Chihuahua (*Wright*), Coahuila (*Gregg*). Hb. Kew.

5. **Porophyllum jorullense**, Cass. Dict. xliii. p. 57; DC. Prodr. v. p. 649.
Kleinia jorullensis, H. B. K. Nov. Gen. et Sp. iv. p. 156, t. 356.
 SOUTH MEXICO, Volcan de Jorullo, at 3600 feet (*Humboldt & Bonpland*).
6. **Porophyllum linaria**, DC. Prodr. v. p. 649.
Cacalia linaria, Cav. Ic. Pl. iii. p. 29, t. 257.
 SOUTH MEXICO, Orizaba, cult. (*Botteri*, 1051). Hb. Kew.
7. **Porophyllum lindenii**, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 308.
 NORTH MEXICO, Sierra Madre (*Seemann*, 2020); SOUTH MEXICO, Aguas Calientes (*Hartweg*, 147). Hb. Kew.
 This is perhaps the same as *P. viridiflorum*, DC.
8. **Porophyllum linifolium**, DC. Prodr. v. p. 649.
Cacalia linifolia, Linn. Mant. p. 109.
Kleinia suffruticosa, Willd. Sp. Pl. iii. p. 1739.
 MEXICO (*Hænke*).—BRAZIL; PERU.
9. **Porophyllum macrocephalum**, DC. Prodr. v. p. 648.
 NEW MEXICO; ARIZONA.—NORTH MEXICO, Sonora (*Thurber*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 505); SOUTH MEXICO, valley of Cordova (*Bourgeau*, 2036), Cordillera of Oaxaca, 5500 feet (*Galeotti*, 2048), Zimapan (*Coulter*, 447).
 Hb. Kew.
10. **Porophyllum nummularium**, DC. Prodr. v. p. 649.
 SOUTH MEXICO, Tehuantepec (*Alaman*), Zacuapan (*Liebmann*, 206). Hb. Kew.
11. **Porophyllum obtusifolium**, DC. Prodr. v. p. 650.
 SOUTH MEXICO, near Villalpando (*Mendez*).
12. **Porophyllum scoparium**, A. Gr. Pl. Wright. i. p. 119.
 TEXAS.—NORTH MEXICO, Sonora and Chihuahua (*Bigelow*, *Thurber*).
13. **Porophyllum seemannii**, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 308.
 NORTH MEXICO, Sierra Madre (*Seemann*, 2013). Hb. Kew.
14. **Porophyllum tagetoides**, DC. Prodr. v. p. 650.
Kleinia tagetoides, H. B. K. Nov. Gen. et Sp. iv. p. 158.
 SOUTH MEXICO, Tacubaya, Guadalupe, &c., valley of Mexico (*Schaffner*, 260; *Bilimek*, 493), Zacoalco (*Bourgeau*, 584), without locality (*Parkinson*). Hb. Kew.
15. **Porophyllum viridiflorum**, DC. Prodr. v. p. 658.
Kleinia viridiflora, H. B. K. Nov. Gen. et Sp. iv. p. 157.
 SOUTH MEXICO, Trapiche de la Concepcion (*Liebmann*, 209), Orizaba (*Botteri*, 1163; *Bourgeau*, 3090), Cuernavaca (*Berlandier*), near Valladolid, at 6000 feet (*Humboldt & Bonpland*), Mirador, Vera Cruz (*Linden*, 1160). Hb. Kew.

16. **Porophyllum**, sp.

SOUTH MEXICO, Sierra San Pedro Nolasco, &c. (*Jurgensen*, 678). Hb. Kew.

17. **Porophyllum**, sp.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 502), Zacatecas (*Coulter*, 448; *Hartweg*, 146), without locality (*Mairet, Parkinson, Tate*). Hb. Kew.

18. **Porophyllum**, sp.

MEXICO, Mazatlan (*Seemann*, 1491; *Coulter*, 446), San Blas to Tepic (*Sinclair*). Hb. Kew.

169. ADENOPHYLLUM.

Adenophyllum, Pers. Syn. Pl. ii. p. 458; Benth. et Hook. Gen. Plant. ii. p. 408.

Annual herbs, limited to the Mexican region.

1. **Adenophyllum coccineum**, Pers. Syn. Pl. ii. p. 458; DC. Prodr. v. p. 638.

Adenophyllum capillaceum, DC. Prodr. v. p. 638; Calques des Dess. Fl. Mex. 620.

Willdenowa glandulosa, Cav. Ic. Pl. i. t. 89.

Schlechtendalia glandulosa, Willd. Sp. Pl. iii. p. 2125.

SOUTH MEXICO, Cordillera of Oaxaca, in maize-fields at 4500 feet (*Galeotti*, 2042), near Doscaminos (*Née*). Hb. Kew.

✓ 2. **Adenophyllum porophyllum**, Hemsley.

Pteronia porophyllum, Cav. Ic. Pl. iii. p. 13, t. 225.

Dyssodia porophyllum, Willd. Enum. p. 900; DC. Prodr. v. p. 639.

Bæbera porophyllum, Less. Syn. p. 237.

Lebetina cancellata, Cass. Dict. xxv. p. 394.

NORTH MEXICO, Sonora (*Schott*), Chihuahua (*Thurber*), San Luis Potosi to Tampico (*Palmer*, 1118); SOUTH MEXICO, Zimapan (*Coulter*, 442), Cuernavaca (*Bourgeau*, 1209); GUATEMALA, San Gabriel (*Bernoulli*, 1093). Hb. Kew.

3. **Adenophyllum wrightii**, A. Gr. Pl. Wright. ii. p. 92.

NORTH MEXICO, Cobre (*Wright*). Hb. Kew.

170. NICOLETTIA.

Nicolettia, A. Gr. Pl. Wright. i. p. 119; Benth. et Hook. Gen. Plant. ii. p. 409.

Dwarf herbs. The following and one Californian species.

1. **Nicolettia edwardsii**, A. Gr. Pl. Wright. i. p. 119, t. 8.

NORTH MEXICO, Guajuquilla, Chihuahua (*Edwards*).

171. DYSODIA.

Dysodia, Cav. (*Dyssodia*) in Ann. Cienc. Nat. vi. p. 334, ex DC. Prodr. v. p. 639; Benth. et Hook. Gen. Plant. ii. p. 409.

This genus comprises about ten herbaceous species, inhabiting California, Arizona,

Mexico, and Central America; and one of the Mexican species extends to the eastern States of North America.

1. **Dysodia appendiculata**, Lag. Elench. Hort. Matr. Gen. et Sp. Nov. p. 29; DC. Prodr. v. p. 640.

Clomenocoma aurantia, Cass. Dict. ix. p. 416; DC. Prodr. v. p. 641; Reliq. Houst. (*Aster*) t. 18.

NORTH MEXICO, Sierra Madre (*Seemann*, 1991); SOUTH MEXICO, Vera Cruz (*Houston*), Acapulco (*Née*), west of Guanajuato (*Mendez*). Hb. Kew.

2. **Dysodia chrysanthemoides**, Lag. Elench. Hort. Matr. Gen. et Sp. Nov. p. 29; DC. Prodr. v. p. 640.

Dysodia tagetiflora, Lag. loc. cit.

Dysodia fastigiata, DC. Prodr. v. p. 640.

Bæbera chrysanthemoides, Willd. Sp. Pl. iii. p. 2125.

Bæbera fastigiata, H. B. K. Nov. Gen. et Sp. iv. p. 198.

Tagetes papposa, Vent. Hort. Cels. t. 36.

Dysodia glandulosa, Cav. Dem. Bot. p. 202.

MISSOURI and KENTUCKY southward.—NORTH MEXICO, Chihuahua (*Thurber*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 507); SOUTH MEXICO, Real del Monte to Zacatecas (*Coulter*, 432), Zimapan (*Galeotti*, 2403), valley of Mexico (*Bourgeau*, 842; *Schaffner*, 256), Ario and Pazcuaro, 6000 feet (*Humboldt & Bonpland*). Hb. Kew.

3. **Dysodia grandiflora**, DC. Prodr. v. p. 640.

Comaclinium aurantiacum, Scheidw. et Planch. in Fl. des Serres, t. 756.

Clomenocoma montana, Benth. Pl. Hartw. p. 86; Bot. Mag. t. 5310.

GUATEMALA, in the mountains of Aceytuno (*Hartweg*); NICARAGUA, Segovia and Cartago (*Ersted*, 142, 95, 98). Hb. Kew.

4. **Dysodia pubescens**, Lag. Elench. Hort. Matr. Gen. et Sp. Nov. p. 29; DC. Prodr. v. p. 640.

Dysodia integerrima, Lag. loc. cit.

Dysodia incana, DC. Prodr. v. p. 640.

Bæbera incana, Lindl. Bot. Reg. t. 1602.

Aster pinnatus, Cav. Ic. iii. p. 6, t. 212.

Clomenocoma? *pinnata*, DC. Prodr. v. p. 641.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 512); SOUTH MEXICO, Santa Fé, &c., valley of Mexico (*Bourgeau*, 366; *Schaffner*, 271), region of Orizaba (*Botteri*, 1183; *Bourgeau*, 3087), Zimapan (*Coulter*, 431), valley of Cordova (*Bourgeau*, 2206). Hb. Kew.

172. SYNCEPHALANTHUS.

Syncephalanthus, Bartl. Ind. Sem. Hort. Gœtt. 1836, ex Linnæa, xii. Lit.-Ber. p. 80; Benth. et Hook. Gen. Plant. ii. p. 409.

An annual herbaceous monotype.

✓ 1. **Syncephalanthus decipiens**, Bartl. Ind. Sem. Hort. Gœtt. 1836, p. 6; DC. Prodr. vii. p. 262.

SOUTH MEXICO, Cordillera of Oaxaca, cultivated fields at 4000 to 5000 feet (*Galeotti*, 2026); GUATEMALA, Dueñas (*Salvin & Godman*, 42), Baño de los Padres (*Bernoulli*, 195). Hb. Kew.

173. HYMENATHERUM.

Hymenatherum, Cass. in Bull. Philom. 1817, Dict. xxii. p. 313; Benth. et Hook. Gen. Plant. ii. p. 410.

About fifteen herbaceous and half-shrubby species, inhabiting Mexico, Texas, and California, one species reappearing in Chili.

1. **Hymenatherum acerosum**, A. Gr. Pl. Wright. p. 115.

Dysodia (Aciphyllæ) acerosa, DC. Prodr. v. p. 641.

TEXAS; NEW MEXICO.—NORTH MEXICO, Sonora (*Schott*), Saltillo (*Gregg*, 478), San Luis Potosi (*Berlandier*, 1340). Hb. Kew.

2. **Hymenatherum berlandieri**, DC. Prodr. v. p. 642.

NORTH MEXICO, near Monterey (*Berlandier*, 1382), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 515). Hb. Kew.

3. **Hymenatherum bæberoides**, A. Gr. Pl. Wright. i. p. 115.

MEXICO (*Bates*).

4. **Hymenatherum diffusum**, A. Gr. Pl. Wright. i. p. 116.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 513, 517), without locality (*Tate, Bates*). Hb. Kew.

5. **Hymenatherum gnaphalopsis**, A. Gr. Pl. Fendl. p. 115, Pl. Wright. i. p. 116.

Hymenatherum gnaphalodes, A. Gr. Pl. Fendl. p. 90.

Gnaphalopsis micropoides, DC. Prodr. vii. p. 258.

NORTH MEXICO, near Monterey (*Gregg, Berlandier*, 1407), valley of Santa Catarina (*Berlandier*, 1404). Hb. Kew.

6. **Hymenatherum hartwegii**, A. Gr. Pl. Wright. i. p. 116.

Hymenatherum berlandieri, Benth. Pl. Hartw. p. 18, non DC.

TEXAS.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 514); SOUTH MEXICO, Aguas Calientes (*Hartweg*, 129). Hb. Kew.

7. **Hymenatherum næi**, DC. Prodr. v. p. 642; A. Gr. Pl. Wright. i. p. 116.

MEXICO (*Tate*).

8. **Hymenatherum pentachætum**, DC. Prodr. v. p. 642.

TEXAS.—NORTH MEXICO, near Buena Vista (*Gregg*, 30, 475), between Santander and Victoria (*Berlandier*, 2253). Hb. Kew.

9. **Hymenatherum serratifolium**, Hemsley.

Dysodia serratifolia, DC. Prodr. v. p. 641.

SOUTH MEXICO, Atilla, Oaxaca (*Alaman*), Cordillera of Oaxaca, at 4000 to 5000 feet (*Galeotti*, 2040), Chiapas, &c. (*Ghiesbreght*, 519). Hb. Kew.

Galeotti and Ghiesbreght's specimens agree with DeCandolle's description, except that the involucre is more or less bracteolate.

10. **Hymenatherum tenuifolium**, Cass. Dict. xxii. p. 313; A. Gr. Pl. Wright. i. p. 118.

Hymenatherum tenuilobum, DC. Prodr. v. p. 642.

TEXAS.—NORTH MEXICO, Chihuahua and Sonora (ex *A. Gray*).—CHILL. Hb. Kew.

174. THYMOPHYLLUM.

Thymophyllum, Lag. Elench. Hort. Matr. Gen. et Sp. Nov. p. 25 (*Thymophylla*); Benth. et Hook. Gen. Plant. ii. p. 410.

Three half-shrubby species, inhabiting Mexico and the adjoining country to the north.

1. **Thymophyllum greggii**, A. Gr. Pl. Fendl. p. 92, Pl. Wright. i. p. 119.

TEXAS.—NORTH MEXICO, Buena Vista, Coahuila (*Gregg*). Hb. Kew.

2. **Thymophyllum setifolium**, Lag. Elench. Hort. Matr. p. 25; DC. Prodr. v. p. 647.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 516), without locality (*Gregg*, 284); SOUTH MEXICO, Zimapan (*Coulter*, 445). Hb. Kew.

175. ADENOPAPPUS.

Adenopappus, Benth. Pl. Hartw. p. 41; Benth. et Hook. Gen. Plant. ii. p. 411.

An herbaceous monotype.

1. **Adenopappus persicæfolius**, Benth. Pl. Hartw. p. 41.

SOUTH MEXICO, banks of rivers, Maravateo (*Hartweg*). Hb. Kew.

176. TAGETES.

Tagetes, Linn. Gen. Plant. n. 964; Benth. et Hook. Gen. Plant. ii. p. 411.

An American genus of herbs, ranging from Texas, Arizona, and New Mexico to Bolivia and Buenos Ayres. There are about twenty species, several of which are naturalized in warm countries of the Old World.

1. **Tagetes angustifolia**, H. B. K. Nov. Gen. et Sp. iv. p. 194.

SOUTH MEXICO, near Toluca, at about 8500 feet (*Humboldt & Bonpland*).

2. **Tagetes coronopifolia**, Willd. Enum. Suppl. p. 60; DC. Prodr. v. p. 646; Jacq. Eclog. i. p. 118, t. 80.

Tagetes clandestina, Lag. Elench. Hort. Matr. p. 28.

Tagetes fœniculacea, Desf. Cat. Hort. Par. ed. 3, p. 171.

Eualcida pilifera, Cass. Dict. xiv. p. 443.

MEXICO, cultivated specimens (*Graham*). Hb. Kew.

3. **Tagetes erecta**, Linn. Sp. Pl. p. 1249; DC. Prodr. v. p. 643; Lamark, Ill. t. 684; Schk. Handb. t. 251.

Tagetes major, Gærtn. Fr. t. 172.

SOUTH MEXICO, Jalapa, 3000 feet (*Galeotti*, 2195; *Coulter*, 436), Mirador (*Linden*, 1175), valley of Mexico (*Bourgeau*, 597, 601), Orizaba (*Botteri*, 1184, 1185). Hb. Kew.

4. **Tagetes fœtidissima**, DC. Prodr. v. p. 645.

SOUTH MEXICO, Real del Monte (*Coulter*, 437), San Nicolas (*Bourgeau*, 953), valley of Mexico (*Schaffner*, 259), Cordillera of Guichilaca (*Berlandier*, 1043). Hb. Kew.

5. **Tagetes lucida**, Cav. Ic. Pl. iii. p. 33, t. 264; DC. Prodr. v. p. 643; Bot. Mag. t. 740; Andr. Bot. Rep. t. 359.

Tagetes florida, Sweet, Brit. Fl. Gard. ser. 2, t. 35.

TEXAS.—NORTH MEXICO, without locality (*Gregg*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 506), Zacatecas (*Hartweg*, 119); SOUTH MEXICO, Cordillera of Vera Cruz (*Linden*, 1142; *Galeotti*, 2280), Orizaba (*Bourgeau*, 2928; *Müller*, 1790; *Botteri*, 890), Zimapan, 6500 feet (*Galeotti*, 2424), Tacubaya (*Schaffner*), Real del Monte (*Coulter*, 435), Colipa (*Liebmann*, 532), Pedregal (*Bourgeau*, 383). Hb. Kew.

6. **Tagetes lunulata**, Ort. Dec. p. 44; DC. Prodr. v. p. 647.

MEXICO.

✓ 7. **Tagetes macroglossa**, Polak. in Linnæa, xli. p. 580.

COSTA RICA, San José (*Polakowsky*).

8. **Tagetes micrantha**, Cav. Ic. Pl. iv. p. 31, t. 352; DC. Prodr. v. p. 646.

Tagetes congesta, Hook. et Arn. Bot. Beech. Voy. p. 299.

ARIZONA; TEXAS.—NORTH MEXICO, Cerro de Pinal (*Seemann*, 1474), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 331); SOUTH MEXICO, Real del Monte, at about 7500 feet (*Galeotti*, 2383; *Coulter*, 440), region of Orizaba (*Bourgeau*, 3053), near Tacubaya (*Schaffner*), Huitamalco (*Liebmann*, 537), near Zimapan, 6500 feet (*Galeotti*, 2435), Cordillera of Vera Cruz (*Galeotti*, 2249; *Linden*, 1195), Jalisco (*Beechey*); GUATEMALA, Volcan de Fuego, 8300 feet (*Salvin*); COSTA RICA (*Ersted*, 173, 175, 239). Hb. Kew.

✓ 9. **Tagetes microglossa**, Benth. Bot. Voy. 'Sulphur,' p. 118.

GUATEMALA, Baño de los Padres (*Bernoulli*, 188)?; COSTA RICA, Aguacate (*Ersted*, 171, 174; *Endres*, 54). Hb. Kew.

10. **Tagetes multifida**, DC. Prodr. v. p. 646.
Tagetes filiformis, Lag. Elench. Hort. Martr. p. 25?
 TEXAS.—MEXICO, valley of Mexico (*Schaffner*). Hb. Kew.
- ✓11. **Tagetes multisetata**, DC. Prodr. v. p. 645.
Tagetes subulata, Llav. et Lex. Nov. Veg. Descr. i. p. 31?
 NORTH MEXICO, Cerro de Pinal (*Seemann*, 1472); SOUTH MEXICO, Guadalajara, 5000 feet (*Galeotti*, 2399), Cuernavaca (*Bourgeau*, 1207), San Blas to Tepic (*Sinclair*), Cordillera of Oaxaca, at 7000 feet (*Galeotti*, 2096); GUATEMALA, Barranco de Inciencio (*Bernoulli*, 113); NICARAGUA, Volcan el Viejo, &c. (*Ersted*, 172).—COLOMBIA. Hb. Kew.
12. **Tagetes oligocephala**, DC. Prodr. v. p. 645.
 SOUTH MEXICO, Cordillera of Guichilaca (*Berlandier*).
13. **Tagetes parryi**, A. Gr. in Proc. Amer. Acad. xv. p. 40.
 NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 504). Hb. Kew.
14. **Tagetes patula**, Linn. Sp. Pl. p. 1249; DC. Prodr. v. p. 643; Bot. Mag. t. 150.
Tagetes corymbosa, Sweet, Brit. Fl. Gard. t. 151.
Tagetes tenuifolia, H. B. K. non Cav.
 NORTH MEXICO, Sierra Madre (*Seemann*, 2044); SOUTH MEXICO, Tlalpujahua (*Keertl*), Zacoalco (*Bourgeau*, 583). Hb. Kew.
 This, *T. tenuifolia*, and *T. peduncularis* are perhaps varieties of one species.
- ✓15. **Tagetes peduncularis**, Lag. et Rod. in Ann. Sc. Nat. v. p. 74; DC. Prodr. v. p. 644.
 NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 503), Cerro de Pinal (*Seemann*, 1484), Zacatecas (*Coulter*, 438); SOUTH MEXICO, region of Orizaba (*Bourgeau*, 3204; *Botteri*, 1182), Bolaños (*Hartweg*), Real del Monte (*Coulter*, 439); GUATEMALA, near Dueñas (*Salvin & Godman*, 41). Hb. Kew.
16. **Tagetes remotiflora**, Kunze in Linnæa, xx. p. 23.
 MEXICO.
17. **Tagetes schiedeana**, Less. in Linnæa, ix. p. 271.
 SOUTH MEXICO, Hacienda de la Laguna (*Schiede & Deppe*).
 Closely allied to, if not the same as, *T. lucida*.
18. **Tagetes signata**, Bartl. Ind. Sem. Hort. Gœtt. 1837; DC. Prodr. vii. p. 292.
 MEXICO.

19. **Tagetes subvillosa**, Lag. Elench. Hort. Matr. p. 29; DC. Prodr. v. p. 647.
MEXICO.

20. **Tagetes tenuifolia**, Cav. Ic. Pl. ii. p. 54, t. 169; Bot. Mag. t. 2045.
SOUTH MEXICO, Guadalupe (*Bilimek*, 492), valley of Mexico (*Schaffner*, 257). Hb.
Kew.

21. **Tagetes wislizenii**, A. Gr. Pl. Fendl. p. 92.
NORTH MEXICO, Cosiquiriachi, Chihuahua (*Wislizenus*).

22. **Tagetes zypaquirensis**, Humb. et Bonpl. Pl. Æquin. ii. p. 18, t. 73.
GUATEMALA, Quezaltenango (*Hartweg*, 537).—COLOMBIA; PERU. Hb. Kew.

177. CHRYSACTINIA.

Chrysactinia, A. Gr. Pl. Fendl. p. 93; Benth. et Hook. Gen. Plant. ii. p. 412.

A dwarf shrubby monotype.

1. **Chrysactinia mexicana**, A. Gr. Pl. Fendl. p. 93.

NEW MEXICO.—NORTH MEXICO, Saltillo and Buena Vista (*Gregg*, 103), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 518); SOUTH MEXICO, Santa Fé (*Bourgeau*, 374), Ojo de Agua, near the city of Mexico (*Halsted*). Hb. Kew.

178. PECTIS.

Pectis, Linn. Gen. Plant. n. 963; Benth. et Hook. Gen. Plant. ii. p. 412.

About forty herbaceous and half-shrubby species, inhabiting America from the Mexican region to Bolivia and Peru.

1. **Pectis angustifolia**, Torr. in Ann. Lyc. N. York, ii. p. 214; A. Gr. Pl. Wright. i. p. 82.

Pectidopsis angustifolia, DC. Prodr. v. p. 98.

Pectis fastigiata, A. Gr. Pl. Fendl. p. 62.

CALIFORNIA; NEW MEXICO; TEXAS.—NORTH MEXICO, without locality (*Gregg*, 455).
Hb. Kew.

2. **Pectis arenaria**, Benth. Bot. Voy. 'Sulphur,' p. 110.

Pectis multiflosculosa, Schz. Bip., ex Benth. et Hook. Gen. Plant. ii. p. 412, non *Lorentea multiflosculosa*, DC.

SOUTH MEXICO, San Augustin (*Liebmann*, 465), Cordillera of Oaxaca (*Galeotti*, 2063), Acapulco (*Barclay*); SAN SALVADOR, Conchagua (*Ersted*); NICARAGUA, environs of Granada (*Lévy*, 384)?—ECUADOR; PERU. Hb. Kew.

3. **Pectis auricularis**, Sch. Bip. in Seem. Bot. Voy. 'Herald,' p. 309.

Lorentea auricularis, DC. Prodr. v. p. 102.

Pectis canescens, Less. in Linnæa, v. p. 135, vi. p. 718, non H. B. K.

SOUTH MEXICO, Chilpancingo (ex *Lessing*).

4. **Pectis berlandieri**, DC. Prodr. v. p. 100; A. Gr. in Torr. Bot. U.S. & Mex. Bound. Surv. p. 73.

NORTH MEXICO, San Fernando, Coahuila (*Berlandier*, 1537, 3037), San Luis Potosi to Tampico (*Palmer*, 1096); SOUTH MEXICO, Tantoyuca (*Berlandier*, 732, 2152). Hb. Kew.

5. **Pectis bonplandiana**, H. B. K. Nov. Gen. et Sp. iv. p. 263.

SOUTH MEXICO, Mazatlan (*Seemann*, 1490), near Queretaro, 6000 feet (*Humboldt & Bonpland*, *Schiede & Deppe*), Mirador (*Liebmann*). Hb. Kew.

6. **Pectis canescens**, H. B. K. Nov. Gen. et Sp. iv. p. 263, t. 393.

Lorentea canescens, DC. Prodr. v. p. 102.

SOUTH MEXICO, Tehuantepec, at about 4000 feet (*Humboldt & Bonpland*), Oaxaca, 5500 feet (*Galeotti*, 2137), Tehuacan, 5000 feet (*Galeotti*, 2117), near Tantoyuca (*Ervenberg*, 63). Hb. Kew.

A variable species in the number and indumentum of the involucreal bracts.

7. **Pectis capillaris**, DC. Prod. v. p. 99.

SOUTH MEXICO, Oaxaca (*Mairet*).

✓8. **Pectis capillipes**, Hemsley.

Lorentea capillipes, Benth. in Vidensk. Meddel. 1852, p. 70.

NICARAGUA, Segovia, 4000 feet (*Ersted*).

9. **Pectis coulteri**, Harv. & A. Gr. Pl. Fendl. p. 62; A. Gr. in Bot. Calif. i. p. 399.

ARIZONA.—NORTH MEXICO, Sonora Alta (*Coulter*, 441). Hb. Kew.

✓10. **Pectis diffusa**, Hook. et Arn. Bot. Beech. Voy. p. 296.

Pectis taliscana, Benth. Pl. Hartw. p. 121, non Hook. et Arn.

SOUTH MEXICO, Jalisco (*Beechey*); NICARAGUA, Segovia &c. (*Ersted*, 201, 202; *Tate*, 145); PANAMA (*Seemann*).—ECUADOR. Hb. Kew.

✓11. **Pectis elongata**, H. B. K. Nov. Gen. et Sp. iv. p. 262, t. 392.

PANAMA (*Hænke*).—Widely dispersed in SOUTH AMERICA. Hb. Kew.

12. **Pectis fasciculiflora**, DC. Prodr. v. p. 100.

MEXICO (*Hænke*).

13. **Pectis hænkeana**, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 309.

Lorentea hænkeana, DC. Prodr. v. p. 102.

MEXICO (*Hænke*).

14. **Pectis imberbis**, A. Gr. Pl. Wright. ii. p. 70.

NORTH MEXICO, Sonoita, Sonora (*Wright*, *Rothrock*), Janos, Chihuahua (*Schott*). Hb. Kew.

15. **Pectis jaliscana** (errore *taliscana*), Hook. et Arn. Bot. Beech. Voy. p. 296.

Pectis filipes, A. Gr. Pl. Fendl. p. 62.

BIOL. CENT.-AMER., Bot. Vol. II., October 1881.

✓ NEW MEXICO; ARIZONA.—NORTH MEXICO, Janos, Chihuahua (*Schott*); SOUTH MEXICO, Jalisco (*Beechey*), Consoquitla (*Liebmann*, 394); NICARAGUA, Realejo (*Hinds*). Hb. Kew.

16. **Pectis (Lorentea) liebmännii**, Schz. Bip. MSS. in hb. Liebm.

Procumbens, foliis obovato-oblongis lanato-pubescentibus basi utrinque sæpius longe 2–4-aristatis, capitulis solitariis longiuscule pedunculatis, involucri bracteis ad 6–7 lanulatis marginibus membranaceo-scariosis, acheniis fusiformibus striatulis.

Herba perennis (?), procumbens, ramis graciliusculis, elongatis, basi sublignosis, striatis, puberulis. *Folia* sessilia, crassiuscula, obovato-oblonga, 6–12 lineas longa, cuspidato-mucronata, basi utrinque sæpius longe 2–4-aristata, omnino albo-lanato-pubescentia, subtus plus minusve nigro-punctata, venis immersis, obsolete. *Capitula* ad 6 lineas diametro, solitaria, terminalia et axillaria, pedunculata; pedunculi graciles, 1–2 poll. longi; involucri bracteæ sæpius 6–7, oblongæ, obtusæ, dorso albo-lanulatæ, marginibus membranaceo-scariosæ, apice roseo tinctæ, basi incrassatæ; ligulæ breves, subrectæ (?); corollæ disci breviter bilabiata. *Achenia* angusta, fusiformia, nigra, striatula, glabrescentia; pappi setæ numerosæ, omnes tenues, scabræ, corollam æquant.

SOUTH MEXICO, San Augustin (*Liebmann*, 467). Hb. Kew.

A very distinct species belonging to A. Gray's section *Pectothrix*. It is allied to *P. canescens*, H. B. K.; but it differs in its leaves, involucrial bracts, &c.

17. **Pectis longipes**, A. Gr. Pl. Wright. ii. p. 70.

NORTH MEXICO, Nuevo Leon (*Berlandier*, 3159), Santa Cruz, Sonora (*Thurber*). Hb. Kew.

✓ 18. **Pectis multiflosculosa**, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 309, pro parte.

Lorentea multiflosculosa, DC. Prodr. v. p. 102.

COSTA RICA, Guanacaste (*Ersted*).—PERU. Hb. Kew.

19. **Pectis papposa**, Harv. & A. Gr. Pl. Fendl. p. 62.

ARIZONA.—NORTH MEXICO, Sonora (*Schott, Palmer*).

20. **Pectis prostrata**, Cav. Ic. Pl. iv. p. 12, t. 324; DC. Prodr. v. p. 100.

FLORIDA to NEW MEXICO.—NORTH MEXICO, Sonora (*Thurber*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 361); SOUTH MEXICO, Zacoalco (*Bourgeau*, 804), Cordillera of Vera Cruz (*Galeotti*, 2398), west of Guanajuato (*Alaman*), valley of Mexico (*Schaffner*, 273).—COLOMBIA and the WEST INDIES. Hb. Kew.

21. **Pectis satureioides**, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 309.

Lorentea satureioides, Less. in Linnæa, v. p. 135, t. 2. figg. 7–12.

Aster satureiæ foliis, Reliq. Houston. t. 19.

SOUTH MEXICO, Vera Cruz (*Houston*).

✓ 22. **Pectis swartziana**, Less. in Linnæa, vi. p. 711; DC. Prodr. v. p. 99.

PANAMA, hills around Loseria (*S. Hayes*, 690).—JAMAICA; HAYTI. Hb. Kew.

23. **Pectis tenella**, DC. Prodr. v. p. 99.

TEXAS.—NORTH MEXICO, Camp Bowie, S. Arizona (*Rothrock*), Mount Turnbull (*Loew*).

24. **Pectis uniaristata**, DC. Prodr. v. p. 99.

MEXICO.

179. CLAPPIA.

Clappia, A. Gr. in Torr. Bot. U.S. & Mex. Bound. Surv. p. 93; Benth. et Hook. Gen. Plant. ii. p. 413.

Herbs or undershrubs. A second species inhabits Texas.

1. **Clappia aurantiaca**, Benth. in Hook. Ic. Pl. t. 1104.

SOUTH MEXICO, Antigua, Vera Cruz (*Galeotti*, 2270).

180. HELENIUM.

Helenium, Linn. Gen. Plant. n. 961; Benth. et Hook. Gen. Plant. ii. p. 413.

An herbaceous genus of about twenty species inhabiting North and Central America.

1. **Helenium amphibolum**, A. Gr. in Proc. Am. Acad. ix. p. 202.

NORTH MEXICO, Chihuahua (*Berlandier*), Saltillo (*Gregg*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 521, 523). Hb. Kew.

2. **Helenium hoopesii**, A. Gr. in Proc. Acad. Philad. 1863, p. 65.

CALIFORNIA; COLORADO.—NORTH MEXICO, Mount Graham, S. Arizona (*Rothrock*). Hb. Kew.

3. **Helenium integrifolia**, Benth. et Hook. Gen. Plant. ii. p. 414.

Actinea integrifolia, H. B. K. Nov. Gen. et Sp. iv. p. 297, t. 410.

Oxylepis lanata, Benth. Pl. Hartw. p. 87.

SOUTH MEXICO, between Omitlan and Sierra del Jackal, 8400 feet (*Humboldt & Bonpland*); GUATEMALA, Cumbre de Argueta (*Hartweg*). Hb. Kew.

4. **Helenium laciniatum**, A. Gr. in Proc. Amer. Acad. ix. p. 203.

CALIFORNIA.—NORTH MEXICO, Yaqui River, Sonora (*Palmer*).

5. **Helenium mexicanum**, H. B. K. Nov. Gen. et Sp. iv. p. 299.

SOUTH MEXICO, Morelia, 6000 feet (*Galeotti*, 2417), Oaxaca (*Andrieux*, 317), Leon (*Hartweg*); COSTA RICA, Cartago (*Ersted*, 170). Hb. Kew.

6. **Helenium microcephalum**, DC. Prodr. v. p. 667; A. Gr. in Proc. Am. Acad. ix. p. 202.

Helenium heterophyllum, DC. Prodr. v. p. 667.

TEXAS.—NORTH MEXICO, Monterey (*Berlandier*, 1405). Hb. Kew.

7. **Helenium ooclinium**, A. Gr. in Proc. Amer. Acad. ix. p. 202.

NORTH MEXICO, Nazas valley, Bolson de Mapimi, Chihuahua (*Gregg*).

8. **Helenium puberulum**, DC. Prodr. v. p. 667.

CALIFORNIA.—NORTH MEXICO, Sonora (*Thurber*).

9. **Helenium quadridentatum**, Labill. in Act. Soc. Hist. Nat. Par. i. p. 22, t. 4; Bot. Reg. t. 598.

Rudbeckia alata, Jacq. Ic. Pl. Rar. t. 593.

CAROLINA; LOUISIANA; TEXAS.—MEXICO, without locality (*Berlandier*), Pital, Papantla (*Liebmann*, 463). Hb. Kew.

10. **Helenium varium**, Schrad. Ind. Sem. Hort. Gætt. 1831; DC. Prodr. v. p. 666. MEXICO (*Alaman*).

181. GAILLARDIA.

Gaillardia, Fougér. in Mém. Acad. Sc. Par. 1786, ex DC. Prodr. v. p. 651; Benth. et Hook. Gen. Plant. ii. p. 414.

About eight herbaceous species, inhabiting North America and extratropical South America.

1. **Gaillardia pinnatifida**, Torr. in Ann. Lyc. N. York, ii. p. 214.

TEXAS.—NORTH MEXICO, Chihuahua (*Gregg*).

2. **Gaillardia pulchella**, Fougér. in Mém. Acad. Sc. Par. 1786; DC. Prodr. v. p. 652.

Gaillardia bicolor, Lam. Dict. ii. p. 585, Ill. t. 718.

Calonnea pulcherrima, Buchoz, Ic. t. 126.

LOUISIANA; TEXAS; NEW MEXICO.—NORTH MEXICO, Reynosa and Monterey (*Gregg*), Tamaulipas (*Berlandier*), Sonora (*Thurber*), without locality (*Parkinson*). Hb. Kew.

182. ACTINELLA.

Actinella, Nutt. Gen. Pl. N. Amer. ii. p. 173, non Pers.; Benth. et Hook. Gen. Plant. ii. p. 414.

About ten herbaceous species confined to North America.

1. **Actinella odorata**, A. Gr. Pl. Fendl. p. 101.

Hymenoxys odorata, DC. Prodr. v. p. 661.

Cephalophora anthemoides, Less. in Linnæa, vi. p. 518.

TEXAS; NEW MEXICO.—NORTH MEXICO, Sonora (*Parry*, *Bigelow*), Chihuahua (*Gregg*, *Wislizenus*). Hb. Kew.

2. **Actinella scaposa**, Nutt. in Trans. Amer. Phil. Soc. n. ser. vii. p. 379; Torr. & Gr. Fl. N. Amer. ii. p. 382.

TEXAS.—NORTH MEXICO, Buena Vista, Carrizitos (*Gregg*).

183. HYMENOXYIS.

Hymenoxys, Cass. Dict. lv. p. 278; Benth. et Hook. Gen. Plant. ii. p. 415.

Four herbaceous species, inhabiting the Mexican region and extratropical South America.

1. **Hymenoxys chrysanthemoides**, DC. Prodr. v. p. 661.

Actinea chrysanthemoides, H. B. K. Nov. Gen. et Sp. iv. p. 298, t. 411.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 524);
SOUTH MEXICO, Chalco (*Andrieux*, 316). Hb. Kew.

184. PSATHYROTES.

Psathyrotis, A. Gr. Pl. Wright. ii. p. 100; Benth. et Hook. Gen. Plant. ii. p. 415.

Herbaceous plants restricted to North Mexico and the adjoining country.

1. **Psathyrotis ramosissima**, A. Gr. in Proc. Amer. Acad. vii. p. 363, ix. p. 206.

CALIFORNIA; ARIZONA.—NORTH MEXICO, Sonora.

2. **Psathyrotis scaposa**, A. Gr. Pl. Wright. ii. p. 100, t. 13.

NORTH MEXICO, near El Paso and Santa Maria, Chihuahua (*Bigelow &c.*). Hb. Kew.

3. **Psathyrotis schottii**, A. Gr. in Proc. Amer. Acad. ix. p. 206.

Peucephyllum schotti, A. Gr. in Torr. Bot. U. S. & Mex. Bound. Surv. p. 74.

NORTH MEXICO, Sonora (*Schott, Thurber*). Hb. Kew.

Bentham and Hooker retain the genus *Peucephyllum*, doubtfully referring it to the Senecionideæ (Gen. Plant. ii. p. 438).

Tribe VII. ANTHEMIDEÆ.

Anthemideæ, Benth. et Hook. Gen. Plant. ii. pp. 167 et 203.

Forty-five genera, including nearly 700 species, are referred to this tribe. Of these only twelve genera and sixty-three species are American; and only three of the genera are endemic in America.

185. ACHILLEA.

Achillea, Linn. Gen. Plant. n. 971; Benth. et Hook. Gen. Plant. ii. p. 419.

A genus of about one hundred herbaceous species, inhabiting the northern hemisphere, and chiefly in the Old World.

1. **Achillea millefolium**, Linn. Sp. Pl. p. 1267; DC. Prodr. vi. p. 24; Fl. Dan. t. 737.

SOUTH MEXICO, Omitlan (*Hartweg*), Desierto Viejo (*Bourgeau*, 838). Hb. Kew.

This plant is dispersed all round the temperate zone of the northern hemisphere, and extends into the Arctic regions; but it may have been introduced into Mexico.

186. BAILEYA.

Baileya, Harv. & A. Gr. Pl. Fendl. p. 105; Benth. et Hook. Gen. Plant. ii. p. 423.

Herbs, endemic in the Mexican region.

1. **Baileya multiradiata**, Harv. & Gray in A. Gr. Pl. Fendl. p. 106.

CALIFORNIA to TEXAS.—NORTH MEXICO, near Chihuahua and valley of the Rio Conchas (*Gregg*). Hb. Kew.

2. **Baileya pauciradiata**, Harv. & Gray in A. Gr. Pl. Fendl. p. 105.

CALIFORNIA.—NORTH MEXICO, Sonora.

3. **Baileya pleniradiata**, Harv. & Gray in A. Gr. Pl. Fendl. p. 105.

CALIFORNIA to TEXAS.—NORTH MEXICO, Chihuahua (*Gregg*). Hb. Kew.

Dr. Gray, Bot. Calif. i. p. 373, refers this genus to the Helenioideæ next to *Riddellia*.

[*Chrysanthemum coronarium*, Linn., introduced from Europe, is now naturalized in some parts of Mexico, as Orizaba (*Botteri*, 1127); and *Pyrethrum parthenium*, Smith, in Mexico, Orizaba (*Botteri*, 1159), Costa Rica, Cartago (*Ersted*, 130).]

187. COTULA.

Cotula, Linn. Gen. Plant. n. 968; Benth. et Hook. Gen. Plant. ii. p. 428.

A genus of small herbs, comprising about forty species, widely dispersed in the temperate and subtropical regions of the Old World, extratropical South Africa, Australasia, and South America, one species extending to Mexico.

1. **Cotula pygmæa**, Benth. et Hook. Gen. Plant. ii. p. 431.

Soliva pygmæa, H. B. K. Nov. Gen. et Sp. iv. p. 303.

Soliva mexicana, DC. Prodr. vi. p. 143; Calques des Dess. Fl. Mex. 589.

Hippia minuta, Linn. fil. Suppl. p. 389.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 227½); SOUTH MEXICO, valley of Mexico, 8000 feet (*Schaffner*).—ECUADOR; PERU. Hb. Kew.

188. SOLIVA.

Soliva, Ruiz et Pav. Prod. Fl. Peru. p. 113, t. 24; Benth. et Hook. Gen. Plant. ii. p. 430.

Four herbaceous species, all indigenous in America, and one of them occurring in Portugal and one in Australia, where they were most likely introduced.

1. **Soliva anthemifolia**, R. Br. in Trans. Linn. Soc. xii. p. 102.

SOUTH MEXICO, near Orizaba (*Schaffner*).—Widely dispersed in SOUTH AMERICA; also in Eastern AUSTRALIA. Hb. Kew.

189. ARTEMISIA.

Artemisia, Linn. Gen. Plant. n. 945; Benth. et Hook. Gen. Plant. ii. p. 435.

Herbs and undershrubs, generally dispersed in the temperate and subtropical zones of the northern hemisphere, some of the species clothing immense expanses of country, especially in the plains of North America. There are also three or four in extratropical

South America and the Sandwich Islands. Nearly 200 species have been described, which Bentham and Hooker think should be reduced to about 150.

1. **Artemisia mexicana**, Willd. Spreng. Syst. iii. p. 490; DC. Prodr. vi. p. 114; Less. in Linnæa, v. p. 163?

TEXAS.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 530, 531); SOUTH MEXICO, Orizaba (*Sallé*), valley of Mexico (*Bourgeau*, 832; *Schaffner*). Hb. Kew.

2. **Artemisia**, sp.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Schaffner*, 275; *Parry & Palmer*, 528, 529). Hb. Kew.

This is a new species; but we have not access to the specimens for description. It is probable that several other species enter North Mexico, as they are abundant in the adjoining parts of New Mexico, Arizona, and California.

Tribe VIII. SENECTIONIDEÆ.

Senecionideæ, Benth. et Hook. Gen. Plant. ii. pp. 167 et 206.

This tribe has nearly the same range as the whole Order; and its members exhibit great diversity of habit and foliage. It numbers forty-four genera and about 1250 species, whereof upwards of 900 are referred to *Senecio*.

190. LIABUM.

Liabum, Adans. Fam. ii. p. 131; Benth. et Hook. Gen. Plant. ii. p. 435.

About forty herbaceous and shrubby species, inhabiting America from Mexico to the Argentine Republic.

1. **Liabum andrieuxii**, Benth. et Hook. Gen. Pl. ii. p. 437.

Vernonia andrieuxii, DC. Prodr. v. p. 16.

SOUTH MEXICO, between Tehuantepec and the river Guazacualcos (*Andrieux*, 269), Chiapas &c. (*Ghiesbreght*, 520). Hb. Kew.

2. **Liabum andromachioides**, Hemsley.

Vernonia andromachioides, Less. in Linnæa, vi. pp. 397 et 645.

Sinclairia andromachioides, Schz. Bip. in Coll. Liebm. n. 399.

SOUTH MEXICO, Vera Cruz (*Linden*, 1228; *Galeotti*, 2330), Mirador (*Liebmann*, 399), Cordova (*Botteri*, 1099; *Bourgeau*, 1848), Orizaba (*Botteri*, 1078). Hb. Kew.

3. **Liabum asclepiadeum**, Schz. Bip. in Linnæa, xx. p. 521, et in Seem. Bot. Voy. 'Herald,' p. 141.

SOUTH MEXICO, Ciudad Real, Chiapas (*Linden*, 428), valley of Cordova (*Bourgeau*, 2205); PANAMA, Boquete, Veraguas (*Seemann*, 1592).—COLOMBIA. Hb. Kew.

This should perhaps be included under *L. melastomoides*, Less., a common species from Colombia to Peru.

✓ 4. **Liabum deppeanum**, Hemsley.

Andromachia deppeana, Less. in Linnæa, vi. p. 401.

SOUTH MEXICO, Cuesta Grande de Jalacingo (*Schiede & Deppe*), Orizaba (*Botteri*, 1177); NICARAGUA, Chontales (*Tate*, 109)? Hb. Kew.

Tate's specimen has smaller flower-heads and narrower leaves, and may be a different species.

5. **Liabum discolor**, Benth. et Hook. Gen. Pl. ii. p. 436.

Sinclairia discolor, Hook. et Arn. Bot. Beech. Voy. p. 433; Hook. Ic. Pl. v. t. 451.

SOUTH MEXICO, Mirador (*Liebmann*, 241, 555), Vera Cruz (*Linden*, 1236); NICARAGUA, Realejo (*Sinclair*). Hb. Kew.

6. **Liabum glabrum**, Hemsley, n. sp.

Omnino glabrum, ramis crassis, foliis ovato-oblongis minute reticulatis, capitulis discoideis numerosissimis dense paniculatis, involucri bracteis striatis, acheniis glabris multistriatis.

Frutex omnino glaber, ramis ultimis crassis, nitidis vel glaucis. *Folia* opposita vel ternatim verticillata, longiuscule petiolata, subcoriacea, ovato-oblonga, 3-6 poll. longa, remote calloso-denticulata (denticulis deciduis), obtusa, subtriplinervia, subtus venis minute reticulatis. *Capitula* discoidea, multiflora, ad 6 lineas diametro, numerosissima, in paniculas densas terminales disposita; pedunculi breves; involucri bracteæ 4-5-seriatæ, coriaceo-scariosæ, ovato-oblongæ, obtusæ, striatæ, exteriores gradatim minores, interiores lineari-oblongæ; receptaculum planum, nudum; corollæ anguste infundibuliformes, alte 5-fidæ. *Achenia* pallida, glabra, multistriata; pappi setæ 2-seriatæ, interiores corollam fere æquant, exteriores breves, subpaleaceæ.

SOUTH MEXICO, Cuernavaca, Iturbide (*Bourgeau*, 1401). Hb. Kew.

7. **Liabum sericolepis**, Hemsley, n. sp.

Foliis discoloribus ovato-oblongis, capitulis discoideis numerosissimis cymoso-paniculatis, involucri bracteis ovatis acutis dense sericeo-pubescentibus, acheniis immaturis apicem versus setulosis ceterum glabris.

Frutex, ut videtur, scandens, ramis crassiusculis, glabrescentibus. *Folia* (pauca suprema tantum visa) opposita, petiolata, ovato-oblonga, 2-3 poll. longa, remote calloso-denticulata, subtus densissime brevissimeque albo-tomentosa. *Capitula* discoidea, multiflora, ad 9 lineas diametro, numerosissima, cymoso-paniculata; cymæ densæ; paniculæ terminales, pedales et ultra; pedunculi breves, graciles; involucri bracteæ 4-5-seriatæ, herbaceæ, breves, ovatae, acutæ, sericeo-pubescentes; receptaculum convexum, fimbriiferum; corollæ glabræ, anguste infundibuliformes, alte 5-fidæ. *Achenia* immatura pallida, apicem versus setulosa, ceterum glabra nec striata; pappi setæ 2-seriatæ, omnes tenues, corolla breviores.

SOUTH MEXICO, valley of Cordova (*Bourgeau*, 2177). Hb. Kew.

✓ 8. **Liabum**, sp.

NICARAGUA, Segovia (*Ersted*). Hb. Kew.

9. **Liabum**, sp.

SOUTH MEXICO, Cuernavaca (*Bilimek*, 528, 555). Hb. Kew.

Apparently an undescribed species; but the leaves are wanting in both specimens.

191. ALLENDEA.

Allendea, Llav. et Lex. Nov. Veg. Descr. i. p. 10; Benth. et Hook. Gen. Plant. ii. p. 437.

1. **Allendea lanceolata**, Llav. et Lex. Nov. Veg. Descr. i. p. 10.

SOUTH MEXICO, San José del Corral (*La Llave*).

An obscure plant.

192. SCHISTOCARPHA.

Schistocarpa, Less. in Linnæa, vi. p. 409; Benth. et Hook. Gen. Plant. ii. p. 437.

Two or three herbaceous species, inhabiting America, from Mexico to Peru.

1. **Schistocarpa bicolor**, Less. in Linnæa, vi. p. 409; Link, Kl. et Otto Ic. Pl. Rar. t. 37.

SOUTH MEXICO, Mirador (*Liebmann*, 490, 491; *Linden*, 1166), Orizaba (*Botteri*, 1094, 1118, 1166; *Bilimek*, 563), valley of Cordova (*Bourgeau*, 1854), Cordillera of Vera Cruz (*Galeotti*, 2314, 2359; *Linden*, 1231), Tantoyuca (*Ervendberg*, 272).—AND IN PERU? Hb. Kew.

193. NEUROLÆNA.

Neurolæna, R. Br. in Trans. Linn. Soc. xii. p. 120; Benth. et Hook. Gen. Plant. ii. p. 437.

Limited to the following species, which are coarse herbaceous or half-shrubby plants.

✓ 1. **Neurolæna lobata**, R. Br. in Trans. Linn. Soc. xii. p. 120; DC. Prodr. v. p. 292.

Calea lobata, Swartz, Prodr. Fl. Ind. Occ. p. 113; Bot. Mag. t. 1734.

SOUTH MEXICO, Jicaltepec (*Liebmann*, 116), Yucatan and Tabasco (*Johnson*); BRITISH HONDURAS (*Temple*); NICARAGUA, Chontales (*Tate*, 335); PANAMA, Chagres (*Fendler*, 155), summit of the railroad (*S. Hayes*, 443).—COLOMBIA, ECUADOR, GUIANA, and throughout the WEST INDIES. Hb. Kew.

2. **Neurolæna macrocephala**, Schz. Bip. MSS. in hb. Kew.

Foliis inferioribus amplissimis ovatis utrinque valde attenuatis, involucri bracteis intermediis latis membranaceo-scariosis, acheniis 4-angulatis.

Herba vel *suffrutex* robustus, ramis vel caulibus crassis, sulcatis, pubescentibus. *Folia* subcoriacea, elongato-ovata, utrinque valde attenuata, dentata (nunquam lobata?), usque ad bipedalia, inferiora forsan ultra, supra scabrida, subtus hispidula. *Capitula* multiflora, ad 6 lineas diametro, in paniculas terminales, amplas, corymbosas disposita; involucri bracteæ 4-5-seriatæ, membranaceo-scariosæ, minutissime puberulæ, exteriores breves, lineari-subulatæ, magis hirsutæ, intermediæ et interiores late ovato-oblongæ, obtusissimæ, flores subæquantes; receptaculum leviter convexum; paleæ membranaceo-scariosæ, glabræ, fere complicatæ, carinatæ, obtusæ vel rotundatæ, floribus paullo breviores; corollæ anguste infundibuliformes, tubo puberulo, basi ampliato. *Achenia* nigra, 4-angulata, leviter puberula; pappi setæ copiosæ, corollam æquantes.

SOUTH MEXICO, Mirador, in damp woods at 3000 feet (*Liebmann*, 142), valley of Cordova (*Bourgeau*, 2128). Hb. Kew.

194. BARTLETTIA.

Bartlettia, A. Gr. in Mem. Amer. Acad. ser. 2, v. p. 323; Benth. et Hook. Gen. Plant. ii. p. 441.

An herbaceous monotype.

1. **Bartlettia scaposa**, A. Gr. in Mem. Amer. Acad. ser. 2, v. p. 323.

NORTH MEXICO, Corralitas, Chihuahua (*Thurber*, 702). Hb. Kew.

195. HAPLOESTHES.

Haploesthes, A. Gr. Pl. Fendl. p. 109; Benth. et Hook. Gen. Plant. ii. p. 441.

An herbaceous monotype.

1. **Haploesthes greggii**, Pl. Fendl. p. 109.

NORTH MEXICO, Cienega Grande, Coahuila (*Gregg*). Hb. Kew.

196. ERECHTHITES.

Erechthites, Rafin. Fl. Ludov., ex DC. Prodr. vi. p. 94; Benth. et Hook. Gen. Plant. ii. p. 443.

About a dozen herbaceous species, inhabiting America, Australia, and New Zealand. One extends to Carolina in North America; and one is naturalized in tropical Asia. The species are very difficult of delimitation.

1. **Erechthites carduifolia**, DC. Prodr. vi. p. 294.

GUATEMALA (*Friedrichsthal*); NICARAGUA, Masaya (*Ersted*, 214, 218); COSTA RICA, Cartago and Volcan de Barba (*Ersted*, 220).—WEST INDIES; SOUTH AMERICA. Hb. Kew.

Perhaps referable to the next species.

✓ 2. **Erechthites hieraciifolia**, Raf.; DC. Prodr. vi. p. 294.

A common species in the SOUTHERN STATES of North America, through the WEST INDIES, MEXICO, and CENTRAL AMERICA to SOUTH BRAZIL; and introduced into the Old World. Hb. Kew.

3. **Erechthites petiolata**, Benth. Pl. Hartw. p. 209.

SOUTH MEXICO, near Jalapa, 4000 feet (*Galeotti*, 2242), valley of Orizaba (*Bourgeau*, 2878).—COLOMBIA. Hb. Kew.

4. **Erechthites runcinata**, DC. Prodr. vi. p. 295.

Senecio runcinata, Less. in Linnæa, vi. p. 410.

SOUTH MEXICO, Malpays de la Joya (*Schiede & Deppe*), Real del Monte to Zacatecas (*Coulter*, 428, 429), Vera Cruz to Orizaba (*Müller*, 1289), Desierto Viejo (*Bourgeau*, 1086). Hb. Kew.

5. **Erechthites valerianæfolia**, DC. Prodr. vi. p. 295.

SOUTH MEXICO, Trapiche de la Concepcion (*Liebmann*, 181); NICARAGUA, Chontales (*Tate*, 415).—Southward to BRAZIL. Hb. Kew.

[*Emilia sonchifolia*, DC., a widely dispersed plant in the tropics of the Old World, is believed to have been introduced into America, where, however, it is now pretty generally diffused: ex. Orizaba, Mexico (*Sallé*).]

197. *SENECIO*.

Senecio, Linn. Gen. Plant. n. 953; Benth. et Hook. Gen. Plant. ii. p. 446.

As here limited, this is the largest genus in the vegetable kingdom, numbering about 900 species, having nearly the same range as the order, and presenting great variety in habit and duration. Several species and groups of species have been raised to the rank of distinct genera by various authors; but we have followed Bentham and Hooker, though a study of the species from all parts of the world might lead to some useful division. Perhaps the genus *Cacalia* might be retained for some of the species; yet it is not easy to define it for the Mexican species alone. *S. cervariæfolius* and some of the allied species have a somewhat rigid pappus, though in other respects they do not differ from several others referred by De Candolle and other botanists to *Cacalia*.

1. *Senecio acerifolius*, Hemsley, n. sp.

Prorsus glaberrimus, foliis caulinis longiuscule petiolatis tenuibus sæpissime acute 5-lobatis conspicue venosis, capitulis corymbosis radiatis mediocribus, involucri bracteis ad 12 basi incrassatis, floribus radii paucis, ligulis longe tubulosis, acheniis glabris sulcatis.

Herba? omnino glaberrima, ramis vel caulibus crassiusculis, teretibus, striatulis, nitidis, stramineis, internodiis quam folia brevioribus. *Folia* (caulina tantum visa) petiolata, tenuia, subrotundata, ad 5 poll. longa, sæpissime 5-lobata, simul obscure remoteque calloso-denticulata vel integra, palmato-nervosa, conspicue reticulato-venosa, subtus pallidiora, basi leviter cordata, lobis divaricatis, vix acutis, terminali majore; petiolus gracilis, 9–18 lineas longus. *Capitula* corymbosa, radiata, 6–9 lineas longa, 30–40-flora, breviter pedunculata; corymbi axillares et terminales, 5–10-cephali, longiuscule pedunculati; pedunculi partiales 6–12 lineas longi, bracteis linearibus instructi; involucri bracteæ ad 12, coriaceo-scariosæ, basi incrassatæ, late oblongæ, acutiusculæ, striatæ vel fere costatæ; receptaculum planum, foveolatum, nudum; flores radii ad 5–7, steriles (?); ligulæ breves, elliptico-oblongæ, longe graciliterque tubulosæ; disci corollæ anguste infundibuliformes, breviter 5-lobatæ, lobis ovatis, vix acutis; antheræ basi brevissime mucronulatæ; styli rami apice rotundati, puberuli. *Achenia* (matura non visa) angusta, glabra, sulcata; pappi setæ tenuissimæ, fere integræ.

SOUTH MEXICO, Oaxaca (*Ghiesbreght*). Hb. Kew.

In many of its characters this agrees with *S. acutangulus*; but the angular stem and eight-leaved involucre of the latter will not admit it.

✓2. *Senecio acutangulus*, Hemsley.

Cineraria acutangula, Bertol. Fl. Guat. p. 35.

GUATEMALA, Volcan de Agua (*Velasquez*).

3. *Senecio amplifolius*, Hemsley.

Cacalia amplifolia, DC. Prodr. vi. p. 328.

SOUTH MEXICO, summit of San Felipe (*Andrieux*, 293), Cordillera of Oaxaca, at 9000 feet (*Galeotti*, 2113). Hb. Kew.

4. **Senecio andrieuxii**, DC. Prodr. vi. p. 430.

Senecio subverticillatus, DC. loc. cit.

SOUTH MEXICO, around Toluca (*Andrieux*, 296), without locality (*Jurgensen*, 378; *Mairet*), in Mexican gardens (*Graham*). Hb. Kew.

5. **Senecio angulifolius**, DC. Prodr. vi. p. 431.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 542); SOUTH MEXICO, around Toluca (*Andrieux*, 297), without locality (*Bates*, *Mackenzie*). Hb. Kew.

√ 6. **Senecio arborescens**, Steetz in Seem. Bot. Voy. 'Herald,' p. 162, t. 31.

PANAMA, Boquete, Veraguas (*Seemann*, 1134). Hb. Kew.

This is probably a variety of *S. grandifolius*, Less.

7. **Senecio argutus**, H. B. K. Nov. Gen. et Sp. iv. p. 183.

SOUTH MEXICO, Cofre de Perote, 9500 feet (*Humboldt & Bonpland*), Real del Monte (*Coulter*, 411). Hb. Kew.

8. **Senecio aschenbornianus**, Schauer in Linnæa, xx. p. 698.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 539); SOUTH MEXICO, Huatusco (*Liebmann*), Toluca (*Aschenborn*), Real del Monte (*Coulter*, 421). Hb. Kew.

9. **Senecio barba-johannis**, DC. Prodr. vi. p. 430.

Senecio grahami, Benth. Pl. Hartw. p. 18.

SOUTH MEXICO, without locality (*Graham*), around Toluca (*Andrieux*, 290), Ciudad Real (*Linden*, 432), Guadalupe (*Bilimek*, 550), valley of Mexico (*Bourgeau*, 1083); GUATEMALA, Volcan de Fuego, at 11,000 feet (*Salvin & Godman*). Hb. Kew.

10. **Senecio bellidifolius**, H. B. K. Nov. Gen. et Sp. iv. p. 175.

SOUTH MEXICO, Volcan de Jorullo, at about 3500 feet (*Humboldt & Bonpland*).

11. **Senecio berlandieri**, Hemsley.

Gynoxys berlandieri, DC. Prodr. vi. p. 326.

SOUTH MEXICO, Tampico (*Berlandier*).

12. **Senecio bigelovii**, A. Gr.; Rothrock, Bot. Arizona, p. 178.

ARIZONA.—NORTH MEXICO, Mount Graham, S. Arizona, within the old boundary (*Rothrock*).

13. **Senecio calcareus**, H. B. K. Nov. Gen. et Sp. iv. p. 184.

NORTH MEXICO, Zacatecas (*Coulter*, 408); SOUTH MEXICO, between Mazatlan and Chilpancingo, at about 4250 feet (*Humboldt & Bonpland*), without locality (*Aschenborn*). Hb. Kew.

✓14. **Senecio calocephalus**, Hemsley.

Gynoxys cumingii, Benth. in Vidensk. Meddel. 1852, p. 106.

GUATEMALA (*Friedrichsthal*); COSTA RICA, Aguacate (*Ersted*); PANAMA (*Seemann*, 43; *Cuming*).—COLOMBIA. Hb. Kew.

15. **Senecio calophyllus**, Hemsley.

Cacalia sinuata, Llav. et Lex. Nov. Veg. Descri. i. p. 29; DC. Prodr. vi. p. 327.

SOUTH MEXICO, Santa Fé (*Bourgeau*, 716), Bolaños (*Hartweg*, 125), Zimapan and Real del Monte (*Coulter*, 425, 426). Hb. Kew.

✓16. **Senecio candelariæ**, Benth. in Vidensk. Meddel. 1852, p. 108.

COSTA RICA, mountains of Candelaria, 6000 feet (*Ersted*, 148). Hb. Kew.

17. **Senecio cardiophyllus**, Hemsley.

Cacalia cordifolia, H. B. K. Nov. Gen. et Sp. iv. p. 168, t. 360.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 541); SOUTH MEXICO, valley of Mexico (*Bourgeau*, 715; *Schaffner*, 199), Villalpando (*Mendez*), without localities (*Bates*; *Tate*, 13; *Mairet*, 91), Santa Rosa, 7800 feet (*Humboldt & Bonpland*). Hb. Kew.

18. **Senecio cervariæfolius**, Hemsley. (Tab. LI.)

Cacalia cervariæfolia, DC. Prodr. vi. p. 328.

Mesoneuris bipinnatifida, A. Gr. in Proc. Amer. Acad. viii. p. 661.

Odontotrichum cirsiifolium, Zucc. Pl. Nov. in Abhandl. baier. Akad. Wiss. 1832, p. 311.

Sciadoseris vaginata, Kunze in Bot. Zeit. 1851, p. 349.

SOUTH MEXICO, San Bartolo, Oaxaca (*Andrieux*, 321), Chiapas &c. (*Ghiesbreght*, 805), and garden specimens. Hb. Kew.

On account of its somewhat rigid pappus &c., this species should, perhaps, not be included in *Senecio*; *S. calophyllus* and *S. napeæfolius*, however, are certainly congeneric with it. The Plate was prepared from *Andrieux's* typical specimen.

EXPLANATION OF TAB. LI.

Fig. 1, a flower; 2, an anther; 3, a style; 4, an achene: magnified.

19. **Senecio chenopodioides**, H. B. K. Nov. Gen. et Sp. iv. p. 179.

SOUTH MEXICO, sea-shore, Campeachy (*Humboldt & Bonpland*).

20. **Senecio cheiranthifolius**, H. B. K. Nov. Gen. et Sp. iv. p. 176.

SOUTH MEXICO, Moran and Regla, 7800 feet (*Humboldt & Bonpland*).

21. **Senecio chrysactis**, Schz. Bip. MSS. in hb. Kew.

Fruticosus, incano-lanatus, foliis confertis subcoriaceis linearibus, capitulis radiatis majusculis sæpe solitariis, involucri bracteis numerosis herbaceis, antheris basi obtusis, acheniis glabris striatis.

Frutex nanus, strictus, ramis incano-lanatis. *Folia* sessilia, conferta, sæpius suberecta, subcoriacea, linearia, usque ad $2\frac{1}{2}$ poll. longa, obtusiuscula, integra, marginibus arcute recurva, primum

utrinque incano-lanata, supra demum glabra et nitida. *Capitula* flava, radiata, $1\frac{1}{2}$ –2 poll. diametro, sæpe solitaria, terminalia vel lateralia, pedunculis foliosis; involucri bracteæ numerosæ, herbaceæ, plus minusve lanatæ, lineari-lanceolatæ, elongatæ, acutæ, erectæ; flores radii numerosi, fertiles; ligulæ oblongæ, patentæ, longiuscule tubulosæ; flores disci numerosissimi; corollæ glabræ, breviter 5-lobatæ, lobis ovatis, obtusiusculis; antheræ basi obtusæ, ecaudatæ. *Achenia* glabra, striata vel costata; pappi setæ scabridæ, flores æquantæ.

SOUTH MEXICO, peak of Orizaba, 12000 to 13000 feet (*Liebmann*, 139; *Linden*, 488; *Christy*). Hb. Kew.

Very much like the larger states of *S. procumbens*, H. B. K.

22. **Senecio chiapensis**, Hemsley, n. sp.

Vagans? fere omnino glaber, discoideus, foliis superioribus breviter petiolatis ovato-rhomboideis utrinque 2-lobatis, capitulis paucifloris numerosissimis, involucri bracteis sæpissime 8, corollæ lobis tubum æquantibus medio nervosis, acheniis hirsutis.

Herba vel *frutex* vagans?, præter flores glaber vel glaberrimus, ramis elongatis, pallidis, lineolatis, nitidis. *Folia* (superiora tantum vidi) breviter petiolata, subcarnosa?, glauca, ovato-rhomboidea, 2–3-pollicaria, utrinque breviter 2-lobata, apice lobisque acutis. *Capitula* discoidea, circiter 3 lineas longa lataque, sæpius 8-flora, numerosissima, densiuscule corymboso-paniculata, pedunculis brevibus, gracilibus; involucri bracteæ sæpissime 8, herbaceo-scariosæ, oblongæ vix acutæ, dorso medio incrassatæ; corollæ hypocraterimorphæ, puberulæ, lobis angustis, medio nervosis, tubum æquantibus vel subæquantibus, tubo basi dilatato. *Achenia* nondum matura clavata, hirsuta, apice annulata; pappi aristæ numerosæ, scabridæ, deciduæ.

SOUTH MEXICO, Chiapas &c. (*Ghiesbreght*, 537). Hb. Kew.

23. **Senecio cinerarioides**, H. B. K. Nov. Gen. et Sp. iv. p. 183.

SOUTH MEXICO, Moran, at about 8000 feet (*Humboldt & Bonpland*).

24. **Senecio cirsiifolius**, Hemsley.

Cacalia cirsiifolia, Hook. et Arn. Bot. Beech. Voy. p. 437.

SOUTH MEXICO, Tepic (*Sinclair*). Hb. Kew.

25. **Senecio cirsioides**, Hemsley.

Cacalia runcinata, H. B. K. Nov. Gen. et Sp. iv. p. 167.

SOUTH MEXICO, Cofre de Perote, 9600 feet (*Humboldt & Bonpland*), Peak of Orizaba, 14,000 feet (*Liebmann*, 393). Hb. Kew.

26. **Senecio cordovens**, Hemsley, n. sp.

S. angulifolio affinis, sed folia peltata, capitulis minoribus in paniculas amplas polycephalas dispositis, floribus radii sæpe 2–3, ligulis brevissimis 2–3-fidis.

Herba scandens?, ramis foliisque fulvo-puberulis. *Folia*, præter suprema minora, longe petiolata, crassiuscula, peltata, suborbicularia, usque 6 poll. diametro, leviter 9–11-lobata, remote callosodenticulata, lobis sinibusque sæpissime rotundatis. *Capitula* radiata, ad 6 lineas longa, 10–15-flora, numerosissima, in paniculas amplas terminales disposita; involucri bracteæ sæpius 8, herbaceo-scariosæ, oblongæ, obtusiusculæ, dorso puberulæ; receptaculum subplanum, alveolatum; flores radii sæpe 2–3; ligulæ vix disco longiores, 2–3-fidæ; corollæ disci glabræ, lobis angustis, medio nervo valido percursis; antheræ brevissime caudatæ. *Achenia* costata, glabra; pappus corollam æquantæ.

SOUTH MEXICO, near Cordova (*Bourgeau*, 2026). Hb. Kew.

27. **Senecio deppeanus**, Hemsley, n. sp.

Fruticosus, foliis lanceolatis coriaceis discoloribus subtus albido-tomentosis, capitulis radiatis minimis numerosissimis dense corymboso-paniculatis, ligulis circiter 8 minutis, acheniis immaturis furfuraceo-puberulis.

Frutex, ramis crassiusculis, junioribus albido-tomentosis, internodiis sæpissime 6–12 lineas longis.

Folia petiolata, coriacea, lanceolata, 3–5 poll. longa, obtusa, basi cuneata, obsolete callosodenticulata, supra cito glabrescentia, viridia, nitida, subtus dense albido-tomentosa. *Capitula* radiata, 3–4 lineas longa lataque, 20–30-flora, numerosissima, in paniculas corymbosas densas terminales disposita; involucri bracteæ sæpius 12, coriaceo-scariosæ, glabræ vel glabrescentes, angustæ, discum fere æquantes; receptaculum alveolatum; flores radii 7–8; ligulæ breves.

Achenia immatura plus minusve furfuraceo-puberula.

SOUTH MEXICO, Malpays de Naulingo (*Schiede & Deppe*), Orizaba (*Botteri*, 1120), Cacate and Ciudad Real (*Linden*, 430), without locality (*Jurgensen*). Hb. Kew.

28. **Senecio desertorum**, Hemsley.

Cacalia berlandieri, DC. Prodr. vi. p. 328.

SOUTH MEXICO, Desierto Viejo, valley of Mexico (*Berlandier*).

29. **Senecio dictyophyllus**, Benth. Pl. Hartw. p. 43.

SOUTH MEXICO, near Real del Monte (*Hartweg*). Hb. Kew.

30. **Senecio doratophyllus**, Benth. Pl. Hartw. p. 87.

SOUTH MEXICO, Desierto Viejo (*Bourgeau*, 1086); GUATEMALA, Acatenango (*Hartweg*, 594), Volcan de Fuego, ridge above Calderas, 8300 feet (*Salvin & Godman*). Hb. Kew.

31. **Senecio eximius**, Hemsley.

Cacalia toluccana, DC. Prodr. vi. p. 328.

SOUTH MEXICO, around Toluca (*Andrieux*, 299), Cordillera of Oaxaca, at 7500 feet (*Galeotti*, 2000), Desierto Viejo, valley of Mexico (*Bourgeau*, 1087), summit of San Felipe (*Andrieux*, 294), Orizaba (*Sallé*), Vera Cruz (*Linden*, 480); GUATEMALA, Volcan de Fuego, 11,000 feet (*Salvin & Godman*). Hb. Kew.

32. **Senecio farfarus**, Hemsley.

Cacalia tussilaginoïdes, H. B. K. Nov. Gen. et Sp. iv. p. 168.

SOUTH MEXICO, Real del Monte, at about 8600 feet (*Humboldt & Bonpland*).

33. **Senecio flaccidus**, Less. in Linnæa, v. p. 161.

SOUTH MEXICO, Llanos de Perote (*Schiede & Deppe*).

34. **Senecio formosus**, H. B. K. Nov. Gen. et Sp. iv. p. 177.

MEXICO ?

35. **Senecio galeottii**, Hemsley, n. sp.

Fruticosus, foliis elongatis linearibus subtus incano-lanatis, capitulis radiatis majusculis corymbosis, involucri bracteis 3–4-seriatis crasse coriaceis exterioribus brevioribus ovatis, acheniis immaturis costatis appresse hirsutis.

Frutex, ramis crassiusculis, junioribus incano-lanatis. *Folia* sessilia, conferta, membranacea, linearia, 2–5 poll. longa, vix acuta, integra, marginibus revoluta, supra cito glabrescentia, atro-viridia,

subtus dense incano-lanata. *Capitula* radiata, flava, ad 1 poll. diametro, numerosa, in apicibus ramorum corymboso-paniculata; paniculæ densiusculæ; involucri bracteæ 3-4-seriatæ, coriaceæ, incrassatæ, lanatæ vel fere glabræ, exteriores ovatæ vel oblongæ, vix acutæ, interiores longiores angustiores, acuminatæ; receptaculum convexum, foveolatum; flores radii ad 12; ligulæ 5-6 lineas longæ, longiuscule tubulosæ; flores disci numerosi, corollæ glabræ, breviter 5-lobatæ, lobis obtusis apice incrassatis; antheræ ecaudatæ. *Achenia* (immatura, tantum visa) teretia, appresse hirsuta; pappi aristæ scabridæ, flores æquantes.

SOUTH MEXICO, around Toluca (*Andrieux*, 289), Peak of Popocatepetl, at 11,500 feet (*Galeotti*, 2382), valley of Mexico (*Schaffner*, 307; *Gregg*, 640). Hb. Kew.

This species is somewhat anomalous in its involucre.

36. **Senecio gerberæfolius**, Schz. Bip. in hb. Kew.

Perennis, subscaposus, foliis coriaceis confertis longe petiolatis oblongis obovatis basi præcipue copiose floccoso-lanatis, scapo 1-6-cephalo, capitulis majusculis radiatis, involucri bracteis amplis, acheniis dense appresse hirsutis.

Herba perennis, subscaposa, 6-12 poll. alta, scapis vel caulibus 1-6-cephalis, nudis vel paucifoliatis, plus minusve lanatis. *Folia* radicalia conferta, coriacea, longe petiolata, oblonga, lanceolato-oblonga vel interdum obovato-oblonga, 1½-6 poll. longa, obtusa, remote callosa-dentata, lamina supra cito glabra, nitida, subtus albo-lanata, petiolo basi copiose floccoso-lanato. *Capitula* radiata, flava, sæpius 1-1½ poll. diametro; involucri bracteæ scarioso-herbaceæ, ovato-lanceolatæ, acutæ, 6-8 lineas longæ; receptaculum convexum, foveolatum; flores radii 12-15; ligulæ oblongæ, ad 6 lineas longæ, longiuscule tubulosæ; flores disci numerosi, corollæ glabræ, breviter 5-lobatæ, lobis ovatis; antheræ ecaudatæ. *Achenia* (immatura tantum visa) dense appresse hirsuta; pappi aristæ numerosissimæ, scabridæ.

SOUTH MEXICO, Peak of Orizaba, 10,000 to 15,000 feet (*Linden*, 487; *Liebmann*, 140; *Galeotti*, 2170). Hb. Kew.

Allied to *S. cheiranthifolius* and *S. bellidifolius*, H. B. K.

37. **Senecio grandifolius**, Less. in Linnæa, v. p. 162.

Senecio ghiesbreghtii, Regel, Ind. Sem. Hort. Petrop. in adnot. Bot. p. 36; Gartenfl. ix. p. 230, t. 296.

SOUTH MEXICO, region of Orizaba (*Botteri*, 1098; *Bourgeau*, 2394), valley of Cordova (*Bourgeau*, 1634), Montecinos, Vera Cruz (*Linden*, 474). Hb. Kew.

√β. **glabrior**, foliis alte lobatis vel subpinnatifidis.

SOUTH MEXICO, region of Orizaba (*Botteri*, 608, 819, 1102), valley of Cordova (*Bourgeau*, 2207, 2335); COSTA RICA, Volcan de Irazu (*Ersted*). Hb. Kew.

S. arborescens, Steetz, is perhaps a variety of this species.

√ 38. **Senecio godmanii**, Hemsley, n. sp.

Herbaceous, glabrescens, caulibus robustis subsimplicibus, foliis subcoriaceis rugulosis ovato-oblongis crenulato-dentatis inferioribus longiuscule petiolatis, petiolis late alatis vaginatis, capitulis parvis discoideis thyrsoido-paniculatis, acheniis brevibus crassis glabris.

Herba perennis, cito glabrescens, caulibus erectis, robustis, subsimplicibus, sesquipedalibus (forsan interdum ultra), omnino foliosis. *Folia* subcoriacea, rugulosa, ovato-oblonga, 3-9 poll. longa, vix acuta, crenulato-dentata, superiora sessilia, basi auriculata, semiamplexicaulia, inferiore longe petiolata, petiolis late alatis, basi vaginatis. *Capitula* numerosa, discoidea, 4-5 lineas

longa, 3-4 lata, densiuscule thyrsoido-paniculata; involucri bracteæ numerosæ, glabræ, oblongæ, acutiusculæ, floribus breviores, dorso incrassatæ, marginibus scarioso-membranaceis; receptaculum convexum, foveolatum, fimbrilliferum; corollæ breviter 5-lobæ, lobis ovato-oblongis, obtusis, incrassatis, extus papillois; antheræ ecaudatæ; styli rami truncati. *Achenia* (matura non visa) brevia, crassa, costata, glabra.

GUATEMALA, near Santa Maria, Volcan de Agua (*Salvin & Godman*, 327). Hb. Kew.

39. **Senecio grayanus**, Hemsley.

Cacalia decomposita, A. Gr. Pl. Wright. ii. p. 99.

NORTH MEXICO, Santa Cruz, Sonora (*Wright*). Hb. Kew.

40. **Senecio hartwegii**, Benth. Pl. Hartw. p. 18.

Senecio seemannii, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 311.

NORTH MEXICO, Sierra Madre (*Seemann*, 2010), without locality (*Gregg*, 622); SOUTH MEXICO, Bolaños (*Hartweg*, 124). Hb. Kew.

41. **Senecio hederæfolius**, Hemsley, n. sp.

Scandens?, foliis longe petiolatis subrotundatis 5-lobatis densissime pellucido-punctatis, capitulis discoideis ad 20-floris paucis laxè corymbosis, involucri bracteis sæpius 8, acheniis glabris costatis.

Frutex scandens? vel *herba*, ramis flexilibus, primum puberulis, deinde glaberrimis, nitidis, stramineis. *Folia* longe petiolata, crassiuscula, circumscriptione suborbicularia, breviter 5-lobata, parcissime ramentacea, densissime pellucido-punctata, pauci-callosa-dentata, lamina 3-4 poll. diametro, lobis divaricatis, callosa-mucronatis; petiolus graciliusculus, usque ad 4 poll. longus. *Capitula* discoidea, ad 20-flora, pauca, laxè corymboso-paniculata; paniculæ terminales; involucri bracteæ sæpius 8, herbaceo-scariosæ, lanceolato-oblongæ, obtusæ, puberulæ, floribus paullo breviores; receptaculum leviter convexum, foveolatum; corollæ anguste infundibuliformes, breviter 5-lobatæ, lobis ovatis, vix acutis, apice papillois; antheræ ecaudatæ; styli rami hirsuti, truncati. *Achenia* immatura glabra; pappi aristæ scabridæ, corollam fere æquantes.

MEXICO (*Jurgensen*, 379). Hb. Kew.

42. **Senecio helodes**, Benth. Pl. Hartw. p. 42.

Cacalia racemosa, Sch. Bip. MSS.?

SOUTH MEXICO, Anganguio (*Hartweg*, 319), Peak of Orizaba, 11,500 feet (*Galeotti*, 2183), at the foot of the Jacal (*Ehrenberg*). Hb. Kew.

43. **Senecio heracleifolius**, Hemsley, n. sp.

Herbaceus, robustus, glabrescens, foliis caulinis amplis pinnatifidis venis minute reticulatis, capitulis radiatis corymbosis, corymbis compositis polycephalis, involucri bracteis sæpius 8 multistriatis, acheniis costatis hirsutis.

Herba perennis?, erecta, robusta, cito glabrescens, caulibus apice tantum ramosis. *Folia* caulina petiolata, alte pinnatifida, 4-8 poll. longa, 3-5 poll. lata, subtus puberula, minute reticulata, lobis utrinque sæpius 3-4, oblongis, remote minute callosa-denticulatis. *Capitula* radiata, vix 1 poll. diametro, 15-20-flora, numerosissima, in corymbos compositos amplos terminales disposita; involucri bracteæ sæpius 8, glaberrimæ (in siccis stramineæ), herbaceo-scariosæ, ovato-oblongæ, longitudinaliter multistriatæ, apice obtusissimæ, fimbrilliferæ; receptaculum alte foveolatum; flores radii sæpissime 5; ligulæ latæ, longiuscule tubulosæ; disci corollæ glabræ, altiuscule 5-lobatæ, lobis angustis, medio nervo valido percursis; antheræ ecaudatæ; styli

rami truncati. *Achenia* costata, furfuraceo-hirsuta; pappi aristæ copiosæ, scabridæ, rigidiusculæ.

SOUTH MEXICO, Guadalupe, valley of Mexico (*Bilimek*, 558), without locality (*Mackenzie*). Hb. Kew.

This species has much the aspect of *S. sinuatus*; but it is readily distinguished by its pinnatifid leaves, multistriate involucrel bracts, and scurfy achenes.

✓ 44. **Senecio heterogamus**, Hemsley.

Cacalia heterogama, Benth. in Vidensk. Meddel. 1852, p. 107.

COSTA RICA, Volcan de Irazu (*Ersted*, 192). Hb. Kew.

45. **Senecio insignis**, Hemsley.

Psacalium thyrsoideum, DC. Prodr. vi. p. 335.

MEXICO (*Hænke*).

46. **Senecio jatrophioides**, Hemsley.

Cacalia jatrophioides, H. B. K. Nov. Gen. et Sp. iv. p. 169; DC. Prodr. vi. p. 328.

SOUTH MEXICO, near lake Cuiseo &c., at 5400 feet (*Humboldt & Bonpland*).

47. **Senecio jurgensenii**, Hemsley, n. sp.

Herbaceous?, furfuraceo-puberulus, ramis graciliusculis, foliis longe petiolatis suborbicularibus breviter 7-lobatis, capitulis radiatis 12-15-floris numerosis corymbosis, involucri bracteis sæpius 8 marginibus late scariosis, ligulis latis 4-nerviis longe angustissime tubulosis, acheniis elongatis costatis glabris.

Herba?, plus minusve furfuraceo-puberula, ferruginea, ramis pedunculisque graciliusculis. *Folia* longe petiolata, membranacea, suborbicularia, leviter 7-lobata, usque 3½ poll. diametro, scabrida, basi truncata leviter cuneata vel leviter cordata, lobis rotundatis vel subacutis, remote callosio-denticulatis; petiolus graciliusculis, usque ad 5 poll. longus. *Capitula* radiata, 7-9 lineas diametro, 12-15-flora, laxiuscule corymbosa; corymbi in paniculas terminales elongatas dispositi; involucri bracteæ sæpius 8, coriaceo-scariosæ (marginibus late scariosis), ovato-oblongæ, vix acutæ, dorso furfuraceæ; receptaculum convexum, alveolatum; flores radii sæpius 5; ligulæ latæ, apice subintegræ, conspicue 4-nerviæ, longe graciliterque tubulosæ; disci corollæ infundibuliformes, lobis anguste ovato-lanceolatis, vix acutis; antheræ ecaudatæ; styli rami truncati. *Achenia* elongata, costata, glabra; pappi aristæ mollissimæ, fere sericeæ.

MEXICO (*Jurgensen*, 309). Hb. Kew.

48. **Senecio kermesinus**, Hemsley.

Gynoxys hænkei, DC. Prodr. vi. p. 326.

SOUTH MEXICO, Cordillera of Oaxaca, at 3000 feet (*Galeotti*, 2151). Hb. Kew.

49. **Senecio lobatus**, Pers.; Torr. & Gr. Fl. N. Amer. ii. p. 437.

NORTH CAROLINA and MISSOURI to FLORIDA and TEXAS.—NORTH MEXICO, Chihuahua (*Wright*). Hb. Kew.

50. **Senecio longilobus**, Benth. Pl. Hartw. p. 18.

TEXAS; NEW MEXICO.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 534), Chihuahua and Sonora (*ex A. Gray*), Zacatecas (*Coulter*, 409); SOUTH MEXICO, Aguas Calientes (*Hartweg*, 127). Hb. Hew.

51. **Senecio mairitianus**, DC. Prodr. vi. p. 430.MEXICO (*Mairet*). Hb. Kew.52. **Senecio macrobotrys**, Hemsley, n. sp.

Scandens?, foliis amplis peltatis 9–11-lobatis, capitulis discoideis parvis laxè paniculatis, paniculis usque ad 9 poll. latis et 12 poll. longis, involucri bracteis sæpius 8 flores subæquantibus, acheniis glabris.

Frutex scandens?, ramis crassiusculis, elongatis, teretibus, foliisque plus minusve ferrugineo-puberulis. *Folia*, præter suprema, longè petiolata, subcoriacea, peltata, suborbicularia, usque ad 8 poll. diametro, breviter 9–11-lobata, minute calloso-dentata, lobis deltoideis; petioli crassiusculi, 2–5 poll. longi. *Capitula* discoidea, 4–5 lineas longa, 12–15-flora, laxè paniculata; paniculæ terminales, maximæ visæ 12 poll. longæ, 9 poll. latæ; involucri bracteæ sæpius 8, subbiseriatæ, oblongæ, obtusæ vel rotundatæ, flores subæquantès, extus puberulæ, medio incrasatæ, marginibus præcipue interiorum late scariosæ; receptaculum alveolatum; corollæ glabræ; antheræ basi inappendiculatæ. *Achenia* (immatura tantum visa) glabra; pappi setæ scabridæ.SOUTH MEXICO, Orizaba (*Bilimek*, 560; *Botteri*, 1103). Hb. Kew.53. **Senecio moreliæ**, Hemsley.*Psacalium laxiflorum*, Benth. Pl. Hartw. p. 41.SOUTH MEXICO, pine-woods, Morelia (*Hartweg*). Hb. Kew.54. **Senecio mulgediifolius**, Schauer in Linnæa, xix. p. 733.MEXICO (*Aschenborn*).55. **Senecio multidentatus**, Schz. Bip. MSS. in hb. Kew.

Herbaceus, erectus, foliis tenuibus sessilibus angustis 4–9 poll. longis dentatis duplicato-dentatis vel inferioribus basi pinnatifidis, corymbis compositis amplis polycephalis, capitulis radiatis mediocribus, involucri bracteis ad 12 apice sæpissime fimbrilliferis, acheniis glabris.

Herba annua (*Galeotti*), erecta, robusta, 2–3-pedalis, caulibus glabris vel glabrescentibus, striatis.*Folia* (caulina tantum visa) sessilia, tenuia, membranacea, lanceolata, oblongo-lanceolata vel anguste ovato-lanceolata, 4–9 poll. longa, acuminata, acuta, basi auriculata, amplexicaulia, creberrime dentata, duplicato-dentata vel inferiora infra medium pinnatifida, conspicue venosa, utrinque glabra vel glabrescentia. *Capitula* radiata, flava, circiter 9 lineas diametro, in corymbis compositis amplos laxos terminales disposita; involucri bracteæ ad 12, lineares, glabræ, marginibus scariosæ, apice sæpius fimbrilliferæ; receptaculum alveolatum; flores radii 7–8; ligulæ angustæ, 3–4 lineas longæ; corollæ disci brevissime 5-lobatæ, lobis late ovatis, obtusiusculis, extus papillois. *Achenia* immatura 5-costata, glabra; pappi setæ molles, leviter scabridæ.SOUTH MEXICO, Peak of Orizaba, 9000 to 11,000 feet (*Liebmann*, 179; *Galeotti*, 2064; *Linden*, 1126), Desierto Viejo (*Bourgeau*, 831). Hb. Kew.Var. **minor**, Hemsley.

Humilior, omnino minor, foliis oblongis vel obovatis interdum obtusis vel rotundatis, corymbis longè pedunculatis, oligocephalis.

SOUTH MEXICO, Peak of Orizaba, 10,000 to 12,500 feet (*Linden*, 1120; *Galeotti*, 2182; *Liebmann*, 180). Hb. Kew.56. **Senecio multivenius**, Benth. in Vidensk. Meddel. 1852, p. 109.COSTA RICA, Volcan de Irazu, 8000 feet (*Ersted*, 21, 22, 151). Hb. Kew.

57. **Senecio napeæfolius**, Hemsley.

Cacalia napeæfolia, DC. Prodr. vi. p. 328.

SOUTH MEXICO, summit of San Felipe (*Andrieux*, 280), Cordillera of Oaxaca, at 9000 feet (*Galeotti*, 2082). Hb. Kew.

58. **Senecio napellifolius**, Schauer in Linnæa, xix. p. 732.

MEXICO (*Aschenborn*).

59. **Senecio oaxacanus**, Hemsley, n. sp.

Fruticosus, ferrugineo-puberulus, foliis petiolatis suborbicularibus obscure lobatis superioribus sessilibus obovatis, capitulis radiatis mediocribus paniculatis, paniculis amplis foliosis, involucri bracteis sæpius 9 latis quam discus fere dimidio brevioribus, acheniis glabris.

Frutex 10–15-pedalis (*Galeotti*), ramis teretibus, foliisque ferrugineo-puberulis. *Folia* (superiora imperfecta tantum visa) petiolata, membranacea, suborbicularia, usque ad 3 poll. diametro, obscure 5-lobata, remote calloso-denticulata, supra scabrida, sursum gradatim minora, sessilia, obovata. *Capitula* radiata, flava, 6–8 lineas diametro, circiter 15-flora, corymboso-paniculata; paniculæ amplæ, terminales, laxiusculæ, foliosæ; involucri bracteæ sæpius 9, subbiseriatæ, coriaceo-scariosæ, medio incrassatæ, extus furfuraceæ, oblongo-ellipticæ vel fere obovatæ, disco fere dimidio breviores; receptaculum alveolatum; flores radii sæpius 5; ligulæ distincte 4-nerviæ; corollæ disci glabræ, lobis angustis vix acutis; antheræ basi inappendiculatæ; styli rami truncati. *Achenia* costata, glabra; pappi setæ corollam æquantes, scabridæ.

SOUTH MEXICO, Oaxaca, 5500 feet (*Galeotti*, 2009). Hb. Kew.

✓60. **Senecio ærstedianus**, Benth. in Vidensk. Meddel. 1852, p. 109.

COSTA RICA, Volcan de Irazu, 9500 feet (*Ærsted*, 25). Hb. Kew.

61. **Senecio orizabensis**, Schz. Bip. MSS. in hb. Kew.

Herbaceus, caulibus erectis subsimplicibus, foliis lineari-lanceolatis supra rugulosis subtus albo-lanatis caulinis amplexicaulibus, capitulis discoideis parvis corymbosis, involucri bracteis circiter 10 angustis, acheniis glabris.

Herba perennis? (annua, *Galeotti*), caulibus erectis, subsimplicibus, 9–18 poll. altis, graciliusculis, plus minusve lanatis, glabrescentibus, striatis. *Folia* lineari-lanceolata, usque ad 6 poll. longa, obtusa, minute calloso-denticulata, supra rugulosa, subtus dense albo-lanata, caulina basi auriculata, amplexicaulia, radicalia longe petiolata. *Capitula* discoidea, circiter 4 lineas longa lataque, 20–25-flora, corymbosa; corymbi terminales, densiusculi, pleiocephali; involucri bracteæ sæpius 10, herbaceo-scariosæ, glabræ, lineari-oblongæ, apice fimbriatæ, floribus paullo breviores; receptaculum alveolatum; corollæ glabræ lobi ovati, obtusiusculi, apice incrassati; antheræ inappendiculatæ; styli rami truncati. *Achenia* (immatura tantum visa) glabra; pappi setæ scabridæ.

SOUTH MEXICO, Peak of Orizaba, 10,000 to 12,500 feet (*Linden*, 1127; *Galeotti*, 2180; *Liebmann*, 176). Hb. Kew.

62. **Senecio parasiticus**, Hemsley, n. sp.

Cacalia parasitica, Schz. Bip. MSS. in hb. Kew.

Fruticosus, vagans, glaber, foliis petiolatis subcarnosis ovatis lanceolatisve integris, capitulis discoideis parvis paniculatis, involucri bracteis angustis flores fere æquantibus, antheris breviter caudatis, acheniis teretibus glabris.

Frutex epiphytus (parasiticus, *Botteri*), vagans, fere omnino glaber, ramis elongatis, crassiusculis.

Folia petiolata, subcarnosa, ovata, lanceolata vel interdum fere oblonga, circiter 3 poll. longa, acuminata, obtusiuscula, integra. *Capitula* discoidea, 4–5 lineas longa, sæpius 15–20-flora, in paniculas amplissimas terminales vel minores laterales disposita; involucri bracteæ circiter 8, coriaceo-scariosæ, lineari-oblongæ, apice fimbriatæ, flores fere æquantés; receptaculum convexum, alveolatum; corollæ lobi angusti; antheræ basi breviter caudatæ. *Achenia* teretia, glabra; pappi setæ scabridæ, corollam fere æquantés.

SOUTH MEXICO, Orizaba (*Botteri*, 1087), Mirador (*Liebmann*, 165), valley of Cordova (*Bourgeau*, 1926). Hb. Kew.

63. **Senecio parryi**, A. Gr. in Torr. Bot. U.S. & Mex. Bound. Surv. p. 103.

NORTH MEXICO, Mexican side of the Rio Grande (*Parry*).

64. **Senecio peltiferus**, Hemsley.

Psacalium peltatum, Cass. Dict. xliii. p. 461.

Cacalia peltata, H. B. K. Nov. Gen. et Sp. iv. p. 170, t. 361.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 543); SOUTH MEXICO, Real del Monte (*Coulter*, 420), near Pazcuaro, at about 7000 feet (*Humboldt & Bonpland*). Hb. Kew.

65. **Senecio petasitis**, DC. Prodr. vi. p. 431.

Cineraria petasitis, Sims, Bot. Mag. t. 1536.

Cineraria platanifolia, Schrank, Pl. Rar. Hort. Monac. t. 95; Coll. Hort. Ripul. App. p. 2, t. 12.

SOUTH MEXICO, Desierto Viejo &c., valley of Mexico (*Bourgeau*, 1085, 1885, 3347), Orizaba (*Botteri*, 1103), Cumbre de Acalcingo (*Liebmann*, 154). Hb. Kew.

66. **Senecio picridis**, Schauer in Linnæa, xix. p. 733.

MEXICO (*Aschenborn*).

67. **Senecio pinnatisectus**, DC. Prodr. vi. p. 427.

SOUTH MEXICO, Rio Blanco (*La Llave*).

Perhaps the same as *S. sanguisorbæ*.

68. **Senecio pinetorum**, Hemsley, n. sp.

Herbaceous, scaposus, ferrugineo-hirsutus, scapo oligocephalo, foliis longe petiolatis peltatis lobatis, petiolis basi floccosis, capitulis radiatis mediocribus corymbosis, involucri bracteis sæpius 12 angustis, acheniis furfuraceis.

Herba perennis? (annua ex *Galeotti*), scaposa, ferrugineo-furfuracea, scapo nudo, oligocephalo, circiter 15 poll. alto. *Folia* longe petiolata, crassiuscula, peltata, 2–3 poll. diametro, inæqualiter leviterque 7–9-lobata, calloso-denticulata, supra scabrida, subtus lanata; petioli graciles, 2–4 poll. longi, basi lanato-floccosi. *Capitula* radiata, circiter 1 poll. diametro, ultra 30-flora, laxè corymbosa; involucri bracteæ sæpius 12, herbaceo-scariosæ, furfuraceæ, ovato-oblongæ, discum fere æquantés, apice fimbriatæ; receptaculum alveolatum; flores radii sæpius 8; ligulæ oblongæ, tridentatæ, 4-nerviæ, longe graciliterque tubulosæ; corollæ disci lobi breves, ovati; antheræ ecaudatæ; styli rami truncati. *Achenia* furfuracea; pappi setæ scabridæ, corollam fere æquantés, caducæ.

SOUTH MEXICO, in pine-woods, at 5000 to 7000 feet, in the Cordillera of Oaxaca (*Galeotti*, 2019), without locality (*Sallé*). Hb. Kew.

69. **Senecio platanifolius**, Benth. Pl. Hartw. p. 43; Feilding, Sert. Pl. t. 15.
NORTH MEXICO, Zacatecas (*Coulter*, 417); SOUTH MEXICO, pine-forests, Chico (*Hartweg*, 331), Desierto Viejo (*Bourgeau*, 1084), Zimapan (*Coulter*, 416). Hb. Kew.
70. **Senecio præcox**, DC. Prodr. vi. p. 431.
Cineraria præcox, Cav. Ic. Pl. iii. t. 244.
NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 540); SOUTH MEXICO, valley of Mexico (*Bourgeau*, 178), around Toluca (*Andrieux*, 295), Guanajuato (*Hartweg*, 123), without localities (*Mairet*, *Moçino*, *Bates*). Hb. Kew.
71. **Senecio procumbens**, H. B. K. Nov. Gen. et Sp. iv. p. 177; DC. Prodr. vi. p. 428.
SOUTH MEXICO, peak of Orizaba, 12,000 to 15,000 feet (*Liebmann*, 138; *Galeotti*, 2181), Toluca, between 10,000 and 11,000 feet (*Humboldt & Bonpland*). Hb. Kew.
72. **Senecio radulæfolius**, Hemsley.
Cacalia radulæfolia, H. B. K. Nov. Gen. et Sp. iv. p. 169.
SOUTH MEXICO, Guanajuato, at about 6300 feet (*Humboldt & Bonpland*).
73. **Senecio regiomontanus**, DC. Prodr. vi. p. 429.
SOUTH MEXICO, around Real del Monte (*Hænke*), without locality (*Graham*, 20)!. Hb. Kew.
Perhaps the same as *S. stæchadiformis*.
74. **Senecio reticulatus**, DC. Prodr. vi. p. 431.
SOUTH MEXICO, Villalpando (*Mendez*), Desierto Viejo (*Bourgeau*, 1083). Hb. Kew.
Bourgeau's specimen agrees very well with De Candolle's description, except that the achenes, at least young ones, are puberulous.
75. **Senecio roldana**, DC. Prodr. vi. p. 431.
Roldana lobata, Llav. et Lex. Nov. Veg. Mex. ii. p. 10.
MEXICO, without locality (*Mairet*, *Tate*, *Bates*). Hb. Kew.
76. **Senecio salignus**, DC. Prodr. vi. p. 430.
Senecio vernus, DC. loc. cit.
Cineraria angustifolia, H. B. K. Nov. Gen. et Sp. iv. p. 189.
Cineraria salicifolia, H. B. K. loc. cit. p. 188?
NORTH MEXICO, Saltillo (*Berlandier*, 1367), Sierra Madre (*Seemann*, 1985), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 538); SOUTH MEXICO, near Moran, at about 8000 feet (*Humboldt & Bonpland*), valley of Mexico (*Bourgeau*, 177, 582), near San Miguel del Soldado (*Schiede & Deppe*), Orizaba (*Botteri*, 1165), around Toluca (*Andrieux*, 298), Ciudad Real (*Linden*, 431), Guanajuato (*Hartweg*, 126); GUATEMALA, Dueñas (*Fraser*). Hb. Kew.
77. **Senecio sanguisorbæ**, DC. Prodr. vi. p. 427.
NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 533);

SOUTH MEXICO, around Toluca (*Andrieux*, 292), Anganguio (*Hartweg*, 313), Santa Fé (*Bourgeau*, 832), Real del Monte (*Graham*, 18), without localities (*Tate*, *Parkinson*). Hb. Kew.

78. **Senecio sartorii**, Schz. Bip. MSS. in hb. Kew.

S. angulifolio affinis, differt pedunculis rigide divaricatis aphyllis, ligulis sæpius 6 quam discus duplo longioribus.

Frutex? ferrugineo-pubescentis, ramis rectis, teretibus. *Folia* longe petiolata (pauca superiora minora sessilia), crassiuscula, suborbicularia, plus minus alte 9–11-lobata, basi cordata, 3–5 poll. diametro, calloso-denticulata, supra leviter scabrida, lobis obtusissimis. *Capitula* radiata, flava, circiter 20-flora, 9–12 lineas diametro, in corymbos compositos amplos (usque ad 1 ped. diametro) pyramidiformes disposita, ramulis pedunculisque patentissimis, bracteis parvis instructis; involucri bracteæ sæpius 8, oblongæ, $4\frac{1}{2}$ –6 lineas longæ, obtusæ, medio longitudinaliter incrassatæ, ferrugineo-pubescentes vel furfuraceæ, lateribus latæ scariosæ; receptaculum foveolatum. *Flores radii* sæpius 6, disco duplo longiores; ligulæ oblongæ, conspicue 4-striatæ, longe graciliterque tubulosæ. *Flores disci* 12–15; corollæ glabræ, infundibuliformes, tubo basi ampliato, lobis ovatis vix acutis; antheræ basi brevissime caudatæ. *Achenia* (matura non visa) subcylindrica, glabra, striata; pappi setæ rigidiusculæ, deciduæ.

SOUTH MEXICO, Cordillera of Vera Cruz at 3000 feet (*Galeotti*, 2225), Mirador (*Linden*, 1164), probably Mirador (*Liebmann*, 156). Hb. Kew.

79. **Senecio schumannianus**, Schauer in Linnæa, xx. p. 698.

SOUTH MEXICO, around Zimapan (*Aschenborn*).

80. **Senecio sclerophyllus**, Hemsley.

Cacalia pachyphylla, Sch. Bip. in Seem. Bot. Voy. 'Herald,' p. 310, nec *Senecio pachyphyllus*, Rémy.

NORTH MEXICO, Sierra Madre (*Seemann*, 1999). Hb. Kew.

81. **Senecio scrobicarioides**, DC. Prodr. vi. p. 430.

SOUTH MEXICO, Real del Monte (*Hænke*).

82. **Senecio sessilifolius**, Hemsley.

Cacalia sessilifolia, Hook. et Arn. Bot. Beech. Voy. p. 436.

SOUTH MEXICO, Tepic (*Sinclair*). Hb. Kew.

83. **Senecio sinuatus**, H. B. K. Nov. Gen. et Sp. iv. p. 180.

Senecio lineolatus, DC. Prodr. vi. p. 427.

NORTH MEXICO, Zacatecas (*Coulter*, 422), Guanajuato and Santa Rosa de la Sierra, at about 8500 feet (*Humboldt & Bonpland*), Cordillera de Guichilaca (*Berlandier*, 1226, 1227), without locality (*Tate*, *Graham*, *Parkinson*). Hb. Kew.

84. **Senecio skinneri**, Hemsley.

Gynoxys fragrans, Hook. Bot. Mag. t. 5411.

GUATEMALA (*Skinner*). Hb. Kew.

85. **Senecio stœchadiformis**, DC. Prodr. vi. p. 429.

SOUTH MEXICO, Pedregal and Tizapan (*Bourgeau*, 375), near San Angel (*Schaffner*), Piñon (*Bilimek*, 562), Villalpando (*Mendez*). Hb. Kew.

86. **Senecio subpeltatus**, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 311, nec Steud.

NORTH MEXICO, Sierra Madre (*Seemann*, 1984). Hb. Kew.

87. **Senecio tabularis**, Hemsley, n. sp.

Herbaceus, discoideus, foliis radicalibus amplissimis peltatis lobatis longissime petiolatis, caulinis basi cucullato-auriculatis, capitulis sæpissime 5-floris, corollis hypocrateriformibus, lobis linearibus quam tubus paullo brevioribus medio nervosis.

Herba perennis?, robusta, caulibus ramosis, 2-3 ped. altis, puberulis, multistriatis. *Folia* radicalia longissime petiolata (petiolo pedali et ultra), vere peltata (unicum visum circiter 9 poll. diametro), 7-fida, lobis plurilobulatis dentatisque, supra parce furfuraceo-puberula, subtus pallidiora, densiuscule furfuraceo-pubescentia, petiolo basi floccoso; folia caulina eccentricissime peltata, palmatilobata, petiolo basi auriculis amplis instructo. *Capsula* numerosa, laxè paniculata, discoidea, semipollicem longa, sæpissime 5-flora; involucri bracteæ sæpissime 5, erectæ, scarioso-herbaceæ, glabræ vel glabrescentes, oblongæ, obtusæ, basi leviter incrassatæ; corollæ glabræ, hypocrateriformes, tubo basi ampliato, lobis linearibus, medio nervosis, quam tubus paullo brevioribus. *Achenia* (immatura tantum visa) glabra, clavata, apice late dilatata; pappi setæ copiosæ, molles, corollam fere æquant, basi cohærentes, annulum formantes, supra annulum deciduæ.

SOUTH MEXICO, valley of Orizaba (*Bourgeau*, 2926). Hb. Kew.

88. **Senecio tampicanus**, DC. Prodr. vi. p. 427.

TEXAS.—NORTH MEXICO, Chihuahua (*Wright*), Tampico (*Berlandier*). Hb. Kew.

89. **Senecio tolucanus**, DC. Prodr. vi. p. 428.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 537); SOUTH MEXICO, forest of the Desierto Viejo (*Bourgeau*, 1221), Toluca (*Andrieux*, 291). Hb. Kew.

Var. **modesta**, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 311.

NORTH MEXICO, Sierra Madre (*Seemann*, 2006). Hb. Kew.

90. **Senecio vulneraria**, DC. Prodr. vi. p. 428.

Senecio pauciflorus, H. B. K. Nov. Gen. et Sp. iv. p. 176, t. 365, non Pursh.

SOUTH MEXICO, mountains above Toluca (*Andrieux*, 288), Pinahuistepec, 9000 feet (*Humboldt & Bonpland*). Hb. Kew.

✓91. **Senecio warszewiczii**, A. Br. et Bouché in Linnæa, xxv. p. 298.

GUATEMALA (*Warszewicz*).

92. **Senecio zimapanicus**, Hemsley, n. sp.

Herbaceus, radiatus, caulibus circiter pedibus infra medium tantum foliosis, foliis araneoso-hirsutis parvis pinnatifidis segmentis dentatis, capitulis paucis corymbosis multifloris, involucri bracteis circiter 15, acheniis costatis minute puberulis.

Herba perennis?, caulibus gracilibus, simplicibus, pedibus, puberulis vel basi araneosis, inferne foliosis. *Folia* subsessilia, crassiuscula, alte pinnatifida, usque ad 2½ poll. longa et 9 lineas lata, subtus araneosa, supra pilis furfuraceis flexilibus dense instructa, segmentis dentatis. *Capitula* radiata, corymbosa, multiflora, 6-9 lineas diametro, corymbis oligocephalis; involucri bracteæ circiter 15, coriaceo-scariosæ, parce puberulæ, angustæ, acutæ, dorso 1-costatæ. *Flores radii*

circiter 15 ; ligulæ oblongæ, 9-nerviæ, longiuscule tubulosæ. *Flores disci* numerosi ; corollæ infundibuliformes, tubo basi vix dilatato, lobis papillois, cucullatis ; antheræ basi brevissime caudatæ. *Achenia* parva, cylindrica, costata, puberula.

SOUTH MEXICO, Zimapan (*Coulter*, 423). Hb. Kew.

The following is a rough classification of the Mexican and Central-American species of *Senecio* :—

SERIES I. Capitula discoidea.

A. Corollæ lobi angusti, elongati, interdum tubum fere æquantes, sæpeque medio nervosi (*Cacalia* spp. auct.). Herbæ.

* Capitula sæpius numerosissima, pauciflora.

S. moreliæ, *S. tabularis*, *S. calophyllus*, *S. grayanus*, *S. napeæfolius*, *S. amplifolius*, *S. chiapensis*, *S. farfarus*, *S. jatrophioides*, *S. radulæfolius*, *S. desertorum*.

** Capitula sæpius pauca, multiflora.

S. sclerophyllus, *S. peltiferus*, *S. insignis*, *S. napellifolius*, *S. cervariæfolius*, *S. sessilifolius*, *S. cardiophyllus*, *S. cirsiifolius*.

B. Corollæ lobi breves (*Eusenecio*).

* Herbæ erectæ, foliis elongatis integris dentatis pinnatifidisve, sæpe sonchoideis.

S. orizabensis, *S. cirsioides*, *S. helodes*, *S. bigelovii*, *S. mulgediifolius*, *S. godmanii*, *S. eximius*, *S. doratophyllus*.

** Herbæ erectæ, foliis latis peltatis vel cordatis paucilobatis.

S. hederæfolius, *S. subpeltatus*.

*** Herbæ vel frutices scandentes vel vagantes, capitulis parvis numerosissimis.

S. macrobotrys, *S. heterogamus*, *S. candelariæ*, *S. parasiticus*.

SERIES II. Capitula radiata.

A. Herbæ scaposæ vel subscaposæ.

S. pinetorum, *S. zimapanicus*, *S. vulneraria*, *S. gerberæfolius*.

B. Herbæ caulescentes erectæ.

* Folia simplicia, angusta.

S. procumbens, *S. chrysactis*, *S. stæchadiformis*, *S. bellidifolius*, *S. regiomontanus*.

** Folia pinnatisecta, segmentis lineari-elongatis.

S. longilobus, *S. flaccidus*.

*** Folia latiuscula, dentata vel lobata.

S. ærstedianus, *S. tolucanus*, *S. chenopodioides*, *S. cheiranthifolius*, *S. formosus*, *S. calcareus*, *S. multidentatus*, *S. picridis*, *S. multivenius*, *S. parryi*, *S. sinuatus*, *S. heracleifolius*.

**** Folia pinnatisecta, segmentis latiusculis.

S. sanguisorbæ, *S. pinnatisectus*, *S. tampicanus*, *S. lobatus*.

***** Folia suborbicularia, lobata vel dentata, insigniter reticulata.

S. acutangulus, *S. acerifolius*, *S. reticulatus*, *S. dictyophyllus*, *S. hartwegii*.

C. Herbæ robustæ, sæpius vagantes, foliis amplis palmatilobatis longe petiolatis.

S. angulifolius, *S. schumannianus*, *S. platanifolius*, *S. petasitis*, *S. sartorii*, *S. oaxacanus*, *S. cordovensis*, *S. jurgensenii*.

D. Frutices vel arbores parvæ.

* Folia angusta.

S. galeottii, *S. argutus*, *S. cinerarioides*, *S. salignus*, *S. scrobicarioides*, *S. mairetianus*, *S. deppeanus*, *S. andrieuxii*.

** Folia lata, dentata vel lobata.

S. roldana, *S. aschenbornianus*, *S. barba-johannis*, *S. grandifolius*, *S. arborescens*, *S. warszewiczii*.

*** Folia post anthesin nascentia.

S. præcox.

E. Herbæ vel frutices scandentes vel vagantes, foliis ovatis (*Gynoxeos* spp. auctor. foliis alternis).

S. calocephalus, *S. kermesinus*, *S. berlandieri*, *S. ærstedianus*, *S. skinneri*.

Tribe IX. CALENDULACEÆ.

Calendulaceæ, Benth. et Hook. Gen. Plant. ii. pp. 167 et 209.

With the exception of the monotypic Patagonian genus *Eriachænium*, this is an exclusively Old-World and chiefly South-African tribe, comprising eight genera and about 100 species.

Tribe X. ARCTOTIDEÆ.

Arctotideæ, Benth. et Hook. Gen. Plant. ii. pp. 167 et 210.

An exclusively Old-World and chiefly South-African tribe, numbering seventeen genera and about 240 species.

Tribe XI. CYNAROIDEÆ.

Cynaroideæ, Benth. et Hook. Gen. Plant. ii. pp. 168 et 211.

Upwards of 1000 species of this tribe are known, and they are referred to thirty-seven genera. About forty species are American; and the rest inhabit the Old World, nearly 800 being concentrated in the Mediterranean region.

198. CNICUS.

Cnicus, Linn. Gen. Plant. n. 926; Benth. et Hook. Gen. Plant. ii. p. 468.

About 150 herbaceous species, indigenous in the northern hemisphere. Several are now widely spread weeds of cultivation. The synonymy of the Mexican species has been very much confused; and we are unable to correct it. Those we have described as new are all from the valley of Mexico, and may, one or more of them, turn out to be introduced plants.

1. **Cnicus acantholepis**, Hemsley, n. sp.

Foliis margine aculeatis, capitulis mediocribus paucis aggregatis pedunculatis, involucri bracteis exterioribus rigidis aculeato-pinnatifidis parçissime araneosis.

Herba perennis?, caulibus vel ramis crassiusculis, plus minus araneosis, apteris, oligocephalis. *Folia* membranacea, inferiora petiolata, caulina sessilia nec decurrentia, omnia pinnatifida, usque ad 6 poll. longa et $2\frac{1}{2}$ poll. lata, subtus albida, araneo-tomentosa, supra parce furfuraceo-hirsuta, lobis latis, contiguis, margine aculeatis. *Capitula* absque bracteis usque ad $1\frac{1}{2}$ poll. diametro; involucri bracteæ dimorphæ, exteriores coriaceæ, rigidæ, parçissime araneosæ, aculeato-pinnatifidæ, apice spinosæ, floribus multo longiores, interiores breviores, scarioso-coriaceæ, lineares, acutæ; corollæ glabræ, breviuscule 5-fidæ, lobis obtusiusculis; antherarum appendices caudatæ; stylus integer, exannulatus. *Achenia* immatura glabra, compressa, ecostata.

SOUTH MEXICO, Santa Fé, valley of Mexico (*Bourgeau*, 714). Hb. Kew.

2. **Cnicus conspicuus**, Hemsley.

Erythrolæna conspicua, Don in Sweet's Brit. Fl. Gard. t. 134.

Carduus pyrochros, Less. in Linnæa, v. p. 130.

Cirsium conspicuum, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 312.

SOUTH MEXICO, La Hoya, Vera Cruz (*Linden*, 458). Hb. Kew.

✓ 3. **Cnicus costaricensis**, Polak. in Linnæa, xli. p. 581.

COSTA RICA, San José (*Polakowsky*).

4. **Cnicus jorullensis**, H. B. K. Nov. Gen. et Sp. iv. p. 22.

Cirsium jorullense, Spreng. Syst. iii. p. 376; DC. Prodr. vi. p. 650.

SOUTH MEXICO, Jorullo (*Humboldt & Bonpland*, *Schiede & Deppe*).

5. **Cnicus lappoides**, Hemsley.

Carduus lappoides, Less. in Linnæa, v. p. 129.

Cirsium lappoides, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 313.

SOUTH MEXICO, Mirador (*Liebmann*, 686), meadows near San Andres (*Schiede & Deppe*). Hb. Kew.

6. **Cnicus lomatolepis**, Hemsley, n. sp.

Foliis margine tantum aculeolatis, capitulis mediocribus paucis congestis, involucri bracteis membranaceo-scariosis sursum dilatatis fimbriatis apice aculeato-acuminatis sed vix rigidis.

Herba perennis?, ramosa, ramis aculeolato-alatis. *Folia* caulina membranacea, sessilia, decurrentia, leviter anguste pinnatifida vel dentata, usque ad 9 poll. longa, superiora gradatim minora, suprema minima, omnia supra leviter scabrida, subtus araneoso-tomentosa, albida, margine tantum aculeolata. *Capitula* 3-6, subsessilia, in apicibus ramorum congesta, maxima 1 poll. diametro; involucri bracteæ homomorphæ, floribus breviores, scarioso-membranaceæ, glabræ, sursum dilatatæ, fimbriatæ, apice aculeato-acuminatæ, sed vix rigidæ, dorso macula atra instructæ; corollæ glabræ, alte 5-fidæ, lobis obtusis; antherarum appendices caudato-acuminatæ; filamenta puberula; stylus integer, exannulatus. *Achenia* nondum matura glabra.

SOUTH MEXICO, valley of Mexico (*Bourgeau*, 511). Hb. Kew.

✓ 7. **Cnicus mexicanus**, Hemsley.

Cirsium mexicanum, DC. Prodr. vi. p. 636.

= *C. lanceolatus*, Hoffm.?

SOUTH MEXICO, Mirador (*Liebmann*, 683), valley of Cordova (*Bourgeau*), near Jalapa, 3000 feet (*Galeotti*, 2319); NICARAGUA, Chontales (*Tate*, 111). Hb. Kew.

8. **Cnicus nivalis**, H. B. K. Nov. Gen. et Sp. iv. p. 23.

Cirsium cernuum, Lag. Eleneh. Nov. Gen. p. 24; DC. Prodr. vi. p. 639.

Cirsium nivale, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 312.

SOUTH MEXICO, Toluca, at 11,400 feet (*Humboldt & Bonpland*), Peak of Orizaba, at 1200 feet (*Linden*, 1140; *Galeotti*, 2341). Hb. Kew.

Schulz Bipontinus, *loc. cit.*, refers *C. heterolepis*, Benth., &c., to this species; but, judging from the description of *C. nivalis*, it is a very distinct species. See under *C. subcoriaceus*.

9. **Cnicus pazcuarensis**, H. B. K. Nov. Gen. et Sp. iv. p. 22, t. 310.

Cirsium pazcuarensis, Spreng. Syst. iii. p. 372; DC. Prodr. vi. p. 637.

SOUTH MEXICO, near Pazcuaro, between 6000 and 7000 feet (*Humboldt & Bonpland*).

10. **Cnicus radians**, Hemsley.

Cirsium radians, Benth. Pl. Hartw. p. 77.

GUATEMALA, Quezaltenango (*Hartweg*, 538). Hb. Kew.

11. **Cnicus raphilepis**, Hemsley, n. sp.

Foliis longe spinosis, capitulis mediocribus paucis aggregatis pedunculatis, involucri bracteis pro maxima parte rectis e basi latiuscula coriacea longe spinosis.

Herba perennis?, caulibus vel ramis crassiusculis, anguste alatis. *Folia* caulina membranacea, sessilia, decurrentia, alte pinnatifida, usque ad 9 poll. longa et 4 poll. lata, margine rigide longeque spinosa, præcipue subtus araneoso-tomentosa, albida, lobis distantibus. *Capitula* circiter 6, in apicibus ramorum breviter pedunculata, maxima 1½ poll. diametro; involucri bracteæ floribus breviores, exteriores coriaceæ, rigidæ, rectæ, basi latiusculæ, leviter araneosæ, in spinam elongatam abeuntes, paucae interiores fere scariosæ, lineares, acutissimæ; corollæ glabræ, alte 5-fidæ, lobis subobtusis; antherarum appendices laceratæ; stylus integer, exannulatus. *Achenia* immatura costata, glabra.

SOUTH MEXICO, valley of Mexico (*Bourgeau*, 141). Hb. Kew.

✓12. **Cnicus subcoriaceus**, Hemsley.

Carduus subcoriaceus, Less. in Linnæa, v. p. 130.

Cirsium subcoriaceum, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 312.

Cirsium heterolepis, Benth. Pl. Hartw. p. 87.

Cirsium maximum, Benth. Pl. Hartw. p. 289.

Cirsium platycephalum, Benth. in Vidensk. Meddel. 1852, p. 110.

Cnicus heterolepis, A. Gr. in Proc. Amer. Acad. x. p. 44, in adnot.

Cnicus cernuus, A. Gr. in Proc. Amer. Acad. x. p. 44, in adnot.

✓ NORTH MEXICO, Sierra Madre (*Seemann*, 2040); SOUTH MEXICO, Real del Monte (*Coulter*, 467), valley of Cordova (*Bourgeau*, 1923, 2027), mountains near Santa Rosa (*Hartweg*), Mirador (*Liebmann*, 689), Vera Cruz, 3000 feet (*Galeotti*, 2323), Tepic (*Sinclair*), Orizaba (*Botteri*, 1176, 1177); GUATEMALA, without locality (*Hartweg*, 596),

Volcan de Fuego, at 8300 feet (*Salvin*); COSTA RICA, Volcan de Irazu, 8000 to 9000 feet (*Ersted*). Hb. Kew.

Perhaps we have included more than one species under this name.

13. **Cnicus undulatus**, A. Gr. in Proc. Amer. Acad. x. p. 42.

Cirsium undulatum, Spreng. Syst. iii. p. 374; DC. Prodr. vi. p. 651.

Cirsium grahami, A. Gr. Pl. Wright. ii. p. 102; Bot. Mag. t. 5885.

UPPER MISSISSIPPI and SASKATCHEWAN southward.—NORTH MEXICO, Sonora (*Wright, Thurber*). Hb. Kew.

14. **Cnicus wrightii**, A. Gr. in Proc. Amer. Acad. x. p. 41.

Cirsium wrightii, A. Gr. Pl. Wright. ii. p. 101.

TEXAS; NEW MEXICO.—NORTH MEXICO, Sonora (*Wright*). Hb. Kew.

199. CENTAUREA.

Centaurea, Linn. Gen. Plant. n. 984; Benth. et Hook. Gen. Plant. ii. p. 477.

A genus of between 300 and 400 herbaceous species, with the exception of the South-American species, indigenous in the northern hemisphere, chiefly the Mediterranean region; one only is indigenous in North America, and about four or five in extratropical South America. Three or four species are widely diffused weeds of cultivation.

1. **Centaurea americana**, Nutt. in Journ. Acad. Philad. ii. p. 117; Bart. Fl. Amer. Sept. ii. t. 50; Torr. & Gr. Fl. N. Amer. ii. p. 453.

Centaurea nuttallii, Spreng. Syst. iv. (Suppl.) p. 298.

Centaurea mexicana, DC. Prodr. vi. p. 575.

Plectocephalus americanus, Don in Sweet's Brit. Fl. Gard. ser. 2, t. 51.

ARKANSAS; LOUISIANA; TEXAS; NEW MEXICO.—NORTH MEXICO, Chihuahua (*Gregg*), Chiricahui Mountains (*Rothrock*). Hb. Kew.

Tribe XII. MUTISIACEÆ.

Mutisiaceæ, Benth. et Hook. Gen. Plant. ii. pp. 168 et 214.

Fifty-three genera are referred to this tribe; and these embrace about 450 species, most of which are shrubs or rigid herbs. They find their greatest concentration in western South America; a few occur in Tropical and South Africa, Central and Eastern Asia; and one is indigenous in Australia.

200. ONOSERIS.

Onoseris, DC. in Ann. Mus. Par. xix. p. 65, t. 12; Benth. et Hook. Gen. Plant. ii. p. 486.

About twelve herbaceous and shrubby species in the Andes and extratropical South America, and one in Brazil.

✓ 1. **Onoseris isotypus**, Benth. et Hook. Gen. Plant. ii. p. 487.

Isotypus onoseroides, H. B. K. Nov. Gen. et Sp. iv. p. 12, t. 307.

Caloseris rupestris, Benth. Pl. Hartw. p. 88.

Rhodoseris conspicua, Turcz. in Bull. Soc. Nat. Mosc. 1851, ii. p. 94, t. 2.

Schatzellia deckerii, Kl. in Otto & Dietr. Allg. Gartenz. 1849, p. 81, ex Schz. Bip. in Flora, 1850, p. 419.

SOUTH MEXICO, Sierra San Pedro Nolasco, &c. (*Jurgensen*), Gualatu (*Liebmann*, 221); GUATEMALA, near Chorro (*Hartweg*); COSTA RICA, Jaris, 4000 feet (*Ersted*).—VENEZUELA. Hb. Kew.

201. MOQUINIA.

Moquinia, DC. Prodr. vii. p. 22; Benth. et Hook. Gen. Plant. ii. p. 490.

About twelve shrubby species, with the following exception, natives of Brazil, Uruguay, and Paraguay.

1. **Moquinia hypoleuca**, DC. Prodr. vii. p. 23.

TEXAS.—NORTH MEXICO, Monterey (*Berlandier*), without locality (*Gregg*, 7), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 352); SOUTH MEXICO, Tehuacan (*Liebmann*, 338). Hb. Kew.

202. LYCOSERIS.

Lycoseris, Cass. Dict. xxxiii. p. 474; Benth. et Hook. Gen. Plant. ii. p. 495.

Diazeuxis, Don in Trans. Linn. Soc. xvi. p. 251.

About ten shrubby species, inhabiting America from Mexico to Bolivia.

✓ 1. **Lycoseris grandis**, Benth. in Vidensk. Meddel. 1852, p. 111.

COSTA RICA, San Mateo (*Ersted*, 110). Hb. Kew.

✓ 2. **Lycoseris latifolia**, Benth. Bot. Voy. 'Sulphur,' p. 121.

Diazeuxis latifolia, Don in Trans. Linn. Soc. xvi. p. 302.

SAN SALVADOR, Acajutla (*S. Hayes*, 615); NICARAGUA, Realego (*Hinds*); PANAMA, Chagres (*Fendler*, 174), near the city of Panama (*Seemann*, 433), Isle of Taboga (*Sinclair*). Hb. Kew.

[*L. mexicana* Cass. est species Colombiana nec Mexicana, fide Benth. et Hook. Gen. Plant. ii. p. 495. *Diazeuxis*? *serrata*, Don in Trans. Linn. Soc. xvi. pp. 254 et 302, est genus diversum.]

✓ 3. **Lycoseris squarrosa**, Benth. Bot. Voy. 'Sulphur,' p. 121.

HONDURAS, Gulf of Fonseca (*Sinclair*); NICARAGUA, Segovia (*Ersted*); COSTA RICA, Nicoya (*Sinclair*). Hb. Kew.

203. CHAPTALIA.

Chaptalia, Vent. Hort. Cels. t. 61; Benth. et Hook. Gen. Plant. ii. p. 498.

About eighteen herbaceous species, ranging from the Southern States of North America to Chili and Buenos Ayres.

1. *Chaptalia ehrenbergii*, Hemsley.

Gerbera (*Lieberkuhnia*) *ehrenbergii*, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 313.

SOUTH MEXICO, foot of the Cerro de las Nubijas (*Ehrenberg*).

2. *Chaptalia lyrata*, Don in Trans. Linn. Soc. xvi. p. 243.

Gerbera lyrata, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 313.

MEXICO (*Moçino & Sessé*).

3. *Chaptalia nutans*, Hemsley.

Leria nutans, DC. in Ann. Mus. Par. xix. p. 68; Prodr. vii. p. 42.

Gerbera nutans, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 313.

TEXAS.—NORTH MEXICO, Monterey (*Gregg*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 544); SOUTH MEXICO, valley of Orizaba (*Bourgeau*, 2535), near Vera Cruz (*Linden*, 1229; *Galeotti*, 2205, 2252); GUATEMALA, near Coban, at 4300 feet (*Türkheim*, 122); COSTA RICA, Cartago (*Ersted*).—In the WEST INDIES and southward to BRAZIL. Hb. Kew.

4. *Chaptalia seemannii*, Hemsley.

Gerbera seemannii, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 313.

NORTH MEXICO, Sierra Madre (*Seemann*, 1988). Hb. Kew.

5. *Chaptalia spathulata*, Hemsley.

Leria spathulata, Don in Trans. Linn. Soc. xvi. p. 249.

Lieberkuhnia? *spathulata*, DC. Prodr. vii. p. 43.

Gerbera spathulata, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 313.

MEXICO (*Moçino & Sessé*).

204. PEREZIA.

Perezia, Lag. Amen. Nat. i. p. 31; Benth. et Hook. Gen. Plant. ii. p. 500.

Clarionea, Lag., ex DC. in Ann. Mus. Par. xix. p. 65.

About fifty herbaceous and half-shrubby species, inhabiting California, Mexico, Central America, the Andes, and extratropical South America, a few occurring in Brazil.

1. *Perezia adnata*, A. Gr. Pl. Wright. i. p. 127.

SOUTH MEXICO, pine-forest, Morelia (*Ghiesbreght*, 378).

2. *Perezia alamani*, Hemsley.

Dumerilia alamani, DC. Prodr. vii. p. 67.

MEXICO (*Alaman*).

3. **Perezia coulteri**, A. Gr. in Proc. Amer. Acad. xv. p. 40.
NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 547, in part); SOUTH MEXICO, Zimapan (*Coulter*, 234). Hb. Kew.
4. **Perezia fruticosa**, Llav. et Lax. Nov. Veg. Descr. i. p. 25.
Acourtia formosa, DC. Prodr. vii. p. 66, nec Don, ex A. Gr. Pl. Wright. i. p. 126.
NORTH MEXICO, Santa Cruz, Sonora (*Thurber*); SOUTH MEXICO, Tenancingo (*Schaffner*). Hb. Kew.
5. **Perezia hebeclada**, A. Gr. Pl. Wright. i. p. 127.
Acourtia hebeclada, DC. Prodr. vii. p. 66; Deless. Ic. Sel. iv. t. 95.
Perdicium cordatum, Llav. et Lex. Nov. Veg. Descr. i. p. 27?
MEXICO.
6. **Perezia humboldtii**, A. Gr. Pl. Wright. i. p. 128.
Dumerilia humboldtii, Less. in Linnæa, v. p. 13, t. i. ff. 27, 28.
Proustia mexicana, Don in Trans. Linn. Soc. xvi. p. 201.
MEXICO (*Moçino & Sessé*).
7. **Perezia moschata**, Llav. et Lex. Nov. Veg. Descr. i. p. 26.
Acourtia moschata, DC. Prodr. vii. p. 66.
MEXICO, mountains of Vallisoleta (*La Llave*).
8. **Perezia nana**, A. Gr. Pl. Fendl. p. 111, et Pl. Wright. i. p. 125.
TEXAS; NEW MEXICO.—NORTH MEXICO, near Messilas (*Gregg*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 546). Hb. Kew.
- ✓ 9. **Perezia nudicaulis**, A. Gr. Pl. Wright. i. p. 127.
GUATEMALA (*Skinner*). Hb. Kew.
10. **Perezia oxylepis**, Schz. Bip.; A. Gr. in Proc. Amer. Acad. xv. p. 41.
NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 547, in part). Hb. Kew.
11. **Perezia parryi**, A. Gr. in Proc. Amer. Acad. xv. p. 40.
NORTH MEXICO, San Luis Potosi and Saltillo (*Parry & Palmer*, 545). Hb. Kew.
12. **Perezia patens**, A. Gr. Pl. Wright. i. p. 127.
Trixis patens, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 315.
Acourtia formosa, Schz. Bip. in Seem. Bot. Voy. 'Herald,' t. 56.
NORTH MEXICO, Sierra Madre (*Seemann*, 2032). Hb. Kew.
13. **Perezia platyphylla**, A. Gr. Pl. Fendl. p. 111; Pl. Wright. i. p. 127.
NORTH MEXICO, Cosiquiriachi in the Sierra Madre, west of Chihuahua (*Wislizenus*).
14. **Perezia reticulata**, A. Gr. Pl. Wright. i. p. 128.
Proustia reticulata, Lag., ex Don in Trans. Linn. Soc. xvi. p. 200.

SOUTH MEXICO, Cordillera of Oaxaca, 7000 to 8000 feet (*Galeotti*, 2097), without locality (*Mendez*), valley of Orizaba (*Bourgeau*, 3096; *Botteri*, 1137). Hb. Kew.

15. ***Perezia rigida***, A. Gr. Pl. Wright. i. 127.

Acourtia rigida, DC. Prodr. vii. p. 66.

Acourtia formosa, Hook. et Arn. Bot. Beech. Voy. p. 437, et Benth. Bot. Voy. 'Sulphur,' p. 122, non DC. nec Don, ex A. Gr.

Trixis latifolia, Hook. et Arn. Bot. Beech. Voy. p. 300.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 558?); SOUTH MEXICO, Tepic (*Sinclair*), Leon, west of Guanajuato (*Mendez*). Hb. Kew.

16. ***Perezia runcinata***, Lag., ex Don in Trans. Linn. Soc. xvi. p. 207; A. Gr. Pl. Fendl. p. 110.

Clarionea runcinata, Don loc. cit.; DC. Prodr. vii. p. 62.

TEXAS.—NORTH MEXICO, Bishop's Hill, Monterey (*Edwards, Gregg*), Cerralbo (*Gregg*). Hb. Kew.

17. ***Perezia seemannii***, A. Gr. Pl. Wright. i. p. 127.

Trixis seemannii, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 315.

Acourtia seemannii, Schz. Bip. in Seem. Bot. Voy. 'Herald,' t. 54.

NORTH MEXICO, Sierra Madre (*Seemann*, 2033). Hb. Kew.

18. ***Perezia thurberi***, A. Gr. Pl. Thurb. p. 324; Torr. Bot. U.S. & Mex. Bound. Surv. p. 104.

NORTH MEXICO, Sonora (*Thurber*).

19. ***Perezia thyrsoidea***, A. Gr. in Torr. Bot. U.S. & Mex. Bound. Surv. p. 104, in adnot.

SOUTH MEXICO, Guanajuato (*Berlandier*).

20. ***Perezia turbinata***, Llav. et Lex. Nov. Veg. Descr. i. p. 25.

Acourtia? turbinata, DC. Prodr. vii. p. 66.

Acourtia formosa, Don in Trans. Linn. Soc. xvi. p. 204, non DC., ex A. Gr. Pl. Wright. i. p. 126.

Trixis turbinata, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 315.

Acourtia macrocephala, Schz. Bip. in Seem. Bot. Voy. 'Herald,' t. 55.

NORTH MEXICO, Sierra Madre (*Seemann*, 2034); SOUTH MEXICO, Guanajuato (*Berlandier*). Hb. Kew.

21. ***Perezia wislizenii***, A. Gr. Pl. Fendl. p. 111; Pl. Wright. i. p. 126.

NORTH MEXICO, Sierra Madre (*Wislizenus*).

205. TRIXIS.

Trixis, P. Browne, Jam. p. 312; Benth. et Hook. Gen. Plant. ii. p. 501.

About thirty herbaceous and shrubby species, inhabiting the West Indies, Central and South America, southward to Chili and Buenos Ayres.

Several of Don's names are probably synonyms of *T. frutescens*.

BIOL. CENTR.-AMER., Bot. Vol. II., December 1881.

1. ***Trixis alata***, Don in Trans. Linn. Soc. xvi. p. 192.
MEXICO (*Sessé & Moçino*).
2. ***Trixis angustifolia***, DC. Prodr. vii. p. 69.
TEXAS.—NORTH MEXICO, region of San Luis Potosi (*Berlandier, Gregg*), Sierra Madre (*Seemann, 2046*), Chihuahua (*Potts*). Hb. Kew.
3. ***Trixis conferta***, Benth. Pl. Hartw. p. 289.
SOUTH MEXICO, Leon and Guanajuato (*Hartweg, 1609*). Hb. Kew.
4. ***Trixis corymbosa***, Don in Trans. Linn. Soc. xvi. p. 188.
MEXICO (*Sessé & Moçino*), Bolaños (*Coulter, 469*). Hb. Kew.
5. ***Trixis decurrens***, DC. Prodr. vii. p. 68; Calques des Dess. Fl. Mex. p. 515.
MEXICO, Ayacapitla (*Moçino & Sessé*).
- ✓ 6. ***Trixis frutescens***, P. Browne, Jam. p. 312, t. 33. f. 1; DC. Prodr. vii. p. 68.
TEXAS; NEW MEXICO; LOWER CALIFORNIA.—NORTH MEXICO, Tamaulipas (*Berlandier*), Bachimba, Chihuahua (*Thurber*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer, 550*), Sonora (*Wright, Bigelow*); SOUTH MEXICO, Cordillera of Vera Cruz at 3000 feet (*Galeotti, 2299*), Zimapan (*Coulter, 234*), Mirador (*Liebmann*), valley of Cordova (*Bourgeau, 2035*), Tepic (*Sinclair*), Campeachy (*Perrine*); GUATEMALA (*Hartweg*); HONDURAS, Gulf of Fonseca (*Sinclair*); SAN SALVADOR, Acajutla (*S. Hayes*); COSTA RICA, Ujaras, Pacaca (*Ersted*); PANAMA (*Cuming*).—Common in the WEST INDIES and in VENEZUELA and COLOMBIA. Hb. Kew.
7. ***Trixis glabra***, Don in Trans. Linn. Soc. xvi. p. 297.
SOUTH MEXICO, near Laguna Verde (*Schiede & Deppe*).
8. ***Trixis hænkei***, Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 314.
NORTH MEXICO, Sierra Madre (*Seemann, 2029*). Hb. Kew.
9. ***Trixis involucrata***, Don in Trans. Linn. Soc. xvi. p. 193; DC. Prodr. vii. p. 68.
MEXICO (*La Llave*).
10. ***Trixis longifolia***, Don in Trans. Linn. Soc. xvi. p. 191; DC. Prodr. vii. p. 68.
NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*), without locality (*Moçino & Sessé*). Hb. Kew.
11. ***Trixis michuacana***, Llav. et Lex. Nov. Veg. Descr. i. p. 28; DC. Prodr. vii. p. 68.
SOUTH MEXICO, near Vallisoleta (*La Llave*).
12. ***Trixis obvallata***, Hook. et Arn. Bot. Beech. Voy. p. 300, t. 65; Schz. Bip. in Seem. Bot. Voy. 'Herald,' p. 314.

NORTH MEXICO, Sierra Madre (*Seemann*, 2030), Cerro de Pinal (*Seemann*, 1477);
SOUTH MEXICO, Acapulco (*Hinds*). Hb. Kew.

13. ***Trixis rosmarinifolia***, Nees in *Linnæa*, xx. p. 699.
MEXICO (*de Berghes*).

Tribe XIII. CICHORIACEÆ.

Cichoriaceæ, Benth. et Hook. Gen. Plant. ii. pp. 168 et 219.

This tribe includes about 800 species, referred to fifty-six genera; and it has nearly the same range as the whole order; but the species are by far most numerous in the Old World, and about 450 occur in the Mediterranean region alone. They are mostly herbaceous plants; a few, however, are shrubby, and there are two arboreous genera in the Pacific Islands.

206. HIERACIUM.

Hieracium, Linn. Gen. Plant. n. 913; Benth. et Hook. Gen. Plant. ii. p. 516.

Heteropleura, Schz. Bip. in *Flora*, 1862, p. 434.

Herbaceous plants. Bentham and Hooker estimate the number of species at about 150; but double that number have been described as such. They are widely dispersed in the northern hemisphere; and a few occur in the Andes and in Extratropical South America and South Africa. The genus is unknown in Australia. There are about eight distinct species from Mexico in Kew Herbarium; but they are all unnamed.

1. ***Hieracium abscissum***, Less. in *Linnæa*, v. p. 132; Fries, *Epicris. Hierac.* p. 150.

TEXAS.—MEXICO, near Jalapa (*Schiede & Deppe*).

2. ***Hieracium anthurum***, Fries, *Symb.* p. 153; *Epicris.* p. 157.

SOUTH MEXICO, Cerro de Cempoaltepec, Oaxaca, at 12,000 feet (*Liebmann*).

3. ***Hieracium comatum***, Fries, *Symb.* p. 148; *Epicris.* p. 152.

SOUTH MEXICO, in pine-forests, Chinantla, Puebla, and in the Cerro de San Felipe, Oaxaca (*Liebmann*).

4. ***Hieracium?* *crepidispermum***, Fries, *Symb.* p. 146; *Epicris.* p. 152.

Heteropleura crepidisperma, Schz. Bip. in *Flora*, 1860, p. 435.

SOUTH MEXICO, Chinantla, Puebla, at 7000 feet (*Liebmann*), Cerro de las Cruces, at 8500 feet (*Schaffner*).

5. ***Hieracium junceum***, Fries, *Symb.* p. 144; *Epicris.* p. 149.

SOUTH MEXICO, Cordillera of Oaxaca (*Liebmann &c.*).

6. ***Hieracium lagopus***, Don in *Trans. Linn. Soc.* xvi. p. 176; Fries, *Epicris.* p. 143.

Hieracium irasuense, Benth. in *Vidensk. Meddel.* 1852, p. 113?

SOUTH MEXICO (*Moçino & Sessé*); COSTA RICA, Volcan de Irazu, 9500 feet (*Ersted*).
Hb. Kew.

7. **Hieracium mexicanum**, Less. in Linnæa, v. p. 133.

SOUTH MEXICO, Orizaba (*Schiede & Deppe*), Popocatepetl, 10,000 feet (*Schaffner*).

8. **Hieracium niveopappum**, Fries, Symb. p. 139; Epicris. p. 149.

SOUTH MEXICO, peak of Orizaba, at 13,000 feet (*Liebmann*).

9. **Hieracium præmorsiforme**, Schz. Bip. in Bonplandia, 1861, p. 327; Fries, Epicris. Hierac. p. 148.

SOUTH MEXICO, mountains near San Angel, and Cerro de las Cruces, 8000 to 8500 feet (*Schaffner*).

10. **Hieracium schultzi**, Fries, Epicris. p. 150.

Hieracium friesii, Schz. Bip. in Bonplandia, 1861, p. 326, non Hartm.

SOUTH MEXICO, Tacubaya, valley of Mexico, at 7000 feet (*Schaffner*).

11. **Hieracium strigosum**, Don in Trans. Linn. Soc. xvi. p. 175; Fries, Epicris. p. 155.

MEXICO (*Schaffner, Moçino & Sessé*).

12. **Hieracium stuposum**, Fries, Epicris. p. 148.

MEXICO (*Ehrenberg*).

13. **Hieracium thyrsoideum**, Fries, Symb. p. 141; Epicris. p. 156.

SOUTH MEXICO, peak of Orizaba, 12,000 feet (*Liebmann*).

207. MICROSERIS.

Microseris, Don in Phil. Mag. xi. (1832) p. 388; Benth. et Hook. Gen. Plant. ii. p. 506.

Annual or perennial herbs, whereof about twelve species are known—one inhabiting Extratropical South America, another New Zealand and Australia, and the rest North-west America.

1. **Microseris linearifolia**, A. Gr. in Proc. Am. Acad. ix. p. 208.

Calais linearifolia, DC. Prodr. vii. p. 85.

Uropappus linearifolius et *U. grandiflorus*, Nutt. in Trans. Amer. Phil. Soc. n. s. vii. p. 425.

CALIFORNIA; NEW MEXICO.—NORTH MEXICO, Sonora (*Smith*), Lake Gusman (*Bigelow*).

208. MALACOTHRIX.

Malacothrix, DC. Prodr. vii. p. 192; Benth. et Hook. Gen. Plant. ii. p. 518; A. Gr. in Bot. Califor. i. p. 432.

About twelve herbaceous species, all, except one, occurring in California.

1. **Malacothrix fendleri**, A. Gr. Pl. Wright. ii. p. 104.

NEW MEXICO.—NORTH MEXICO, Sonora (*Smith*).

2. **Malacothrix tenuifolia**, Torr. & Gr. Fl. N. Am. ii. p. 487; Torr. Bot. U.S. & Mex. Bound. Surv. p. 106.

CALIFORNIA.—NORTH MEXICO, Sonora (*Schott*).

209. TARAXACUM.

Taraxacum, Hall, Stirp. Helv. i. p. 23; Benth. et Hook. Gen. Plant. ii. p. 522.

A widely dispersed genus of herbaceous plants, comprising about half a dozen species according to some authors, though no fewer than forty have been described.

1. **Taraxacum officinale**, Wigg. Prim. Fl. Hols. p. 56 (1780).

Taraxacum dens-leonis, Desf. Fl. Atl. ii. p. 228.

Taraxacum mexicanum, DC. Prodr. vii. p. 146.

This plant has a wide distribution in the temperate and mountainous regions of the north and south, and it is indigenous in the Rocky-Mountain range; but we have no proof of its being indigenous in Mexico, though it is now common enough in many districts as a weed of cultivation.

210. PYRRHOPAPPUS.

Pyrrhopappus, DC. Prodr. vii. p. 144; Benth. et Hook. Gen. Plant. ii. p. 523.

About four or six herbaceous species inhabiting the Southern States of N. America and Mexico.

1. **Pyrrhopappus carolinianus**, DC. Prodr. vii. p. 144; A. Gr. Man. Bot. Northern U. S. ed. 5, p. 280.

VIRGINIA southward to FLORIDA and westward to TEXAS and NEW MEXICO.—NORTH MEXICO, Sonora (*Schott*).

2. **Pyrrhopappus multicaulis**, DC. Prodr. vii. p. 144.

TEXAS.—NORTH MEXICO, Tamaulipas (*Berlandier*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 555), without locality (*Bates*). Hb. Kew.

3. **Pyrrhopappus pauciflorus**, DC. Prodr. vii. p. 144.

Chondrilla pauciflora, Sessé et Moc., ex Don in Trans. Linn. Soc. xvi. p. 180, nec Ledeb.

MEXICO (*Mocino & Sessé*).

4. **Pyrrhopappus sessæanus**, DC. Prodr. vii. p. 144.

Chondrilla sessæana, Don in Trans. Linn. Soc. xvi. p. 144.

MEXICO (*Mocino & Sessé*).

211. CALYCOSERIS.

Calycoseris, A. Gr. Pl. Wright. ii. p. 104; Benth. et Hook. Gen. Plant. ii. p. 523.

Two annual herbaceous species, the second Californian.

1. **Calycoseris wrightii**, A. Gr. Pl. Wright. ii. p. 104, t. 14.

NORTH MEXICO, Sonora and along the Rio Grande (*Smith*). Hb. Kew.

212. LACTUCA.

Lactuca, Linn. Gen. Plant. n. 909; Benth. et Hook. Gen. Plant. ii. p. 524.

About sixty herbaceous species in Europe, Asia, Africa, and North America, some of them now naturalized in other parts of the world.

✓ 1. ***Lactuca intybacea***, Jacq. Ic. Pl. Rar. i. t. 162; Collec. i. p. 53; Less. in Linnæa, vi. p. 724.

Phænixopus intybaceus, Less. Synop. p. 137.

Brachyramphus intybaceus, DC. Prodr. vii. p. 177.

NICARAGUA, Granada (*Ersted*); COSTA RICA (*Ersted*).—WEST INDIES. Hb. Kew.

[*Sonchus oleraceus*, Linn. Sp. Pl. p. 1117, occurs as an introduced weed. Bentham and Hooker (Gen. Plant. ii. p. 528) suggest that *Trachodes paniculatus* (Don in Trans. Linn. Soc. xvi. p. 182) may be nothing more than the same plant.]

213. PINAROPAPPUS.

Pinaropappus, Less. Synop. Comp. p. 143; Benth. et Hook. Gen. Plant. ii. p. 529.

A perennial herbaceous monotype.

1. ***Pinaropappus roseus***, Less. Syn. p. 143; DC. Prodr. vii. p. 99.

Achyrophorus roseus, Less. in Linnæa, v. p. 133, t. 2. f. 5.

TEXAS.—NORTH MEXICO, Sonora, not rare (ex A. Gray in Torr. Bot. U.S. & Mex. Bound. Surv. p. 106), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 554); SOUTH MEXICO, Chinantla (*Liebmann*), Real del Monte (*Coulter*, 460), Orizaba (*Botteri*, 1180, 1181), Cordillera of Oaxaca, at 7000 feet (*Galeotti*, 2192), around Toluca (*Andrieux*, 268). Hb. Kew.

214. STEPHANOMERIA.

Stephanomeria, Nutt. in Trans. Amer. Phil. Soc. ser. 2, vii. p. 427; A. Gr. in Bot. Calif. i. p. 427.

A North-west American genus of about seven known herbaceous species.

1. ***Stephanomeria exigua***, Nutt.; Eaton, Bot. King Exped. p. 198, t. 20. figs. 6, 7.

Hemiptilium bigelovii, A. Gr. in Torr. Bot. U.S. & Mex. Bound. Surv. p. 105.

CALIFORNIA; NEW MEXICO; TEXAS.—NORTH MEXICO, Frontera (*Bigelow*).

2. ***Stephanomeria schottii***, A. Gr. in Bot. Calif. i. p. 427.

Hemiptilium schottii, A. Gr. in Torr. Bot. U.S. & Mex. Bound. Surv. p. 105.

NORTH MEXICO, Sonora (*Schott*). Hb. Kew.

3. ***Stephanomeria thurberi***, A. Gr. in Proc. Am. Acad. vi. p. 552.

NEW MEXICO.—NORTH MEXICO, Sonora (*Thurber*). Hb. Kew.

[STYLIDIEÆ, an order of four genera and about 100 species, mostly herbs, inhabiting Australia, a few occurring in Tropical Asia, New Zealand, and Extratropical South America.]

Order LXXIV. GOODENOVIEÆ.

Goodenovieæ, Benth. et Hook. Gen. Plant. ii. p. 536.

As limited by Bentham and Hooker, this order consists of twelve genera (including *Brunonia*) and upwards of 200 species, nearly all of which are Australian (very few are indigenous in New Zealand, Extratropical South America, Pacific islands, and Tropical Asia), and the following tropical sea-shore shrub:—

1. SCÆVOLA.

Scævola, Linn. Mant. n. 1294; Benth. et Hook. Gen. Plant. ii. p. 539.

There are about sixty herbaceous and shrubby species, and, with the exception of about eight or ten maritime species in the Pacific islands, Asia, and Tropical Australia, &c., they are endemic in Australia.

1. ***Scævola lobelia***, Linn. Syst. Veg. ed. xiii. p. 178, excl. Syn. Rumph.; Hiern in Oliv. Fl. Trop. Afr. iii. p. 462.

Scævola plumieri, Vahl, Symb. ii. p. 36, non herb. Linn.

FLORIDA.—MEXICO (ex *Grisebach* in Fl. Brit. W. Ind. p. 388).—WEST INDIES and coast of West Tropical and Extratropical AFRICA, MASCARENE ISLANDS, and ASIA.

Order LXXV. CAMPANULACEÆ.

Campanulaceæ, Benth. et Hook. Gen. Plant. ii. p. 541.

There are fifty-three genera of this order, comprising about 1000, chiefly herbaceous species, dispersed nearly all over the world.

1. BURMEISTERA.

Burmeistera, Karst. in Linnæa, xxviii. p. 444; Benth. et Hook. Gen. Plant. ii. p. 547.

About twelve herbaceous and half-shrubby species, inhabiting Colombia and Central America.

✓ 1. ***Burmeistera virescens***, Benth. et Hook. Gen. Plant. ii. p. 547.

Lobelia virescens, Benth. Pl. Hartw. p. 77.

GUATEMALA, Quezaltenango (*Hartweg*, 540). Hb. Kew.

✓ 2. ***Burmeistera***, sp.

COSTA RICA (*Endres*). Hb. Kew.

2. CENTROPOGON.

Centropogon, Presl, Prodr. Monogr. Lob. p. 48; Benth. et Hook. Gen. Plant. ii. p. 547.

A wholly Tropical-American genus, comprising about eighty species, many of them shrubby. Most of them inhabit the Andes and one of the following has a wide range in South America and the West Indies.

✓ 1. ***Centropogon affinis***, Mart. et Gal. in Bull. Acad. Brux. ix. (reprint, p. 9); Walp. Rep. ii. p. 709.

SOUTH MEXICO, eastern Cordillera of Oaxaca, at 8000 feet (*Galeotti*, 1966), Chiapas &c. (*Ghiesbreght*, 688, in part), San Bartolo (*Linden*, 421); GUATEMALA, without locality (*Friedrichsthal*). Hb. Kew.

✓ 2. ***Centropogon cordifolius***, Benth. Pl. Hartw. (1840), p. 77; Flore des Serres, iv. t. 362.

Centropogon cordatus, Mart. et Gal. in Bull. Acad. Brux. ix. 1842 (reprint, p. 9); Walp. Rep. ii. p. 709.

Siphocampylus guatemalensis, Vatke in Linnæa, xxxviii. p. 730.

SOUTH MEXICO, Chinantla, near Teotalcingo, at 4000 to 5000 feet (*Galeotti*, 1965), San Bartolo (*Linden*, 419), without locality (*Jurgensen*, 968); GUATEMALA, Rancho del Palo (*Hartweg*, 539), without locality (*Salvin*). Hb. Kew.

3. ***Centropogon fastuosus***, Scheidw. in Otto & Dietr. Allg. Gartenz. ix. p. 396; Walp. Rep. ii. p. 709.

MEXICO.

✓ 4. ***Centropogon grandis***, Presl, Prodr. Lob. p. 48; DC. Prodr. vii. p. 345; Linnæa, xxxviii. p. 715.

✓ COSTA RICA, Aguacate (*Hoffmann*), Volcan de Irazu (*Wendland*).—COLOMBIA.

5. ***Centropogon longipes***, Regel, Gartenfl. iii. p. 3, t. 75.

CENTRAL AMERICA?

✓ 6. ***Centropogon surinamensis***, Presl, Prodr. Lob. p. 48; DC. Prodr. v. p. 345. *Lobelia surinamensis*, Linn. Sp. Pl. p. 1320; Bot. Mag. t. 225; Andr. Bot. Rep. t. 502.

PANAMA (*Hayes*, 338).—Southward to PERU and BRAZIL, and in the WEST INDIES. Hb. Kew.

✓ 7. ***Centropogon warscewiczii***, Vatke in Linnæa, xxxviii. p. 716.

Siphocampylus corymbiflorus, Warsc. in Koch's Wochenschr. 1864.

COSTA RICA or PANAMA (*Warscewicz*).

3. SIPHOCAMPYLUS.

Siphocampylus, Pohl, Pl. Bras. Ic. ii. p. 104, t. 169 ad 177, nec t. 168; Benth. et Hook. Gen. Plant. ii. p. 547.

A genus of perhaps over 100 species of shrubs and herbs, restricted to Tropical America.

In Kew herbarium there are only two specimens (NICARAGUA, Chontales, *Tate*, 263; *Seemann*, 93) of one species from our country; and these are unnamed.

1. **Siphocampylus canescens**, A. DC. Prodr. vii. p. 402.

Lobelia canescens, Presl, Prodr. Lob. p. 38.

MEXICO.

2. **Siphocampylus coleoides**, Vatke in Linnæa, xxxviii. p. 733.

COSTA RICA? (*Warscewicz*).—SOUTH AMERICA.

3. **Siphocampylus comosus**, G. Don, Gen. Syst. iii. p. 702.

Lobelia comosa, Cav. Ic. vi. p. 9, t. 512. f. 2.

SOUTH MEXICO, Queretaro.

4. **Siphocampylus costaricæ**, Vatke in Linnæa, xxxviii. p. 731.

COSTA RICA, Volcan de Barba (*Hoffmann*).

5. **Siphocampylus? grandidentatus**, A. DC. Prodr. vii. p. 407.

Lobelia (Siphocampylus) grandidentata, Schl. in Linnæa, ix. p. 262.

Lobelia grandidentata, Presl, Prodr. Lob. p. 37.

SOUTH MEXICO, Cuesta Grande de Chiconquiaco (*Schiede*).

6. **Siphocampylus mollis**, Regel in Flora, xxxiii. p. 353; Walp. Ann. iii. p. 917.

GUATEMALA (*Warscewicz*).

7. **Siphocampylus regelii**, Vatke in Linnæa, xxxviii. p. 732.

COSTA RICA, Volcan de Irazu (*Wendland*).

8. **Siphocampylus thysanopetalus**, Vatke in Linnæa, xxxviii. p. 731.

COSTA RICA, Volcan de Irazu (*Hoffmann*).

9. **Siphocampylus warscewiczii**, Regel, Schweiz. Zeitschr. Gartenb. 1850, p. 131, 1851, cum tab.; Walp. Ann. v. p. 390.

GUATEMALA (*Warscewicz*).

4. LAURENTIA.

Laurentia, Neck. Elem. i. p. 131; Benth. et Hook. Gen. Plant. ii. p. 549.

About ten herbaceous species, inhabiting the Mediterranean region, South Africa, and North-west America.

1. **Laurentia ramosissima**, Benth. et Hook. Gen. Plant. ii. p. 549.

Lobelia ramosissima, Mart. et Gal. in Bull. Acad. Brux. ii. p. 42; Walp. Rep. ii. p. 707.

SOUTH MEXICO, Cordillera of Oaxaca, at 7000 feet (*Galeotti*, 1970, 1971), without locality (*Sallé*). Hb. Kew.

BIOL. CENTR.-AMER., Bot. Vol. II., December 1881.

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5. LOBELIA.

Lobelia, Linn. Gen. Plant. n. 1006; Benth. et Hook. Gen. Plant. ii. p. 551.

About 200 chiefly herbaceous species, generally spread in temperate and warm regions, except Central and Southern Europe and Western Asia.

1. ***Lobelia berlandieri***, A. DC. Prodr. vii. p. 367.

NORTH MEXICO, Chihuahua (*Wright*, 419, 1429), Matamoros, Nuevo Leon (*Berlandier*), Tampico (*Berlandier*). Hb. Kew.

2. ***Lobelia circæoides***, A. DC. Prodr. vii. p. 379.

Rapuntium circæoides, Presl, Prodr. Lob. p. 25.

MEXICO (*Schiede & Deppe*).

√3. ***Lobelia cliffortiana***, Linn. Sp. Pl. ed. 3, ii. p. 1320; Hort. Cliff. p. 426, t. 26.

Lobelia xalapensis, H. B. K. Nov. Gen. et Sp. iii. p. 315.

SOUTHERN STATES of North America ("perhaps introduced from Tropical America," A. Gray, Synopt. Fl. N. Am. ii. p. 7).—NORTH MEXICO, San Luis Potosi to Tampico (*Palmer*, 1122); SOUTH MEXICO, Cordillera of Oaxaca, 3000 to 4000 feet (*Galeotti*, 4502), Mirador (*Linden*, 66), Jalapa, 4200 feet (*Humboldt & Bonpland*), Orizaba (*Galeotti*, 630, in part), valley of Cordova (*Bourgeau*, 1522); SAN SALVADOR (*Bernoulli*); NICARAGUA, Chontales (*Tate*, 144); COSTA RICA, San José (*Polakowsky*).—WEST INDIES and in Eastern SOUTH AMERICA. Hb. Kew.

4. ***Lobelia concolor***, Mart. et Gal. in Bull. Acad. Brux. ix. (reprint, p. 15);

Walp. Rep. ii. p. 707.

SOUTH MEXICO, Jalapa, at 4000 feet (*Galeotti*, 1972, 1979).

5. ***Lobelia divaricata***, Hook. et Arn. Bot. Beech. Voy. p. 301, t. 67.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 556); SOUTH MEXICO, Jalisco (*Beechey*), Real del Monte to Zacatecas (*Coulter*, 26). Hb. Kew.

6. ***Lobelia (Rapuntium) ehrenbergii***, Vatke in Linnæa, xxxviii. p. 719.

SOUTH MEXICO, near Los Encarnacios (*Ehrenberg*, 581).

7. ***Lobelia fenestralis***, Cav. Ic. t. 512. fig. 1; DC. Prodr. vii. p. 360; Bot. Reg.

xxiv. t. 47.

Lobelia pectinata, Engelm. in Wislitz. Rep. p. 108.

Lobelia spicata, Moç.; G. Don, Gen. Syst. iii. p. 705.

Lobelia stricta, Mart. et Gal. in Bull. Acad. Brux. ix. (reprint, p. 12)?

TEXAS; ARIZONA.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 558); SOUTH MEXICO, Chapoltepec and Pazcuaro, 6600 feet (*Humboldt & Bonpland*), Aguas Calientes (*Hartweg*, 101), region of Orizaba (*Bourgeau*, 3366; *Müller*, 926), Regla (*Galeotti*, 1980), without localities (*Parkinson, Keerl, Graham, &c.*). Hb. Kew.

8. *Lobelia flexuosa*, A. DC. Prodr. vii. p. 379.

MEXICO.

✓ 9. *Lobelia fulgens*, Willd. Hort. Berol. ii. t. 85; DC. Prodr. vii. p. 382; Walp. Rep. ii. p. 707; Andr. Bot. Rep. t. 659.

Lobelia splendens, Willd. Hort. Berol. ii. t. 86; A. Gr. Synopt. Fl. N. Am. ii. p. 3; Bot. Mag. t. 4960 (var. *ignea*).

Lobelia formosa, Rœm. et Sch. Syst. v. p. 50.

Lobelia texensis, Raf. in Ann. Nat. 1833, p. 20.

Lobelia ignea, Paxt. Mag. Bot. vi. p. 247, cum ic. color.

Rapuntium splendens et *fulgens*, Presl, Prodr. Lob. p. 26.

TEXAS; NEW MEXICO; ARIZONA; CALIFORNIA.—NORTH MEXICO, Chihuahua (*Potts*), Monterey, Nuevo Leon (*Plotz*); SOUTH MEXICO, Anganguio (*Hartweg*, 333), Chapoltepec (*Schaffner*), Mirador (*Linden*, 452), Oaxaca (*Andrieux*, 266), Vera Cruz to Orizaba (*Müller*, 910), region of Orizaba (*Bourgeau*, 2801); GUATEMALA (*Salvin & Godman*, 150); PANAMA (*Seemann*, 275). Hb. Kew.

10. *Lobelia ghiesbreghtii*, Lemaire, Ill. Hort. i. t. 34.

SOUTH MEXICO, Michoacan (*Ghiesbreght*).

11. *Lobelia gruina*, Cav. Ic. vi. p. 8, t. 511; DC. Prodr. vii. p. 373.

ARIZONA.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 559); SOUTH MEXICO, Real del Monte (*Coulter*, 35; *Galeotti*, 1981, 1968), valley of Mexico (*Schaffner*, 321; *Bourgeau*, 609), Pedregal (*Bilimek*), Velasco (*Hartweg*, 337). Hb. Kew.

12. *Lobelia hartwegi*, A. DC. in Benth. Pl. Hartw. p. 16.

Lobelia velutina, Mart. et Gal. in Bull. Acad. Brux. ix.

SOUTH MEXICO, Bolaños (*Hartweg*, 102), Cordillera of Oaxaca, at 8000 feet (*Galeotti*, 1769). Hb. Kew.

13. *Lobelia laxiflora*, H. B. K. Nov. Gen. et Sp. iii. p. 311; DC. Prodr. vii. p. 383.

Rapuntium laxiflorum, Presl, Prodr. Lob. p. 26.

Lobelia rigidula, H. B. K. Nov. Gen. et Sp. iii. p. 311.

Lobelia ovalifolia, *lanceolata* et *angulato-dentata*, Hook. et Arn. Bot. Beech. Voy. pp. 300, 301.

Siphocampylus bicolor, Don in Sweet's Brit. Fl. Gard. ser. 2, t. 389.

NORTH MEXICO, Mabibi (*Thurber*), Sierra Madre (*Seemann*, 2055); SOUTH MEXICO, Zacuapan (*Hartweg*), Orizaba (*Galeotti*, 126, 260), Comitán (*Linden*, 420), Zimapan (*Coulter*, 22), between Quaxiniquilapa and Acaguisotla, at 3000 feet (*Humboldt & Bonpland*); GUATEMALA, Volcan de Fuego, 10,500 feet (*Salvin*), near Coban, at 4400 feet (*Türckheim*, 73); NICARAGUA, Realejo (*Sinclair*). Hb. Kew.

β. *angustifolia*, DC. Prodr. vii. p. 383; A. Gr. Synopt. Fl. N. Am. ii. p. 3.

Lobelia cavanillesii, Mart. Choix Pl. Jard. Mun. p. 12, t. 9; Bot. Mag. t. 3600.

Lobelia persicifolia, Cav. Ic. vi. t. 518, non Lam.

SOUTH ARIZONA.—NORTH MEXICO, Sierra Madre (*Seemann*, 2054), region of San Luis

Potosi, 6000 to 8000 feet (*Parry & Palmer*, 560); SOUTH MEXICO, Chapoltepec (*Graham*), Toluca (*Andrieux*, 267), Sierra San Pedro Nolasco &c. (*Jurgensen*, 556), valley of Mexico (*Bourgeau*, 103), without localities (*Christy*, *Graham*, *Coulter*, &c.) Hb. Kew.

✓ 14. ***Lobelia micrantha***, H. B. K. Nov. Gen. et Sp. iii. p. 316, non Hook.; DC. Prodr. vii. p. 373.

Lobelia subtilis, H. B. K. loc. cit. p. 317.

Rapuntium micranthum et *subtile*, Presl, Prodr. Lob. p. 25.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 557); SOUTH MEXICO, Real del Monte to Zacatecas (*Coulter*, 27), Orizaba (*Bourgeau*, 3321); GUATEMALA, Volcan de Fuego (*Salvin*), without locality (*Skinner*, *Bernoulli*, 118).—PERU; ECUADOR. Hb. Kew.

15. ***Lobelia minutiflora***, Kunze; Walp. Rep. ii. p. 706.

MEXICO.

16. ***Lobelia monticola***, H. B. K. Nov. Gen. et Sp. iii. p. 317; Vatke in Linnæa, xxxviii. p. 721.

SOUTH MEXICO, Mirador (*Sartorius*).—COLOMBIA.

17. ***Lobelia mucronata***, Engelm. Bot. Wisliz. Exped. p. 24.

NORTH MEXICO, Cosiquiriachi (*Wislizenus*).

18. ***Lobelia nana***, H. B. K. Nov. Gen. et Sp. iii. p. 317, t. 272; DC. Prodr. vii. p. 379.

Rapuntium nanum, Presl, Prodr. Lob. p. 22.

SOUTH MEXICO, near Real del Monte and Moran, at about 8000 feet (*Humboldt & Bonpland*), Vera Cruz to Orizaba (*Müller*, 1353), peak of Orizaba, 11,000 to 12,500 feet (*Linden*, 947), Ciudad Real (*Linden*, 1081). Hb. Kew.

Hartweg's Anganguio, 334, referred to this species, is different and the same as Ghiesbreght's 870 from Chiapas.

19. ***Lobelia* (*Rapuntium*) *neglecta***, Vatke in Linnæa, xxxviii. p. 720.

MEXICO (*Ehrenberg*, 520).

20. ***Lobelia ocimoides***, Kunze in Linnæa, xxiv. p. 178.

MEXICO (*Ehrenberg*).

21. ***Lobelia orizabæ***, Mart. et Gal. in Bull. Acad. Brux. ix. (reprint, p. 13); Walp. Rep. ii. p. 707.

SOUTH MEXICO, peak of Orizaba, 9000 to 10,000 feet (*Galeotti*, 1986).

22. ***Lobelia parviflora***, Mart. et Gal. in Bull. Acad. Brux. ix. (reprint, p. 10); Walp. Rep. ii. p. 707.

SOUTH MEXICO, eastern Cordillera of Oaxaca, near Yavesia, Socorro, and Castrasana, at 6500 to 7500 feet (*Galeotti*, 1970).

23. **Lobelia pauciflora**, H. B. K. Nov. Gen. et Sp. iii. p. 314; DC. Prodr. vii. p. 375.

Rapuntium pauciflorum, Presl, Prodr. Lob. p. 15.

SOUTH MEXICO, Valladolid de Michoacan, at 6000 feet (*Humboldt & Bonpland*), foot of the peak of Orizaba (*Schiede & Deppe*).

24. **Lobelia phyllostachya**, Engelm. Bot. Wisliz. Exped. p. 24.
NORTH MEXICO, between Monterey and Cerralbo (*Wislizenus*).

25. **Lobelia pulchella**, Vatke in Linnæa, xxxviii. p. 720.
MEXICO (*Ehrenberg*).

26. **Lobelia pusilla**, A. DC. Prodr. vii. p. 379.
Rapuntium pusillum, Presl, Prodr. Lob. p. 22.

WEST MEXICO.

27. **Lobelia rapunculoides**, H. B. K. Nov. Gen. et Sp. iii. p. 312; DC. Prodr. vii. p. 379.

Rapuntium rapunculoides, Presl, Prodr. Lob. p. 23.

SOUTH MEXICO, near the city of Mexico (*Humboldt & Bonpland*).

28. **Lobelia sartorii**, Vatke in Linnæa, xxxviii. p. 721.
MEXICO (*Sartorius*).

29. **Lobelia subnuda**, Benth. Pl. Hartw. p. 44.
Lobelia discolor, Kl. in Link, Kl. & Otto's Ic. Pl. Hort. Berol. i. t. 2.
SOUTH MEXICO, Banco (*Hartweg*), without locality (*Coulter*, 28). Hb. Kew.

30. **Lobelia (Rapuntium) warscewiczii**, Vatke in Linnæa, xxxviii. p. 718.
COSTA RICA or PANAMA? (*Warscewicz*).

6. HETEROTOMA.

Heterotoma, Zucc. in Flora, 1832, ii. Beibl. p. 100; Benth. et Hook. Gen. Plant. ii. p. 553.
Myopsia, Presl, Prodr. Lob. p. 8.

Herbs, endemic in Mexico and Central America.

1. **Heterotoma arabidoides**, Benth. et Hook. Gen. Plant. ii. p. 553.
Lobelia arabidoides, Hook. et Arn. Bot. Beech. Voy. p. 301, t. 66.
NORTH MEXICO, Cerro de Pinal (*Seemann*, 1493); SOUTH MEXICO, Tepic (*Barclay*), without locality (*Beechey*). Hb. Kew.

2. **Heterotoma intermedia**, Hemsley, n. sp.
Lobelia divaricata, Seem. Bot. Voy. 'Herald,' p. 316, nec Hook. et Arn.
Præced. valde aff., sed floribus fere duplo majoribus et calcari sat longo.
NORTH MEXICO, Sierra Madre (*Seemann*, 2051). Hb. Kew.

3. **Heterotoma lobelioides**, Zucc. in Flora, 1832, ii. Beibl. p. 101; Endlicher, Iconogr. t. 53; Flore des Serres, t. 1454 (male); Caruel in Ann. Sc. Nat. sér. 4, xi. p. 270.

Myopsia mexicana, Presl, Prodr. Lob. p. 8.

Lobelia calcarata, Bertol. Fl. Guat. p. 9.

SOUTH MEXICO, mountains of Toluca (*Bassi*, in herb. Mus. Flor. ex Caruel), Cumbre de San Antonio, 8000 feet (*Karwinski*); GUATEMALA, Acatenango (*Hartweg*, 600), Volcan de Santa Maria, 6000 feet (*Salvin*). Hb. Kew.

4. **Heterotoma macrocentron**, Benth. in Hook. Ic. Pl. t. 1177.

NORTH MEXICO, Sierra Madre (*Seemann*, 2049). Hb. Kew.

✓ 5. **Heterotoma tenella**, Mart. et Gal. ex Benth. et Hook. Gen. Pl. ii. p. 553.
Lobelia cordifolia, Hook. et Arn. Bot. Beech. Voy. p. 301.

NORTH MEXICO, Sierra Madre (*Seemann*, 2050); SOUTH MEXICO, Jalapa, 2000 feet (*Galeotti*, 7029), Mirador (*Linden*, 67), Vera Cruz to Orizaba (*Müller*, 1058); COSTA RICA, at 3500 feet (*Endres*). Hb. Kew.

7. NEMAACLADUS.

Nemacladus, Nutt. in Trans. Amer. Phil. Soc. ser. 2, viii. p. 254; Benth. et Hook. Gen. Plant. ii. p. 554.

Slender annual herbs. Two species have been described, the second being, so far as we know, endemic in California.

1. **Nemacladus ramosissimus**, Nutt. in Trans. Amer. Phil. Soc. ser. 2, viii. p. 254; Torr. Bot. U.S. & Mex. Bound. Surv. p. 108, t. 35; A. Gr. Synopt. Fl. N. Am. ii. p. 3.

CALIFORNIA; NEW MEXICO.—NORTH MEXICO, Chihuahua and Sonora (*Wright &c.*). Hb. Kew.

8. SPHENOCLEA.

Sphenoclea, Gært. Fruct. i. p. 113, t. 24; Benth. et Hook. Gen. Plant. ii. p. 560.

A remarkable monotypic annual herb.

✓ 1. **Sphenoclea zeylanica**, Gært. Fruct. i. p. 113, t. 24; Wight, Illustr. Ind. Pl. t. 138.

Sphenoclea pongatium, A. DC. Prodr. vii. p. 548.

Pongatium indicum, Juss.

Generally dispersed in warm countries, including MEXICO and CENTRAL AMERICA.

9. CAMPANULA.

Campanula, Linn. Gen. Plant. n. 218; Benth. et Hook. Gen. Plant. ii. p. 561.

A genus of about 250 herbaceous species, generally dispersed in the cold and tempe-

rate regions of the northern hemisphere, but by far most numerous in the eastern part of the Mediterranean region.

1. **Campanula rotundifolia**, Linn. Sp. Pl. p. 232; DC. Prodr. vii. p. 471; A. Gr. Synopt. Fl. N. Am. ii. p. 12; Meehan, Fl. U. S. ii.

ARCTIC REGIONS southward to the ALLEGHANY MOUNTAINS on the eastern side of the continent, and to ARIZONA and NEW MEXICO on the western side.—NORTH MEXICO, east of Saltillo, Coahuila, at 10,000 feet (*Palmer*, 776).—Also having a wide range in ASIA and EUROPE. Hb. Kew.

10. SPECULARIA.

Specularia, Heist. Syst. Plant. p. 8, ex A. DC. Monogr. Camp. p. 344; Benth. et Hook. Gen. Plant. ii. p. 562.

A genus of about eight annual herbaceous species, inhabiting the northern hemisphere, one species also recurring in South America.

1. **Specularia perfoliata**, A. DC. Monogr. Camp. p. 350; Prodr. vii. p. 490; A. Gr. Synopt. Fl. N. Am. ii. p. 11.

Campanula perfoliata, Linn. Sp. Pl. p. 239.

Dysmicodon perfoliatum, Nutt. in Trans. Amer. Phil. Soc. ser. 2, viii. p. 255.

Campanula flagellaris, H. B. K. Nov. Gen. et Sp. iii. t. 265.

CANADA and BRITISH COLUMBIA southward.—MEXICO, Vera Cruz to Orizaba (*Müller*, 898; *Sallé*).—And widely dispersed in SOUTH AMERICA to CHILI and BUENOS AYRES. Hb. Kew.

Series II. HETEROMERÆ.

Order LXXVI. VACCINIACEÆ.

Vacciniaceæ, Benth. et Hook. Gen. Plant. ii. p. 564.

An order of trees and shrubs, comprising between 200 and 300 species, referred to twenty-six genera. They inhabit bogs and woods in the cold and temperate regions of the northern hemisphere, the mountains of tropical Asia and America; a few occur in the warm regions of Brazil; and one anomalous species is endemic in Australia.

1. MACLEANIA.

Macleania, Hook. Ic. Pl. t. 109; Benth. et Hook. Gen. Plant. ii. p. 566.

About twelve shrubby species, inhabiting the Andes of America from Mexico to Peru.

✓ 1. **Macleania cordata**, Lemaire, Flore des Serres, t. 312.

Macleania ovata, Kl. in Linnæa, xxiv. p. 20.

Macleania colorata, Kl. loc. cit. p. 68.

PANAMA, Veraguas (*Warszewicz*).

2. **Macleania insignis**, Mart. et Gal. in Bull. Acad. Brux. (reprint, p. 6); Walp. Rep. ii. p. 725; Klotzsch in Linnæa, xxiv. p. 20.

SOUTH MEXICO, Cordillera of Vera Cruz, 4000 to 6000 feet (*Galeotti*, 1827), Totutla (*Linden*, 432), without locality (*Jurgensen*, 969). Hb. Kew.

✓ 3. **Macleania**, sp.

COSTA RICA, at 5000 feet (*Endres*, 132). Hb. Kew.

2. SATYRIA.

Satyria, Klotzsch in Linnæa, xxiv. p. 21; Benth. et Hook. Gen. Plant. ii. p. 567.

Robust shrubs, inhabiting Colombia, North Brazil, Trinidad, and Central America. About six species are known.

✓ 1. **Satyria clonantha**, Klotzsch in Linnæa, xxiv. p. 22.

COSTA RICA and PANAMA, Veraguas (*Warscewicz*). Hb. Kew.

✓ 2. **Satyria warscewiczii**, Klotzsch in Linnæa, xxiv. p. 21.

NICARAGUA, Chontales (*Seemann*, 54); COSTA RICA (*Endres*, 232); PANAMA, Boquete (*Seemann*, 1172), Veraguas (*Bridges*, *Warscewicz*). Hb. Kew.

✓ 3. **Satyria**, sp. ?

GUATEMALA (*Friedrichsthal*). Hb. Kew.

3. CAVENDISHIA.

Cavendishia, Lindl. in Bot. Reg. sub tab. 1791; Benth. et Hook. Gen. Plant. ii. p. 570.

Shrubs and small trees. About thirty species, inhabiting the mountains of Tropical America.

✓ 1. **Cavendishia acuminata**, Benth. et Hook. Gen. Plant. ii. p. 570.

Thibaudia acuminata, Hook. Bot. Mag. t. 5752.

Proclesia acuminata, Klotzsch in Linnæa, xxiv. p. 34.

Proclesia benthamiana, Klotzsch, loc. cit. p. 33.

Thibaudia hookeri, Walp. Rep. vi. p. 412.

Thibaudia mexicana, Mart. et Gal. in Bull. Acad. Brux. ix. (reprint, p. 4) ?

SOUTH MEXICO, forests of Chinantla, Oaxaca, at 4000 feet (*Galeotti*, 1813)!, Alpatlahua, 7000 feet (*Finck*)?; PANAMA, Veraguas (*Bridges*).—COLOMBIA to PERU. Hb. Kew.

✓ 2. **Cavendishia complectens**, Hemsley, n. sp.

Foliis subsessilibus profunde cordatis ramulos complectentibus, floribus parvis, calycis lobis ampliusculis rotundatis.

Frutex epiphytus, omnino glaber, ramis teretibus. *Folia* sessilia vel subsessilia, crasse coriacea, cordiformia, $2\frac{1}{2}$ –4 poll. longa, usque ad 3 poll. lata, apice rotundata, basi profunde lobata, ramulos complectentia, venis primariis subradiatis. *Flores* sanguinei, glabri, parvi (perfecte evolutos non vidi), racemosi, brevissime pedicellati; racemi pauciflori, bracteis amplis flores superantibus?, calycis lobi late ovato-rotundati; stamina subæqualia, filamentis glabris.

COSTA RICA (*Endres*, 257). Hb. Kew.

3. *Cavendishia crassifolia*, Hemsley.

Thibaudia crassifolia, Benth. Pl. Hartw. p. 65.

Polybæa crassifolia, Klotzsch in Linnæa, xxiv. p. 31.

SOUTH MEXICO, humid forests near Totontepec (*Hartweg*, 477) Hb. Kew.

4. *Cavendishia endresii*, Hemsley, n. sp.

Ramis gracilibus, foliis anguste lanceolatis acuminatis venis primariis transversis utrinque 5-7 distantibus, racemis paucifloris, floribus mediocribus glabris.

“*Frutex* epiphytus, radicibus tubera grandia formantibus” (*Endresius*), potius caudicibus tuberosis.

Rami graciles, fere obsolete puberuli. *Folia* breviter petiolata, vix coriacea, anguste lanceolata, $1\frac{1}{2}$ - $2\frac{1}{2}$ poll. longa, longe acuminata, obtusiuscula, præter costam supra puberulam glabra, penninervia vel venis primariis transversis utrinque 5-7 distantibus instructa, nec a basi pluri-nervia. *Flores* sanguinei (*Endresius*), glabri, 6-8 lineas longi, racemosi, breviter pedicellati, racemis paucifloris, axillaribus terminalibusve; bracteæ floribus paullo breviores; calycis dentes brevi, obtusi; corolla fere cylindrica, apicem versus leviter constricta, dentibus leviter recurvis; stamina subæqualia, filamentis fere liberis glabris; stylus exsertus.

COSTA RICA, at 3000 feet (*Endres*, 173). Hb. Kew.

Easily distinguished from any other species we have seen by the leaves, which are penniveined, and not strongly nerved from or near the base.

5. *Cavendishia latifolia*, Hemsley, n. sp.

Foliis late ovatis 7-9-nerviis, racemis paucifloris, floribus mediocribus, calycis dentibus glanduloso-ciliatis.

Frutex glaber, caudice tuberoso, ramis crassiusculis. *Folia* breviter petiolata, coriacea, late ovata, 4-6 poll. longa, usque ad 3 poll. lata, acuminata, obtusiuscula, basi rotundata, 7-9-nervia. *Flores* glabri, 6-8 lineas longi, racemosi, longiuscule pedicellati, racemis paucifloris, bracteatis; calyx roseus (*Lindenius*), dentibus latiusculis, obtusis, glanduloso-ciliatis; corolla alba (*Lindenius*), subcylindrica, dentibus erectis?, obtusis; stamina subæqualia, filamentis latis, leviter hirsutis, subliberis; stylus inclusus.

SOUTH MEXICO, pine-forests, Pueblo Nuevo (*Linden*, 390). Hb. Kew.

6. *Cavendishia laurifolia*, Hemsley.

Polybæa laurifolia, Klotzsch in Linnæa, xxiv. p. 31.

GUATEMALA (*Warscewicz*).

7. *Cavendishia?* *melastomoides*, Benth. et Hook. Gen. Plant. ii. p. 570.

Socratesia melastomoides, Klotzsch in Linnæa, xxiv. p. 23.

COSTA RICA (*Warscewicz*).

8. *Cavendishia pubescens*, Hemsley.

Thibaudia pubescens, H. B. K. Nov. Gen. et Sp. iii. p. 273; DC. Prodr. vii. p. 564.

Proclesia pubescens, Klotzsch in Linnæa, xxiv. p. 33.

PANAMA, Boquete (*Seemann*, 1613).—COLOMBIA to PERU and BOLIVIA. Hb. Kew.

9. *Cavendishia?* *veraguensis*, Hemsley.

Proclesia veraguensis, Klotzsch in Linnæa, xxiv. p. 35.

PANAMA, Veraguas (*Warscewicz*).

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✓ 10. **Cavendishia? warscewiczii**, Hemsley.

Proclesia warscewiczii, Klotzsch in Linnæa, xxiv. p. 35.

GUATEMALA, in alpine localities (*Warscewicz*).

4. VACCINIUM.

Vaccinium, Linn. Gen. Plant. n. 483; Benth. et Hook. Gen. Plant. ii. p. 573.

Shrubs, often very dwarf, and a few species arboreous. About 100 species are known; and they are generally dispersed in the northern hemisphere and in the mountains of the tropics; but none has been found in the south temperate or frigid zone.

1. **Vaccinium angustifolium**, Benth. Pl. Hartw. p. 45.

NORTH MEXICO, Sierra Madre (*Seemann*, 2126); SOUTH MEXICO, Oaxaca, woods at 3000 to 5000 feet (*Galeotti*, 1808), Bolaños (*Hartweg*, 342). Hb. Kew.

✓ 2. **Vaccinium confertum**, H. B. K. Nov. Gen. et Sp. iii. p. 265, t. 250.

Vaccinium brachystachyum, Benth. Pl. Hartw. pp. 65, 140, et 349. (Tab. LII.)

NORTH MEXICO, Sierra Madre (*Seemann*, 2129), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 561); SOUTH MEXICO, near Moran, 8400 feet (*Humboldt & Bonpland*), mountains of Carmen, in the Sierra of Oaxaca (*Hartweg*, 480), Ciudad Real (*Linden*, 388), Chiapas (*Ghiesbreght*, 650); GUATEMALA, without locality (*Salvin & Godman*, 1861), Volcan de Fuego, at 12,000 feet (*Salvin*). Hb. Kew.

We at first thought *V. brachystachyum*, Benth., was specifically distinct from *V. confertum*; hence the reason for the former name appearing on the Plate.

✓ 3. **Vaccinium consanguineum**, Klotzsch in Linnæa, xxiv. p. 64.

PANAMA, Volcan de Chiriqui, Veraguas (*Warscewicz*).

4. **Vaccinium cordatum**, Hemsley.

Gaylussacia cordata, Mart. et Gal. in Bull. Acad. Brux. ix. (reprint, p. 4); Walp. Rep. ii. p. 723.

SOUTH MEXICO, near Jalapa, at 7000 feet (*Galeotti*, 1795), Las Vegas, Vera Cruz (*Linden*, 420). Hb. Kew.

This species is very closely allied to, if not the same as, *V. meridionale*, Sw., a native of Jamaica.

5. **Vaccinium discolor**, Mart. et Gal. in Bull. Acad. Brux. ix. (reprint, p. 6); Walp. Rep. ii. p. 724.

SOUTH MEXICO, eastern Cordillera of Oaxaca, 7500 to 9500 feet (*Galeotti*, 1818).

6. **Vaccinium eriocladum**, Dunal in DC. Prodr. vii. p. 571.

SOUTH MEXICO, between Tampico and Real del Monte (*Berlandier*, 254).

7. **Vaccinium geminiflorum**, H. B. K. Nov. Gen. et Sp. iii. p. 267, t. 252; DC. Prodr. vii. p. 573.

SOUTH MEXICO, peak of Orizaba, 12,000 to 13,000 feet (*Galeotti*, 1855; *Linden*, 426),

pine-forests of Oaxaca, 9000 to 10,000 feet (*Galeotti*, 1854), Zimapan (*Coulter*, 891), between Omitlan and Moran, 8400 feet (*Humboldt & Bonpland*). Hb. Kew.

8. **Vaccinium kunthianum**, Klotzsch in Linnæa, xxiv. p. 56.

Vaccinium stamineum β , H. B. K. Nov. Gen. et Sp. iii. p. 267, t. 253.

Vaccinium elevatum β , Dunal in DC. Prodr. vii. p. 568.

SOUTH MEXICO, between Pachuca and Real del Monte (*Humboldt & Bonpland*), Zimapan (*Coulter*, 892), near Chico (*Graham*, 307). Hb. Kew.

9. **Vaccinium leucanthum**, Cham. et Schl. in Linnæa, viii. p. 524; DC. Prodr. vii. p. 568.

Vaccinium caracasenum, Mart. et Gal. in Bull. Acad. Brux. ix., non H. B. K.

SOUTH MEXICO, oak-woods of the eastern Cordillera of Oaxaca, at 4000 feet (*Galeotti*, 1809), near Chiconquiaco (*Schiede & Deppe*). Hb. Kew.

10. **Vaccinium micranthum**, Dunal in DC. Prodr. vii. p. 568.

SOUTH MEXICO, between Tampico and Real del Monte (*Berlandier*, 12).

✓ 11. **Vaccinium** (§ **Disterigma**, Klotzsch) **pachyphyllum**, Hemsley, n. sp.

Repens, ramosum, ramis furfuraceo-hirsutis, foliis parvis crassis ovato-oblongis obtusissimis vel rotundatis, floribus basi pluribracteatis.

Frutex nanus, repens, densissime ramosus, ramis gracilibus, dense furfuraceo-hirsutis. *Folia* conferta, brevissime petiolata, crassa, coriacea, præter petiolos glabra, evenia, ovato-oblonga, 3-4 lineas longa, utrinque obtusa vel rotundata. *Flores* 4-meri, axillares, solitarii, brevissime pedunculati, basi pluribracteati, 4-5 lineas longi; calycis limbus persistens, ampliusculus, 4-dentatus, dentibus obtusiusculis; corolla subcylindrica; antheræ longe 2-cornutæ; filamenta barbata. *Fructus* deest.

COSTA RICA (*Endres*, 154). Hb. Kew.

Readily distinguished from its nearest allies by its thick very obtuse leaves.

12. **Vaccinium schlechtendalii**, Don, Gen. Syst. iii. p. 856; DC. Prodr. vii. p. 569.

Vaccinium, sp. nov., Cham. et Schl. in Linnæa, vi. p. 395.

SOUTH MEXICO, near Jalacingo (*Schiede & Deppe*).

✓ 13. **Vaccinium secundum**, Klotzsch in Linnæa, xxiv. p. 62.

CENTRAL AMERICA (*Warszewicz*).

14. **Vaccinium villosum**, Sm. in Rees's Cycl. n. 29; DC. Prodr. vii. p. 569; Don, Gen. Syst. iii. p. 856.

MEXICO (*Mutis*).

Don, *loc. cit.*, states that this species was sent from Mexico by Mutis to Linnæus; but it is much more likely that it was sent from South America.

Order LXXVII. ERICACEÆ.

Ericaceæ, Benth. et Hook. Gen. Plant. ii. p. 577.

Fifty-two genera, comprising about 1000 species, mostly shrubs. The order is represented in nearly all parts of the world; but about half of the species are concentrated in South Africa.

1. ARBUTUS.

Arbutus, Linn. Gen. Plant. n. 552, excl. sp.; Benth. et Hook. Gen. Plant. ii. p. 581.

Shrubs and small trees, inhabiting South and Western Europe and North-west America, from Oregon to Guatemala. Bentham and Hooker estimate the total number of species at ten; and there are probably not more than six distinct species in Mexico; but we have seen too few authenticated specimens to be able to reduce them.

1. ***Arbutus densiflora***, H. B. K. Nov. Gen. et Sp. iii. p. 280, t. 260.

SOUTH MEXICO, La Pileta and Jalapa, at 4500 feet (*Humboldt & Bonpland*).

2. ***Arbutus floribunda***, Mart. et Gal. in Bull. Acad. Brux. ix. (reprint, p. 9); Walp. Rep. ii. p. 725.

SOUTH MEXICO, Pelado de Capulalpan, eastern Cordillera of Oaxaca, 7500 to 8500 feet (*Galeotti*, 1822).

✓3. ***Arbutus glandulosus***, Mart. et Gal. in Bull. Acad. Brux. ix. (reprint, p. 8); Walp. Rep. ii. p. 725.

Arbutus densiflora, Benth. Pl. Hartw. p. 15, non H. B. K.; Klotzsch in Linnæa, xxiv. p. 72.

NORTH MEXICO, Sierra Madre (*Seemann*, 2122), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 563); SOUTH MEXICO, Tlalpujahuá (*Graham*, 305); GUATEMALA, pine-forests, Volcan de Fuego (*Salvin & Godman*). Hb. Kew.

4. ***Arbutus laurina***, Mart. et Gal. in Bull. Acad. Brux. ix. (reprint, p. 10); Walp. Rep. ii. p. 725.

SOUTH MEXICO, Yavezia, north-east of Oaxaca, at 7000 to 7500 feet (*Galeotti*, 1825).

5. ***Arbutus macrophylla***, Mart. et Gal. in Bull. Acad. Brux. ix. (reprint, p. 9); Walp. Rep. ii. p. 725.

NORTH MEXICO, Sierra Madre (*Seemann*, 2121); SOUTH MEXICO, Cordillera of Oaxaca, at 8000 feet (*Galeotti*, 1824). Hb. Kew.

Probably the same as *A. densiflora*.

6. ***Arbutus menziesii***, Pursh; Nutt. Sylv. iii. p. 42, t. 95; A. Gr. Synopt. Fl. N. Am. ii. p. 27.

Arbutus procera, Dougl., ex Lindl. Bot. Reg. t. 1753.

Arbutus laurifolia, Lindl. Bot. Reg. xxv. t. 67.

North-west coast of America from WASHINGTON, southward to CALIFORNIA, and through ARIZONA to Western TEXAS.—MEXICO.

7. **Arbutus mollis**, H. B. K. Nov. Gen. et Sp. iii. p. 280; Bot. Mag. t. 4595.
SOUTH MEXICO, Guanajuato, at about 6500 feet (*Humboldt & Bonpland*), cultivated specimens. Hb. Kew.
8. **Arbutus ovata**, Mart. et Gal. in Bull. Acad. Brux. ix. (reprint, p. 8); Walp. Rep. ii. p. 725.
SOUTH MEXICO, eastern Cordillera of Oaxaca, at 6500 to 7500 feet (*Galeotti*, 1839).
9. **Arbutus paniculata**, Mart. et Gal. in Bull. Acad. Brux. ix. (reprint, p. 10); Walp. Rep. ii. p. 725.
SOUTH MEXICO, mountains of Yavezia, north-east of Oaxaca, at 7000 to 7500 feet (*Galeotti*, 1825 bis).
10. **Arbutus petiolaris**, H. B. K. Nov. Gen. et Sp. iii. p. 281.
SOUTH MEXICO, between Cuernavaca and Guichilaca, at 6000 feet (*Humboldt & Bonpland*).
11. **Arbutus prunifolia**, Klotzsch in Linnæa, xxiv. p. 73.
SOUTH MEXICO, Real del Monte (*Ehrenberg*).
12. **Arbutus spinulosa**, Mart. et Gal. in Bull. Acad. Brux. ix. (reprint, p. 7); Walp. Rep. ii. p. 725.
SOUTH MEXICO, peak of Tancitaro, Michoacan, at 7000 to 8000 feet (*Galeotti*, 1836).
- ✓ 13. **Arbutus varians**, Benth. Pl. Hartw. p. 77.
NORTH MEXICO, Sierra Madre (*Seemann*, 2119); SOUTH MEXICO, Orizaba (*Botteri*, 938); GUATEMALA, Quezaltenango (*Hartweg*, 542). Hb. Kew.
Probably only a variety of the next.
14. **Arbutus xalapensis**, H. B. K. Nov. Gen. et Sp. iii. p. 279.
NORTH MEXICO, Sierra Madre (*Seemann*, 2120), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 562); SOUTH MEXICO, Jalapa, at about 4200 feet (*Humboldt & Bonpland*). Hb. Kew.
- Var. ? **pubescens**, Benth. Pl. Hartw. p. 66.
SOUTH MEXICO, mountains of Carmen (*Hartweg*, 485). Hb. Kew.

2. ARCTOSTAPHYLOS.

Arctostaphylos, Adans. Fam. ii. p. 165; Benth. et Hook. Gen. Plant. ii. p. 581.

About fifteen species of shrubs and trees, whereof two inhabit the frigid regions of the northern hemisphere, and the rest Mexico and the adjoining countries.

1. **Arctostaphylos angustifolia**, Hemsley.

Comarostaphylis angustifolia, Klotzsch in Linnæa, xxiv. p. 74.

MEXICO (*Ehrenberg*).

2. **Arctostaphylos arbutoides**, Hemsley.

Comarostaphylis arbutoides, Lindl. Bot. Reg. xxix. t. 30; Linnæa, xxiv. p. 77.

GUATEMALA, Quezaltenango (*Hartweg*), without locality (*Friedrichsthal*). Hb. Kew.

3. **Arctostaphylos arguta**, Zucc., Linnæa, xii. Litteraturb. p. 86; DC. Prodr. vii. p. 585.

Comarostaphylis arguta, Zucc.; Linnæa, loc. cit. et xxiv. p. 74.

Arctostaphylos discolor, DC. Prodr. vii. p. 585.

Arbutus discolor, Hook. Ic. Pl. t. 29.

Arctostaphylos nitida, Benth. Pl. Hartw. p. 66; Bot. Reg. xxxi. t. 32; Bot. Mag. t. 3904.

Arctostaphylos spinulosa, Mart. et Gal. in Bull. Acad. Brux. ix. (reprint, p. 12); Walp. Rep. ii. p. 726.

SOUTH MEXICO, peak of Orizaba, 6000 feet (*Linden*, 428), between Cacate and Ciudad Real (*Linden*, 386), Chiapas (*Ghiesbreght*, 657), Toluca (*Andrieux*, 262), mountains of Carmen (*Hartweg*, 483), valley of Mexico (*Schaffner*, 315). Hb. Kew.

4. **Arctostaphylos attenuata**, Hemsley.

Comarostaphylis attenuata, Klotzsch in Linnæa, xxiv. p. 75.

NORTH MEXICO, Sierra Madre (*Seemann*, 2123); SOUTH MEXICO, Zimapan (*Coulter*, 891), without locality (*Ehrenberg*). Hb. Kew.

5. **Arctostaphylos glaucescens**, H. B. K. Nov. Gen. et Sp. iii. p. 278; DC. Prodr. vii. p. 584.

Comarostaphylis glaucescens, Zucc., ex Kl. in Linnæa, xxiv. p. 76.

SOUTH MEXICO, between Guanajuato and Valenciana, at about 6500 feet (*Humboldt & Bonpland*).

6. **Arctostaphylos hartwegiana**, Hemsley.

Comarostaphylis hartwegiana, Klotzsch in Linnæa, xxiv. p. 77.

Arctostaphylos oaxacana, Benth. Pl. Hartw. p. 45, non DC.

SOUTH MEXICO, pine-forests of Bolaños (*Hartweg*, 343). Hb. Kew.

We have followed Klotzsch in retaining this as a distinct species; but a cursory examination leads us to believe that this, *A. oaxacana*, *A. mucronifera*, and *A. ledifolia* are varieties of one species.

7. **Arctostaphylos ledifolia**, Mart. et Gal. in Bull. Acad. Brux. ix. (reprint, p. 11); Walp. Rep. ii. p. 726.

SOUTH MEXICO, Cordillera of Oaxaca, 7000 to 8500 feet (*Galeotti*, 1803). Hb. Kew.

8. **Arctostaphylos longifolia**, Benth. Pl. Hartw. p. 44; Walp. Rep. ii. p. 726.

Comarostaphylis longifolia, Klotzsch in Linnæa, xxiv. p. 75.

SOUTH MEXICO, Anganguio (*Hartweg*, 338). Hb. Kew.

9. **Arctostaphylos oaxacana**, DC. Prodr. vii. p. 585.

Comarostaphylis oaxacana, Klotzsch in Linnæa, xxiv. p. 77.

Arbutus xalapensis, Hook. Ic. Pl. t. 27, nec H. B. K.

SOUTH MEXICO, Oaxaca (*Andrieux*, 263). Hb. Kew.

10. **Arctostaphylos mucronata**, Hemsley.

Comarostaphylis mucronata, Klotzsch in Linnæa, xxiv. p. 76.

MEXICO (*Ehrenberg*).

11. **Arctostaphylos mucronifera**, DC. Prodr. vii. p. 585.

Comarostaphylis mucronifera, Klotzsch in Linnæa, xxiv. p. 76.

SOUTH MEXICO, Cordillera of Guichilaca (*Berlandier*, 1188).

12. **Arctostaphylos polifolia**, H. B. K. Nov. Gen. et Sp. iii. p. 277, t. 258 ; Benth. Pl. Hartw. p. 44.

Comarostaphylis polifolia, Zucc., ex Klotzsch in Linnæa, xxiv. p. 77.

CALIFORNIA.—NORTH MEXICO, Sierra Madre (*Seemann*); SOUTH MEXICO, Zimapan (*Coulter*, 896), Anganguio (*Hartweg*, 339). Hb. Kew.

There are two very distinct varieties, if not species, in Hartweg's collection.

13. **Arctostaphylos pungens**, H. B. K. Nov. Gen. et Sp. iii. p. 278, t. 259 ; Bot. Mag. t. 3927 ; Bot. Reg. xxx. t. 17 ; A. Gr. Synop. Fl. N. Am. ii. p. 28.

Arctostaphylos tomentosa β, Lindl. Bot. Reg. sub tab. 1791.

Daphnidostaphylis pungens, Klotzsch in Linnæa, xxiv. p. 80.

UTAH southward to CALIFORNIA ; ARIZONA.—NORTH MEXICO, Sonora (*Schott*, *Thurber*, &c.), Sierra Madre (*Seemann*, 2128), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 565) ; SOUTH MEXICO, near Moran and Villalpando, 7800 to 8400 feet (*Humboldt & Bonpland*), Guanajuato (*Hartweg*, 91), Real del Monte (*Coulter*, 894), Jalapa, at 7000 feet (*Galeotti*, 1796), Oaxaca (*Andrieux*, 261), peak of Orizaba, 12,000 to 12,500 feet (*Galeotti*, 1830 ; *Linden*, 425) ; GUATEMALA, Volcan de Fuego (*Salvin*). Hb. Kew.

14. **Arctostaphylos rubescens**, Hemsley.

Comarostaphylis rubescens, Klotzsch in Linnæa, xxiv. p. 77.

Arbutus rubescens, Bertol. Fl. Guat. p. 20, t. 8 ; Walp. Rep. ii. p. 725.

GUATEMALA, Antigua (*Velasquez*).

15. **Arctostaphylos tomentosa**, Dougl. ; Lindl. Bot. Reg. t. 1791 ; A. Gr. Synop. Fl. N. Am. ii. p. 28.

Arbutus tomentosa, Pursh ; Hook. Fl. Bor.-Am. ii. t. 130 ; Bot. Mag. t. 3320.

Daphnidostaphylis tomentosa, Klotzsch in Linnæa, xxiv. p. 79.

North-west coast from WASHINGTON southward to CALIFORNIA and ARIZONA.—NORTH MEXICO, Mount Graham, within the old boundary (*Rothrock*). Hb. Kew.

3. PERNETTYA.

Pernettya, Gaud. in Ann. Sc. Nat. série 1, v. p. 102, et in Freyc. Voy. Bot. p. 454, t. 67; Benth. et Hook. Gen. Plant. ii. p. 582.

About fifteen shrubby species, some of them quite dwarf. One of them inhabits the mountains of Tasmania and New Zealand, one Brazil, and the rest Western America, from Fuegia to Mexico. The Mexican representatives of the genus are either very closely allied species or varieties of one species.

1. ***Pernettya ciliaris***, Don, Gen. Syst. iii. p. 837; DC. Prodr. vii. p. 587.

Gaultheria ciliata, Cham. et Schl. in Linnæa, v. p. 126, ex Klotzsch in Linnæa, xxiv. p. 84.

MEXICO.

✓ 2. ***Pernettya coriacea***, Klotzsch in Linnæa, xxiv. p. 85.

COSTA RICA (*Warszewicz*). Hb. Kew.

3. ***Pernettya buxifolia***, Mart. et Gal. in Bull. Acad. Brux. ix. (reprint, p. 13);

Walp. Rep. ii. p. 726.

SOUTH MEXICO, Real del Monte, 8500 feet (*Galeotti*, 1856). Hb. Kew.

4. ***Pernettya pilosa***, Don, Gen. Syst. iii. p. 837; DC. Prodr. vii. p. 587.

Arbutus pilosa, Grah. Bot. Mag. t. 3177.

Gaultheria hirsuta, Mart. et Gal. in Bull. Acad. Brux. ix (reprint, p. 15); Walp. Rep. ii. p. 727.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 561); SOUTH MEXICO, summit of Popocatepetl (*Christy*), peak of Orizaba, 9000 to 12,000 feet (*Linden*, 424; *Galeotti*, 1828), mountains of Oaxaca, 9000 to 10,000 feet (*Galeotti*, 1817), valley of Mexico (*Schaffner*, 327); GUATEMALA, Volcan de Fuego, at 12,000 feet (*Godman & Salvin*, 305). Hb. Kew.

✓ 5. ***Pernettya setigera***, Klotzsch in Linnæa, xxiv. p. 85.

COSTA RICA, in the loftiest mountains (*Warszewicz*).

6. ***Pernettya***, sp.

SOUTH MEXICO, plateau of Mexico (*Ghiesbreght*). Hb. Kew.

4. GAULTHERIA.

Gaultheria, Linn. Gen. Plant. n. 551; Benth. et Hook. Gen. Plant. ii. p. 582.

About ninety shrubby species, the greater part inhabiting America, chiefly the Andes of South America. Three occur in North America, one being eastern and two western; one has been found in Japan; about ten are indigenous to the mountains of India and the Malayan Archipelago, and about six to Eastern Australia and New Zealand.

1. ***Gaultheria acuminata***, Schl. et Cham. in Linnæa, v. p. 126; DC. Prodr. vii. p. 596.

SOUTH MEXICO, Cerro Colorado, San Salvador, and Malpays de Joya (*Schiede & Deppe*).

2. **Gaultheria glaucifolia**, Hemsley, n. sp.

Foliis glaberrimis glaucis brevissime petiolatis cordato-oblongis integerrimis.

Frutex, ramis glaberrimis, graciliusculis, flexuosis, dense foliosis. *Folia* subdisticha, brevissime petiolata, coriacea, cordato-oblonga, $\frac{1}{2}$ –2 poll. longa, obtusa, integerrima, glaberrima, glauca, utrinque reticulata. *Racemi* pauciflori (4–6), axillares; pedicelli 5–7 lineas longi, bracteas superantes, infra medium 2-bracteolati; calyx fructifer glaber, segmentis ovatis, subacutis, cetera ignota.—*G. nitida*, Benth.? Seem. Bot. Voy. 'Herald,' p. 316.

NORTH MEXICO, Sierra Madre (*Seemann*, 2127). Hb. Kew.

This was doubtfully referred by Seemann to *G. nitida*, Benth., from which, and all others that we have seen, it is so readily distinguished that we have ventured to describe it as a new species, though the material is very imperfect as regards flowers.

3. **Gaultheria hirtiflora**, Benth. Pl. Hartw. p. 66; Walp. Rep. ii. p. 727. (Tab. LIII. B. figg. 4–6.)

Gaultheria cordata, Mart. et Gal. in Bull. Acad. Brux. ix. (reprint, p. 15).

SOUTH MEXICO, mountains of Oaxaca at 6000 feet (*Galeotti*, 1814, 1831), mountains of Carmen (*Hartweg*, 484), Chiapas (*Ghiesbreght*, 649). Hb. Kew.

4. **Gaultheria nitida**, Benth. Pl. Hartw. p. 45.

Gaultheria levigata, Mart. et Gal. in Bull. Acad. Brux. ix. (reprint, p. 16); Walp. Rep. ii. p. 727.

SOUTH MEXICO, from the Bañio (*Hartweg*, 344), Jalapa (*Hahn*), Cordillera of Vera Cruz, at 4000 feet (*Galeotti*, 1826), Orizaba (*Botteri*, 1099), at 6000 feet (*Linden*, 427), pine-forests of Chiapas (*Ghiesbreght*, 392). Hb. Kew.

5. **Gaultheria odorata**, H. B. K. Nov. Gen. et Sp. iii. p. 285; DC. Prodr. vii. p. 595, cum β . *mexicana*. (Tab. LIII. A. figg. 1–3.)

SOUTH MEXICO, Chalco (*Andrieux*, 264); GUATEMALA, Quezaltenango (*Hartweg*, 541), near Coban (*Türckheim*), Volcan de Fuego, 12,000 feet (*Godman & Salvin*).—COLOMBIA; VENEZUELA. Hb. Kew.

6. **Gaultheria ovata**, DC. Prodr. vii. p. 596.

SOUTH MEXICO, between Tampico and Real del Monte (*Berlandier*, 327).

7. **Gaultheria trichocalycina**, DC. Prodr. vii. p. 595.

SOUTH MEXICO, between Pueblo Viejo and Real del Monte (*Berlandier*), pine-forests, Bolaños (*Hartweg*, 340). Hb. Kew.

5. ANDROMEDA.

Andromeda, Linn. Gen. Plant. n. 549; A. Gr. Synopt. Fl. N. Am. ii. p. 30.

Adopting Dr. Gray's limitation of the genus, it comprises some thirty shrubby species, with few exceptions American. One has a wide range in the temperate and subarctic regions of the northern hemisphere.

1. **Andromeda ferruginea**, Walt. Carol. p. 138; Vent. Malm. t. 80; A. Gr. Synop. Fl. N. Am. ii. p. 33.

Lyonia ferruginea, Nutt. Gen. i. p. 266.

Lyonia rigida, Nutt. loc. cit.

Andromeda rigida, Lodd. Bot. Cab. t. 430.

Lyonia squamulosa, Mart. et Gal. in Bull. Acad. ix. (reprint, p. 17); Walp. Rep. ii. p. 727.

CAROLINA TO FLORIDA.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 566); SOUTH MEXICO, oak-woods and pine-woods in the mountains of Oaxaca, at 4000 feet (*Galeotti*, 1797, 1807), Orizaba (*Botteri*, 996), pine-forests, Jitotole (*Linden*, 385), Talea (*Hartweg*).—WEST INDIES. Hb. Kew.

2. **Andromeda** (§ **Pieris**) **mexicana**, Hemsley, n. sp.

Ramis gracillimis, foliis coriaceis graciliter petiolatis lanceolatis acuminatis, racemis brevibus paucifloris axillaribus.

Frutex, ramis elongatis, gracillimis, teretibus, primum puberulis, crebre foliosis. *Folia* graciliter petiolata, coriacea, glabra, anguste lanceolata, 2–3 poll. longa, longe acuminata, acuta, basi cuneata, integra, venis immersis inconspicuis. *Flores* mediocres (3–4 lineas longi), racemosi; racemi breves, axillares, solitarii vel 2–3 aggregati, 5–10-flori, pedicellis puberulis quam flores brevioribus; bracteæ parvæ, squamæformes; calyx brevis, puberulus, 5-fidus, apertus; corolla glabra, cylindrico-urceolata, dentibus brevibus; filamenta libera, puberula, vix dilatata; antheræ muticæ, tubulis brevibus, poris magnis dehiscentibus. *Capsula* depresso-globosa.

SOUTH MEXICO, Sierra San Pedro Nolasco &c. (*Jurgensen*, 866). Hb. Kew.

6. BEJARIA.

Bejaria, Mutis in Linn. f. Suppl. p. 246; Benth. et Hook. Gen. Plant. ii. p. 599 (*Befaria*); A. Gr. Synopt. Fl. N. Am. ii. p. 43.

From twelve to fifteen shrubby species restricted to America, from Peru and Guiana to Mexico, and one in Florida, and one in Cuba.

1. **Bejaria discolor**, Benth. Pl. Hartw. p. 65; Walp. Rep. ii. p. 730.

Bejaria floribunda, Mart. et Gal. in Bull. Acad. Brux. ix. (reprint, p. 18).

Jurgensenia mexicana, Turcz. in Bull. Soc. Nat. Mosc. xix. p. 157.

SOUTH MEXICO, Talea (*Hartweg*), mountains of the eastern Cordillera of Oaxaca, near Villa Alta and Tanetze (*Galeotti*, 1812, 1821), Sierra San Pedro Nolasco &c. (*Jurgensen*, 391, 562). Hb. Kew.

2. **Bejaria lævis**, Benth. Pl. Hartw. p. 65; Walp. Rep. ii. p. 730.

Bejaria glabra, Mart. et Gal. in Bull. Acad. Brux. ix. (reprint, p. 18).

SOUTH MEXICO, Talea to Totontepec (*Hartweg*, 478), eastern Cordillera of Oaxaca, at 5000 feet (*Galeotti*, 1811). Hb. Kew.

3. **Bejaria mexicana**, Benth. Pl. Hartw. p. 15; Seem. Bot. Voy. 'Herald,' p. 317, t. 57.

NORTH MEXICO, Sierra Madre (*Seemann*, 2130); SOUTH MEXICO, Bolaños (*Hartweg*). Hb. Kew.

7. PYROLA.

Pyrola, Linn. Gen. Plant. n. 554, excl. sp.; Benth. et Hook. Gen. Plant. ii. p. 602.

A genus of about fifteen dwarf, herbaceous species inhabiting Europe, North and Central Asia, and North America, including Mexico.

1. *Pyrola angustifolia*, Hemsley.

Thelaia angustifolia, Alef. in Linnæa, xxviii. p. 52.

Pyrola rotundifolia, Linn., ex Benth. Pl. Hartw. p. 66.

SOUTH MEXICO, in grass on the Pelado (*Hartweg*), Cordillera of Oaxaca, at 9000 feet (*Galeotti*, 4225), peak of Orizaba, 6000 to 9500 feet (*Galeotti*, 4223; *Linden*, 882; *Müller*, 1501). Hb. Kew.

2. *Pyrola liebmannii*, Lange in Vidensk. Meddel. 1867, p. 113, t. 1.

SOUTH MEXICO, Cerro de San Felipe, Oaxaca (*Liebmann*). Hb. Kew.

Probably not specifically different from the foregoing.

3. *Pyrola sartorii*, Hemsley.

Thelaia sartorii, Alef. in Linnæa, xxviii. p. 50.

SOUTH MEXICO, peak of Orizaba, at 9000 to 10,000 feet (*Sartorius*).

4. *Pyrola secunda*, Linn. Sp. Pl. p. 567; DC. Prodr. vii. p. 774; Fl. Dan. t. 402; A. Gr. Synop. Fl. N. Am. ii. p. 46.

Actinocyclus secundus, Klotzsch in Monatsb. Berl. Akad. 1857, p. 14; Lange in Vidensk. Meddel. 1867, p. 115.

SOUTH MEXICO, peak of Orizaba, 8000 to 10,000 feet (*Liebmann*; *Galeotti*, 4222; *Linden*, 883), Desierto Viejo, valley of Mexico (*Bourgeau*, 880). Hb. Kew.

Widely dispersed in the temperate and subarctic regions of the northern hemisphere.

8. CHIMAPHILA.

Chimaphila, Pursh, Fl. Am. Sept. i. p. 279; Benth. et Hook. Gen. Plant. ii. p. 603.

Dwarf herbs. Four species in Europe, North America, Japan, and the Corea.

1. *Chimaphila maculata*, Pursh, Fl. Am. Sept. i. p. 300; A. Gr. Synop. Fl. N. Am. ii. p. 45.

Pyrola maculata, Linn.; Bot. Mag. t. 897.

CANADA southward to GEORGIA.—NORTH MEXICO, Sierra Madre (*Seemann*, 2131); SOUTH MEXICO, Jalapa, 4000 feet (*Galeotti*, 4227; *Linden*, 880), Real del Monte (*Coulter*, 901), Cumbre de Totontepec (*Hartweg*), Cordillera of Oaxaca (*Galeotti*, 4224). Hb. Kew.

2. *Chimaphila umbellata*, Nutt. Gen. i. p. 74; Bart. Mat. Med. i. t. i.; A. Gr. Synop. Fl. N. Am. ii. p. 45.

Chimaphila corymbosa, Pursh, Fl. Am. Sept. i. p. 300.

Pyrola umbellata, Linn.; Bot. Mag. t. 778.

CANADA and BRITISH COLUMBIA southward.—SOUTH MEXICO, peak of Orizaba, 6000 to

10,000 feet (*Liebmann*; *Galeotti*, 4221; *Linden*, 881; *Müller*, 1502), Santa Fé (*Bourgeau*).—EUROPE and Eastern Temperate ASIA. Hb. Kew.

9. CLETHRA.

Clethra, Linn. Gen. Plant. n. 553; Benth. et Hook. Gen. Plant. ii. p. 603.

About twenty-five shrubby and arboreous species, inhabiting temperate North America, tropical South America, the island of Madeira, Japan, and the Malayan Archipelago. The Mexican and Central-American forms are, perhaps, referable to one or, at most, two species, namely to *C. tinifolia*, Sw., and *C. quercifolia*, Lindl.

1. ***Clethra lanata***, Mart. et Gal. Bull. Acad. Brux. ix. (reprint, p. 13); Walp. Rep. ii. p. 726.

SOUTH MEXICO, Cordillera of Oaxaca, 3000 to 6000 feet (*Galeotti*, 1810). Hb. Kew.

2. ***Clethra macrophylla***, Mart. et Gal. in Bull. Acad. Brux. ix. (reprint, p. 14); Walp. Rep. ii. p. 726.

SOUTH MEXICO, near Totutla and Mirador, Vera Cruz, 3500 to 4000 feet (*Galeotti*, 1838).

3. ***Clethra mexicana***, DC. Prodr. vii. p. 590.

Clethra kowalewskii, Turcz. in Bull. Soc. Nat. Mosc. xxxvi. (1863) p. 233.

Clethra serrulata, Turcz. loc. cit.?

Kowalewskia integerrima, Turcz., et *K. serrulata*, Turcz.? in Bull. Soc. Nat. Mosc. 1859, i. p. 263.

NORTH MEXICO, Sierra Madre, near Guadalupe (*Seemann*, 2132); SOUTH MEXICO, Bolaños (*Hartweg*, 341), eastern Cordillera of Oaxaca, at 8000 feet (*Galeotti*, 1819, 1820), Orizaba (*Botteri*, 995), woods of Acapulco (*Hinds*). Hb. Kew.

4. ***Clethra quercifolia***, Lindl. Bot. Reg. 1842, t. 23.

Clethra tinifolia, Schl. in Linnæa, viii. p. 524, nec Sw.

Clethra obovata, Hook. et Arn. Bot. Beech. Voy. p. 302, nec Ruiz et Pav.

SOUTH MEXICO, San Nicolas and region of Orizaba (*Bourgeau*, 1003, 2868), without locality (*Beechey*); PANAMA, Boquete (*Seemann*, 1214). Hb. Kew.

5. ***Clethra suaveolens***, Turcz. in Bull. Soc. Nat. Mosc. xxxvi. (1863) p. 230.

SOUTH MEXICO, Chiapas (*Linden*, 387); GUATEMALA, near Coban, at 4400 feet (*Türckheim*). Hb. Kew.

Order LXXVIII. MONOTROPEÆ.

Monotropeæ, Benth. et Hook. Gen. Plant. ii. p. 604.

A small order of herbaceous root-parasites, comprising about twelve species, referred to nine genera. They are dispersed throughout the temperate zone of the northern hemisphere, one species reaching the mountains of Central America and Colombia.

1. PTEROSPORA.

Pterospora, Nutt. Gen. Pl. N. Am. i. p. 269; Benth. et Hook. Gen. Plant. ii. p. 605.

A monotype.

1. ***Pterospora andromedea***, Nutt. Gen. n. 386; Lindl. Coll. Bot. t. 5; A. Gr. Synop. Fl. N. Am. ii. p. 49.

CANADA and PENNSYLVANIA to BRITISH COLUMBIA and CALIFORNIA.—NORTH MEXICO, south of the old boundary at Mount Graham, S. Arizona, 9000 feet (*Rothrock*).

2. MONOTROPA.

Monotropa, Linn. Gen. Plant. n. 536, pro parte; Benth. et Hook. Gen. Plant. ii. p. 607.

Monotypical; or if more than one species, they are very closely allied, and differ more in colour and structure than in any tangible characters.

1. ***Monotropa uniflora***, Linn. Sp. Pl. p. 555; Prodr. vii. p. 781; A. Gr. Synop. Fl. N. Am. ii. p. 49; Torr. Fl. N. York, t. 71; Hook. Exot. Fl. ii. t. 85.

Monotropa coccinea, Zucc.; Walp. Rep. vi. p. 437; Lange in Vidensk. Meddel. 1867, p. 117, t. 2.

Nearly all over temperate NORTH AMERICA.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 567); SOUTH MEXICO, Mirador (*Linden*, 49; *Liebmann*), forest of the Desierto Viejo, valley of Mexico (*Bourgeau*), Cordillera of Vera Cruz, 3500 feet (*Galeotti*, 230), Zacuapan (*Hartweg*); GUATEMALA (*Warszewicz*); PANAMA, Veraguas (*Warszewicz*).—COLOMBIA; and in the HIMALAYAS, eastward through CHINA and JAPAN. Hb. Kew.

3. HYPOPITHYS.

Hypopithys, Scop. Fl. Carn. i. p. 285; Benth. et Hook. Gen. Plant. ii. p. 607.

Two species, the second one found hitherto only in the Cascade Mountains, Oregon.

1. ***Hypopithys multiflora***, Scop. Fl. Carn. i. p. 285; DC. Prodr. vii. p. 780.

Monotropa hypopitys, Linn.; Fl. Dan. t. 232; A. Gr. Synop. Fl. N. Am. ii. p. 50.

Hypopithys lanuginosa, Michx.; Torr. Fl. N. York, i. t. 72.

CANADA to FLORIDA and LOUISIANA, west to BRITISH COLUMBIA and OREGON.—SOUTH MEXICO, Real del Monte (*Coulter*, 900).—And in temperate EUROPE and the HIMALAYAS eastward into CHINA. Hb. Kew.

[EPACRIDÆ, a considerable Order, replacing the Ericaceæ in Australia, New Zealand, and other southern countries, is not represented in South Africa, and only by a single monotype in Patagonia. DIAPENSIACEÆ, a small order of very dwarf shrubs, inhabiting North America and other parts of the northern hemisphere, is not known to be represented within the limits of our flora.]

Order LXXIX. LENNOACEÆ.

Lennoaceæ, Benth. et Hook. Gen. Plant. ii. p. 621.

An order of root-parasites, comprising three genera and about four or five species, which inhabit California and Mexico.

1. AMMOBROMA.

Ammobroma, Torr. in Ann. Lyc. Nat. Hist. N. York, viii. p. 51, t. 1; Benth. et Hook. Gen. Plant. ii. p. 622.

A monotype.

1. ***Ammobroma sonoræ***, Torr. in Ann. Lyc. Nat. Hist. N. York, viii. p. 51, t. 1; Solms in DC. Prodr. xvii. p. 37, et Lennoaceæ, t. 1.

NORTH MEXICO, Adair Bay, Sonora (*coll. A. B. Gray*).

2. LENNOA.

Lennoa, Llav. et Lex. Nov. Veg. Descr. i. p. 7; Benth. et Hook. Gen. Plant. ii. p. 622.

Limited to the following two or three species.

1. ***Lennoa cærulea***, Fourn. in Bull. Soc. Bot. de Fr. 1869, p. 11; Solms in DC. Prodr. xvii. p. 38, et Lennoaceæ, t. 2.

Corallophyllum cæruleum, H. B. K. Nov. Gen. et Sp. vii. p. 276, t. 660 bis.

SOUTH MEXICO, near the city of Mexico (*Humboldt & Bonpland*), Xochialco (*Hahn*). Hb. Kew.

2. ***Lennoa madreporoides***, Llav. et Lex. Nov. Veg. Descr. i. p. 7; Solms in DC. Prodr. xvii. p. 37, et Lennoaceæ, t. 2.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 568); SOUTH MEXICO, Morelia, Valladolid (*Lexarza*), Zacualpan (*Schiede*), Orizaba (*Griesbreght, Bourgeau*). Hb. Kew.

3. ***Lennoa***, sp.

MEXICO, without locality (*Jurgensen*, 840). Hb. Kew.

This may be the same as the first.

Order LXXX. PLUMBAGINEÆ.

Plumbagineæ, Benth. et Hook. Gen. Plant. ii. p. 623.

This order consists of eight genera, numbering about 200 species. They are chiefly herbs and undershrubs; and the majority inhabit the eastern part of the Mediterranean region; but the order is generally dispersed, and some of the species have a wide range on the sea-coasts.

1. STATICE.

Statice, Linn. Gen. Plant. n. 388, pro parte; Benth. et Hook. Gen. Plant. ii. p. 625.

Herbs and undershrubs. Upwards of 120 species have been described, chiefly from the sea-coasts and salt-deserts of the Old World in the northern hemisphere; a few maritime species occur in North and South America, South Africa, Australia, and Tropical Asia; but we have seen no specimens collected in Mexico or Central America.

1. **Statice limonium**, Linn. Sp. Pl. p. 394; Boiss. in DC. Prodr. xii. p. 644; A. Gr. Synop. Fl. N. Am. ii. p. 54, varietates.

LABRADOR to TEXAS and in CALIFORNIA.—MEXICO?, near the mouth of the Rio Grande (*Schott, Bigelow*).—EUROPE and NORTH AFRICA.

2. **Statice brasiliensis**, Boiss. in DC. Prodr. xii. p. 644; A. Gr. Synop. Fl. N. Am. ii. p. 54.

Coast of NORTH CAROLINA to FLORIDA.—MEXICO? (ex A. Gray).—Brazil to Patagonia.

[*Armeria vulgaris*, a very widely dispersed member of this order in Europe, Asia, and North America, recurring in South America, may occur in Mexico.]

2. PLUMBAGO.

Plumbago, Linn. Gen. Plant. n. 213; Benth. et Hook. Gen. Plant. ii. p. 627.

About ten species, widely dispersed in warm countries. Some of them are climbing or rambling shrubs.

1. **Plumbago pulchella**, Boiss. in DC. Prodr. xii. p. 692.

Plumbago rhomboidea, Lodd. Bot. Cab. t. 1536, non Hook.

NORTH MEXICO, Zacatecas (*Hartweg*); SOUTH MEXICO, around the city of Mexico (*Berlandier*), Oaxaca (*Galeotti*, 1760). Hb. Kew.

2. **Plumbago scandens**, Linn. Sp. Pl. p. 215; Boiss. in DC. Prodr. xii. p. 692; A. Gr. Synop. Fl. N. Am. ii. p. 55; Mart. Fl. Bras. fasc. lxxx. t. 46.

Plumbago mexicana, H. B. K. Nov. Gen. et Sp. ii. p. 221.

FLORIDA, "perhaps introduced from W. Indies," A. Gray.—NORTH MEXICO, region of San Luis Potosí, 6000 to 8000 feet (*Parry & Palmer*, 240); SOUTH MEXICO, near the city of Mexico, 6000 to 7000 feet (*Humboldt & Bonpland*), Guanajuato (*Hartweg*), Orizaba (*Botteri*, 810), Zimapan, 6500 feet (*Galeotti*, 1757); NICARAGUA, near Granada (*Lévy*, 56); PANAMA (*Seemann*, 618).—WEST INDIES to BRAZIL and CHILI. Hb. Kew.

Order LXXXI. PRIMULACEÆ.

Primulaceæ, Benth. et Hook. Gen. Plant. ii. p. 628.

An order of herbaceous or half-shrubby plants, numbering about 250 species referred to twenty-one genera. It is represented in nearly all parts of the world, though very

sparingly in some regions; and the species are chiefly concentrated in the north temperate regions of the Old World.

1. ANDROSACE.

Androsace, Linn. Gen. Plant. n. 196; Benth. et Hook. Gen. Plant. ii. p. 632.

Tufted herbs. About forty species, restricted to the northern hemisphere, and chiefly inhabiting the mountains of Europe and North India; one grows in the plain of Bengal down to the sea-level; four occur in North America, whereof only one is endemic.

1. ***Androsace occidentalis***, Pursh, Fl. Am. Sept. i. p. 137; A. Gr. Synop. Fl. N. Am. ii. p. 60.

Central North America, from the banks of the MISSOURI, southward through COLORADO and NEW MEXICO.—NORTH MEXICO, Tubac, Sonora (*Parry*).

2. DODECATHEON.

Dodecatheon, Linn. Gen. Plant. n. 200; Benth. et Hook. Gen. Plant. ii. p. 57.

Only one species.

1. ***Dodecatheon meadia***, Linn. Sp. Pl. p. 207; DC. Prodr. viii. p. 56, cum spp. 2 ad 4; A. Gr. Synop. Fl. N. Am. ii. p. 57; Catesb. Carol. iii. t. 1; Bot. Mag. tt. 12, 3622, 5871.

Nearly all over NORTH AMERICA, including GUADALUPE ISLAND, off the coast of Lower California.—NORTH MEXICO, within the old boundary on Mount Graham (*Rothrock*).—Also in North-eastern ASIA.

3. LYSIMACHIA.

Lysimachia, Linn. Gen. Plant. n. 205; Benth. et Hook. Gen. Plant. ii. p. 635.

About sixty species, mostly inhabiting the temperate and subtropical regions of the northern hemisphere, and a few occurring in South Africa, Australia, the Pacific Islands, and South America.

1. ***Lysimachia glaucophylla***, Hook. et Arn. Bot. Beech. Voy. p. 306, t. 68.

“Mexico,” without locality (*Beechey*). Hb. Kew.

We suspect, from its affinity to *L. lubinioides*, a native of North-Eastern Asia, that this is a native of the same region, probably of the Bonin Islands.

4. CENTUNCULUS.

Centunculus, Linn. Gen. Plant. n. 145; Benth. et Hook. Gen. Plant. ii. p. 637.

Two or three species of diminutive herbs, widely dispersed in temperate and warm countries.

1. **Centunculus minimus**, Linn. Sp. Pl. p. 169; DC. Prodr. viii. p. 72; A. Gr. Synop. Fl. N. Am. ii. p. 64; Fl. Bras. x. t. 23.

ILLINOIS to FLORIDA and TEXAS, and west to OREGON.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 569½; *Schaffner*).—SOUTH AMERICA; EUROPE. Hb. Kew.

✓2. **Centunculus pentandrus**, R. Br. Prodr. Fl. N. Holl. i. p. 47.

Anagallis pumila, Sw. Fl. Ind. Occ. i. p. 345.

Micropyxis pumila, Duby in DC. Prodr. viii. p. 72.

SOUTH MEXICO, Vera Cruz to Orizaba (*Müller*, 313); GUATEMALA, near Coban, 4300 feet (*Türckheim*, 355); COSTA RICA, Angostura (*Polakowsky*).—WEST INDIES; SOUTH AMERICA; TROPICAL AFRICA; EAST INDIES and AUSTRALIA. Hb. Kew.

[*Anagallis arvensis*, Linn., a widely dispersed Old-World plant, is naturalized and common in some parts of Mexico.]

5. SAMOLUS.

Samolus, Linn. Gen. Plant. n. 222; Benth. et Hook. Gen. Plant. ii. p. 638.

About eight species—one cosmopolitan, and the rest, for the greater part, on the southern extratropical sea-shores.

1. **Samolus ebracteatus**, H. B. K. Nov. Gen. et Sp. ii. p. 223, t. 129; A. Gr. Synop. Fl. N. Am. ii. p. 64.

Samodia ebracteata, Bando in Ann. Sci. Nat. série 2, xx. p. 350.

FLORIDA; ARKANSAS; TEXAS.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 569), Parras, Coahuila (*Palmer*, 783); SOUTH MEXICO, Yucatan (*Linden*, 85).—CUBA. Hb. Kew.

Order LXXXII. MYRSINEÆ.

Myrsineæ, Benth. et Hook. Gen. Plant. ii. p. 639.

Shrubs and trees, mostly inhabiting tropical and subtropical regions; very rare in Africa. There are about 500 species, belonging to twenty-three genera.

1. MYRSINE.

Myrsine, Linn. Gen. Plant. n. 269; Benth. et Hook. Gen. Plant. ii. p. 642.

About eighty species, for the greater part inhabiting Tropical Asia, Africa, and America; a few are indigenous in Japan, Extratropical South Africa, Australia, the Atlantic Islands, Pacific Islands, and New Zealand.

1. **Myrsine myricoides**, Schl. in Linnæa, viii. p. 525; DC. Prodr. viii. p. 100.

SOUTH MEXICO, Vera Cruz to Orizaba (*Müller*, 335), Mirador (*Linden*, 94), Cordillera BIOL. CENTR.-AMER., Bot. Vol. II., December 1881.

of Vera Cruz (*Galeotti*, 521), Orizaba (*Botteri*, 886; *Bilimek*, 14), valley of Cordova (*Bourgeau*, 1472); GUATEMALA (*Friedrichsthal*), near Coban, 4400 feet (*Türckheim*, 332); COSTA RICA, Cartago, 6000 to 8000 feet (*Ersted*); PANAMA, Veraguas (*Seemann*, 1255). —COLOMBIA. Hb. Kew.

✓2. ***Myrsine pellucido-punctata***, *Erst.* in Vidensk. Meddel. 1861, p. 133.

COSTA RICA, common in the mountains at elevations of 2000 to 5000 feet, Irazu, Jaris, and Aguacate (*Ersted*).

3. ***Myrsine penduliflora***, A. DC. in Trans. Linn. Soc. xvii. p. 110; Prodr. viii. p. 100; Calques des Dess. Fl. Mex. 739.

SOUTH MEXICO, Vera Cruz to Orizaba (*Müller*, 332; *Sallé*), Cordillera of Oaxaca, 7000 to 8000 feet (*Galeotti*, 7003). Hb. Kew.

✓4. ***Myrsine rapanea***, Roem. et Schult. Syst. iv. p. 509; DC. Prodr. viii. p. 97; Mart. Fl. Bras. ix. tt. 50–52; A. Gr. Synop. Fl. N. Am. ii. p. 65.

FLORIDA.—MEXICO, without locality (*Sallé*); COSTA RICA, Volcan de Irazu (*Ersted*). WEST INDIES to SOUTH BRAZIL. Hb. Kew.

✓5. ***Myrsine?* *serrata***, *Erst.* in Vidensk. Meddel. 1861, p. 134.

COSTA RICA, Laguna de Reventado, 8000 to 9000 feet (*Ersted*).

2. CYBIANTHUS.

Cybianthus, Mart. Nov. Gen. et Sp. iii. p. 87, t. 236; Benth. et Hook. Gen. Plant. ii. p. 643.

About twenty-five species, with one exception in the Philippine Islands, inhabiting the West Indies and Tropical America, chiefly Guiana and Brazil.

1. *Cybianthus costaricanus*, Hemsley, n. sp.

Foliis parvis subsessilibus lanceolato-oblongis, racemis brevibus simplicibus, floribus minutis pentameris, staminodiis squamiformibus cum petalis alternantibus.

Frutex epiphytus, ramulis brevibus, densiuscule foliosis, cortice rugosa. *Folia* alterna, subsessilia, coriacea, glabra, lanceolato-oblonga vel oblanceolata, $1\frac{1}{2}$ – $2\frac{1}{2}$ poll. longa, breviter cuspidata, basi cuneata, integra, venis immersis inconspicuis. *Flores* minuti, pentameri, albo-virides, racemosi, parce glandulosi; racemi simplices, pauciflori, 6–12 lineas longi; bracteæ pedicellis paullo breviores; calycis dentes acuti; corolla rotata, segmentis imbricatis, rotundatis; staminodia minuta, squamiformia, petalis alterna, ovarium sæpe (an semper?) 3-ovulatum, placenta parva.

COSTA RICA, without locality (*Endres*). Hb. Kew.

3. PARATHESIS.

Parathesis, Hook. f. in Benth. et Hook. Gen. Plant. ii. p. 645.

Ardisia sect. *Parathesis*, A. DC. Prodr. viii. p. 120.

About six or eight species in Tropical America, ranging from Mexico and Cuba to Colombia and Peru.

1. **Parathesis corymbosa**, Hemsley, n. sp.

P. crenulata aff. differt foliis non acuminatis venis lateralibus primariis crebrioribus, corymbis compositis amplioribus bracteis conspicuis persistentibus instructis, pedicellis non recurvis, antheris apice tantum dehiscentibus.

Arbor vel *frutex*, præter flores glabrescens, ramis crassiusculis. *Folia* petiolata, vix coriacea, glabra, oblongo-elliptica, 3–5 poll. longa, et usque ad 2 poll. lata, apice vix acuta nec acuminata, basi cuneata nec longe attenuata, margine leviter undulata, venis transversis numerosis, crebris, conspicuis. *Flores* 4–5 lineas diametro, numerosissimi, in corymbos compositos terminales dispositi; corymbi laxi, subfoliosi, ferrugineo-furfuracei, ad 9 poll. longi et 6 poll. lati, ramulis divaricatis; bractexæ oblongæ vel obovatæ, obtusissimæ, usque a 6 lineas longæ, persistentes; pedicelli recti; corolla extus intusque ferrugineo-furfuracea; antheræ dorso prope basin affixæ, superne tantum dehiscentes; ovarium apice leviter furfuraceum. *Fructus* nondum visus.

SOUTH MEXICO, Sierra San Pedro Nolasco &c. (*Jurgensen*, 611). Hb. Kew.

✓ 2. **Parathesis crenulata**, Hook. f. in Benth. et Hook. Gen. Plant. ii. p. 645.

Ardisia crenulata, Vent. Choix, t. 5; DC. Prodr. viii. p. 120, nec Lodd. Bot. Cab. t. 2.

SOUTH MEXICO, Mirador (*Linden*, 397), Vera Cruz (*Galeotti*, 7108), Orizaba (*Botteri*, 910; *Bourgeau*, 2450), without locality (*Jurgensen*, 203), valley of Cordova (*Bourgeau*, 1531), Yucatan and Tabasco (*Johnson*, 113, 123); COSTA RICA (*Endres*); PANAMA, Paredes Islands (*Seemann*, 1611).—COLOMBIA; HAYTI. Hb. Kew.

3. **Parathesis melanosticta**, Hemsley.

Ardisia melanosticta, Schl. in Linnæa, viii. p. 526.

SOUTH MEXICO, between San Salvador and Jalapa (*Schiede & Deppe*), near Tintalcingo (*Liebmann*), Orizaba (*Botteri*, 482), without locality (*Hahn*; *Jurgensen*, 73). Hb. Kew.

4. **Parathesis trichogyne**, Hemsley, n. sp.

Plus minus ferrugineo-furfuraceis, floribus parvis dense corymbosis, corymbis compositis terminalibus, bracteis minutis, antheris dorso paulo infra medium affixis, ovario dense furfuraceo-hirsuto.

Arbor vel *frutex* glabrescens, ramis foliisque primum plus minus ferrugineo-furfuraceis, cortice pallida. *Folia* (pauca superiora tantum visa) petiolata, vix coriacea, oblongo-elliptica, 3–4 poll. longa, acuminata, vix acuta, basi cuneata, integra, venis transversis haud conspicuis. *Flores* parvi (vix 3 lineas diametro), numerosissimi, racemoso-corymbosi; corymbi terminales, pyramidiformes, semipedales, ramulis pedicellis floribusque ferrugineo-furfuraceis; calycis dentes obtusi; corolla rotata, furfuracea, segmentis revolutis; antheræ versatiles, dorso paulo infra medium affixæ; ovarium dense furfuraceo-hirsutum, stylo persistente. *Fructus* non visus.

NICARAGUA, Chontales (*Lévy*, 478). Hb. Kew.

✓ 5. **Parathesis**, sp.

PANAMA, Mamei station (*S. Hayes*, 706). Hb. Kew.

4. ARDISIA.

Ardisia, Sw. Prodr. Fl. Ind. Occ. i. p. 467, t. 10; Benth. et Hook. Gen. Plant. ii. p. 645

About 200 species in tropical and subtropical countries, but very rare in Tropical Africa. There are probably as many unnamed species in Kew herbarium as there are described species of which no named specimens exist at Kew.

1. **Ardisia bracteosa**, A. DC. in Trans. Linn. Soc. xvii. p. 127; Prodr. viii. p. 123; Calques des Dess. Fl. Mex. 740.

MEXICO (*Moçino & Sessé*).

Judging from the dissections in the tracing of the drawing upon which this was founded, it is not an *Ardisia* at all.

✓ 2. **Ardisia calycosa**, Hemsley, n. sp.

Glabra, foliis elongatis lanceolatis vel oblanceolatis ad apices ramorum confertis, paniculis terminalibus sessilibus laxis, ramulis filiformibus, sepalis fere liberis ovato-oblongis obtusis corollam excedentibus.

Arbor vel *frutex* glaber, ramis ultimis graciliusculis, teretibus. *Folia* ad apices ramorum conferta, brevissime petiolata, vix coriacea, anguste lanceolata vel oblanceolata, usque ad 7 poll. longa et 1½ poll. lata, utrinque attenuata, apice obtusa, supra medium plus minus sinuata, lineolato-glandulosa, costa utrinque elevata, venis primariis lateralibus distantibus, arcuatis. *Flores* 5-meri, paniculati, longe pedicellati; paniculæ terminales, sessiles, laxæ, conspicue bracteatae, foliis paullo breviores, ramulis filiformibus, superne racemose 2-6-floris; bracteæ lineari-oblongæ, obtusæ, inferiores usque ad 8-10 lineas longæ, superiores gradatim breviores et comparate latiores; pedicelli sub floribus incrassati, longiores, 8 lineas longi; sepala contorta, fere libera, ovato-oblonga, 3-4 lineas longa, obtusa, venosa, crebre glandulosa; corolla rotata, contorta, calyce brevior, lobis obtusis; antheræ sessiles, apice 2-porosæ; ovarium glabrum, pluri-ovulatum. *Fructus* ignotus.

NICARAGUA, Chontales (*Tate*, 454). Hb. Kew.

This and *A. opegrapha* are remarkable for their large almost free sepals. Whether they resemble each other in the corolla being shorter than the calyx we cannot say, as we have only seen the corolla of *A. calycosa*. An analogous species, *A. involucrata*, Kurz, occurs in India.

3. **Ardisia capollina**, A. DC. in Trans. Linn. Soc. xvii. p. 116; Prodr. viii. p. 124; Calques des Dess. Fl. Mex. 741.

MEXICO (*Moçino & Sessé*).

4. **Ardisia caribæa**, Miq.; Griseb. Fl. Brit. W. Ind. p. 395.

Badula caribæa, A. DC. Prodr. viii. p. 110.

PANAMA, near Cruces (*Seemann*, 560), near Mamei station (*S. Hayes*, 662).—WEST INDIES. Hb. Kew.

✓ 5. **Ardisia compressa**, H. B. K. Nov. Gen. et Sp. iii. p. 245; DC. Prodr. viii. p. 125.

PANAMA, near Cruces (*Seemann*), Empire station (*S. Hayes*).—COLOMBIA; ECUADOR. Hb. Kew.

✓ 6. **Ardisia coriacea**, Sw. Prodr. Fl. Ind. Occ. p. 48; DC. Prodr. viii. p. 122.

NICARAGUA, Chontales (*Tate*); PANAMA, near the town of Panama (*S. Hayes*).—WEST INDIES. Hb. Kew.

7. **Ardisia cuspidata**, Benth. Bot. Voy. 'Sulphur,' p. 123.
COCOS ISLAND (*Hinds*). Hb. Kew.
- ✓ 8. **Ardisia decipiens**, A. DC. Prodr. viii. p. 125.
Myrsine ardisioides, H. B. K. Nov. Gen. et Sp. iii. p. 249.
✓ PANAMA, woods near the town of Panama (*Seemann*).—WEST INDIES. Hb. Kew.
9. **Ardisia escallonioides**, Ch. et Schl. in Linnæa, vi. p. 393; DC. Prodr. viii. p. 124.
SOUTH MEXICO, Papantla (*Schiede*).
- ✓ 10. **Ardisia fusca**, Ærst. in Vidensk. Meddel. 1861, p. 127, t. ii. figg. 52–55.
COSTA RICA, in woods near Turrialba, 3000 to 4000 feet (*Ærsted*).
- ✓ 11. **Ardisia glanduloso-marginata**, Ærst. in Vidensk. Meddel. 1861, p. 128, t. ii. figg. 25–30.
COSTA RICA, Volcan de Irazu, 8000 to 9000 feet (*Ærsted*).
- ✓ 12. **Ardisia irasuensis**, Ærst. in Vidensk. Meddel. 1861, p. 124.
COSTA RICA, Volcan de Irazu, 9000 feet (*Ærsted*).
- ✓ 13. **Ardisia lævis**, Ærst. in Vidensk. Meddel. 1861, p. 125.
COSTA RICA, Volcan de Irazu, 8000 to 9000 feet (*Ærsted*).
14. **Ardisia liebmannii**, Ærst. in Vidensk. Meddel. 1861, p. 129, t. ii. figg. 44–48.
SOUTH MEXICO, near Amatlan (*Liebmann*).
- ✓ 15. **Ardisia nicaraguensis**, Ærst. in Vidensk. Meddel. 1861, p. 123.
NICARAGUA, mountains of Pantasmo, 4000 to 5000 feet (*Ærsted*).
16. **Ardisia nigrescens**, Ærst. in Vidensk. Meddel. 1861, p. 130, t. ii. fig. 49–51.
SOUTH MEXICO, near Colipa and Jacaltepec (*Liebmann*).
- ✓ 17. **Ardisia nigro-punctata**, Ærst. in Vidensk. Meddel. 1861, p. 127, t. ii. figg. 31–33.
COSTA RICA, Volcan de Irazu, 8000 to 9000 feet (*Ærsted*).
- ✓ 18. **Ardisia oliveri**, Mast. in Gard. Chron. n. s. viii. p. 680, cum ic. xylogr.; Bot. Mag. t. 6357.
COSTA RICA (*Endres*); cultivated specimen only in hb. Kew.
- ✓ 19. **Ardisia opegrapha**, Ærst. in Vidensk. Meddel. 1861, p. 126, t. i. figg. 19–24.
COSTA RICA, Aguacate and Jaris, at 1500 to 2000 feet (*Ærsted*); NICARAGUA, Chontales (*Seemann*, 58)? Hb. Kew.
20. **Ardisia pellucida**, Ærst. in Vidensk. Meddel. p. 130, t. ii. figg. 39–43.
SOUTH MEXICO, near Pital (*Liebmann*).

21. **Ardisia pickeringia**, Torr. et Gray; DC. Prodr. viii. p. 124; A. Gr. Synop. Fl. N. Am. ii. p. 65.

EAST FLORIDA.—MEXICO, near Tantoyuca (*Ervendberg*), Tehuantepec, and the river Guazacualcos, South Oaxaca (*Andrieux*, 472).—CUBA; BAHAMAS. Hb. Kew.

✓ 22. **Ardisia ramiflora**, Ærst. in Vidensk. Meddel. 1861, p. 132, t. ii. figg. 35–38. COSTA RICA, Guanacaste (*Ærsted*).

23. **Ardisia revoluta**, H. B. K. Nov. Gen. et Sp. iii. p. 246; DC. Prodr. viii. p. 125.

SOUTH MEXICO, Mirador (*Linden*, 396), Jalapa, 3000 to 4000 feet (*Galeotti*, 7113), la Venta de Moxonera, 2350 feet (*Humboldt & Bonpland*). Hb. Kew.

24. **Ardisia xylosteoides**, Griseb. Fl. Brit. W. Ind. p. 395.

MEXICO (ex *Grisebach*).—COLOMBIA; WEST INDIES.

5. DEHERAINIA.

Deherainia, Dcne. in Ann. Sc. Nat. série 6, iii. p. 138.

A remarkable monotype.

1. **Deherainia smaragdina**, Dcne. in Ann. Sc. Nat. série 6, iii. p. 139, t. 12; Bot. Mag. t. 6373.

SOUTH MEXICO, near Tabasco (*Linden*). Hb. Kew.

6. CLAVIJA.

Clavija, Ruiz et Pav. Prodr. Fl. Per. et Chil. p. 142, t. 30; Benth. et Hook. Gen. Plant. ii. p. 649.

An exclusively Tropical-American genus of about twenty-five species.

✓ 1. **Clavija biborrana**, Ærst. in Vidensk. Meddel. 1861, p. 117. COSTA RICA, Aguacate (*Ærsted*).

✓ 2. **Clavija**, sp.

PANAMA, Paraiso station (*S. Hayes*). Hb. Kew.

7. JACQUINIA.

Jacquinia, Linn. Gen. Plant. n. 254; Benth. et Hook. Gen. Plant. ii. p. 650.

✓ An exclusively Tropical-American genus of about ten species.

1. **Jacquinia angustifolia**, Ærst. in Vidensk. Meddel. 1861, p. 119.

COSTA RICA, near Santa Rosa in Guanacaste (*Ærsted*).

✓ 2. **Jacquinia armillaris**, Jacq. Amer. p. 53, t. 39; DC. Prodr. viii. p. 149.

COSTA RICA, near Nicoya (*Ærsted*).

3. **Jacquinia axillaris**, Ærst. in Vidensk. Meddel. 1861, p. 121.
SOUTH MEXICO, near Papantla and Santa Cruz (*Liebmann*).
- ✓ 4. **Jacquinia caracasana**, H. B. K. Nov. Gen. et Sp. iii. p. 251; DC. Prodr. viii. p. 150; Ærst. in Vidensk. Meddel. 1861, p. 120.
NICARAGUA, between Leon and Granada and in Segovia (*Ersted*).—VENEZUELA.
- ✓ 5. **Jacquinia macrocarpa**, Cav. Ic. Pl. v. p. 55, t. 483; DC. Prodr. viii. p. 150.
SOUTH MEXICO, Vera Cruz (*Galeotti*, 1714), without locality (*Schiede*); SAN SALVADOR, Acajutla (*S. Hayes*, 461); PANAMA, seashore near San Carlos (*Seemann*, 299).—COLOMBIA. Hb. Kew.
6. **Jacquinia pungens**, A. Gr. Pl. Thurb. in Mem. Amer. Acad. n. s. v. p. 325.
NORTH MEXICO, between Rayon and Ures, Sonora (*Thurber*).
7. **Jacquinia racemosa**, A. DC. Prodr. viii. p. 150.
SOUTH MEXICO (*Alaman*, *Berlandier*), near Tantoyuca (*Ervendberg*), near Guatulco (*Liebmann*). Hb. Kew.
8. **Jacquinia ruscifolia**, Jacq. Amer. t. 57; DC. Prodr. viii. p. 151.
MEXICO ?—CUBA.
9. **Jacquinia umbellata**, A. DC. Prodr. viii. p. 150.
MEXICO ?—PORTO RICO.

Order LXXXIII. SAPOTACEÆ.

Sapotaceæ, Benth. et Hook. Gen. Plant. ii. p. 650.

An order of shrubs and trees, comprising about twenty-four genera and 320 species, generally dispersed in the tropics; very few occurring in subtropical and temperate regions.

1. CHRYSOPHYLLUM.

Chrysophyllum, Linn. Gen. Plant. n. 263; Benth. et Hook. Gen. Plant. ii. p. 653.

This genus numbers about sixty species, chiefly Tropical-American; a few are found in Tropical Africa, and a very few in Tropical Asia, Australia, and the Sandwich Islands. One West-Indian species extends to Florida.

✓ 1. **Chrysophyllum cainito**, Linn. Sp. Pl. p. 278, excl. β ; DC. Prodr. viii. p. 157; Jacq. Amer. t. 37; Bot. Mag. t. 3072.

PANAMA, Isle of Taboga (*Hinds*), in cultivated and uncultivated places near the town of Panama (*S. Hayes*, 636).—COLOMBIA and PERU; GUIANA, and in the WEST INDIES. Hb. Kew.

This tree is cultivated for its fruit, and often spreads from cultivation; hence it is not possible to determine where it is truly indigenous.

2. LUCUMA.

Lucuma, Juss. Gen. Plant. p. 152; Benth. et Hook. Gen. Plant. ii. p. 654.

About fifty species are referred to this genus; and, excepting a very few in Australia and New Caledonia, they are natives of America, ranging from Mexico and the West Indies to Brazil and Chili.

1. **Lucuma campechiana**, H. B. K. Nov. Gen. et Sp. iii. p. 240; DC. Prodr. viii. p. 171.

SOUTH MEXICO, Campeachy (*Humboldt & Bonpland*); HONDURAS, without locality or collector's name. Hb. Kew.

2. **Lucuma? capiri**, A. DC. Prodr. viii. p. 173; Calques des Dess. Fl. Mex. 749. MEXICO (*Moçino & Sessé*).

3. **Lucuma? ferruginea**, Hook. et Arn. Bot. Beech. Voy. p. 302. SOUTH MEXICO, near Tepic (*Beechey*).

This has probably been removed to some other genus, as we do not find the specimen in this genus in the herbarium.

✓4. **Lucuma mammosa**, Gært. fil. Fruct. iii. p. 129, tt. 203, 204; Jacq. Amer. t. 182. f. 19; DC. Prodr. viii. p. 169.

SOUTH MEXICO, valley of Cordova (*Bourgeau*, 1870); PANAMA, common about the town of Panama (*S. Hayes*, 705).—WEST INDIES and north part of SOUTH AMERICA. Hb. Kew. A tree that is commonly cultivated for its fruit.

5. **Lucuma salicifolia**, H. B. K. Nov. Gen. et Sp. iii. p. 241; DC. Prodr. viii. p. 171.

MEXICO (*Cervantes*).

6. **Lucuma sphærocarpa**, A. DC. Prodr. viii. p. 169. MEXICO (*Moçino & Sessé*).

3. SIDEROXYLON.

Sideroxylon, Linn. Gen. Plant. n. 264; Benth. et Hook. Gen. Plant. ii. p. 655.

A widely dispersed genus in tropical countries, represented by a few species in extra-tropical South Africa, Australia, and New Zealand, and by one species in Madeira; and one West-Indian species occurs in Florida. Altogether it numbers about sixty species.

1. **Sideroxylon mexicanum**, Hemsley, n. sp.

Ferrugineo-hirsutum, foliis oblongo-ellipticis utrinque obtusis vel rotundatis, venis primariis lateralibus elevatis, corollis subrotatis extus strigosis, staminodiis apice laceratis.

Arbor vel *frutex*, ramis crassis, annotinis glabris, defoliatis, floriferis, hornotinis dense ferrugineo-furfuraceo hirsutis, foliiferis. *Folia* conferta, longe petiolata, crassa, mollia, oblongo-elliptica, absque petiolo 3–4 poll. longa, medio $1\frac{1}{2}$ – $2\frac{1}{4}$ poll. lata, utrinque obtusa vel rotundata, undique molliter ferrugineo-hirsuta, pæne velutina, venis primariis lateralibus utrinque 10–12, elevatis;

petiolus $\frac{3}{4}$ – $1\frac{1}{4}$ poll. longus. *Flores* parvi (4–5 lineas diametro), dense fasciculati, pedicellis gracilibus, 2–4 lineas longis; calycis segmenta 5, subæqualia, orbicularia, apice rotundata, extus furfuraceo-hirsuta; corolla subrotata, extus medio loborum longitudinaliter furfuraceo-strigosa, tubo brevissimo, lobis obtusis; antheræ subcordiformes, versatiles; staminodia staminibus alterna, apice lacerata; ovarium hirsutum. *Fructus* ignotus.—*Lucuma? capiri*, A. DC. Prodr. viii. p. 173?

MEXICO, without locality (*Jurgensen*, 212). Hb. Kew.

4. ACHRAS.

Achras, Linn. Gen. Plant. n. 438; Benth. et Hook. Gen. Plant. ii. p. 657.

A monotype.

✓ ***Achras sapota***, Linn. Sp. Pl. p. 470; Bot. Mag. tt. 3111, 3112.

Sapota achras, Mill.; DC. Prodr. viii. p. 174; Fl. Bras. vii. p. 58, tt. 22, 23.

SOUTH MEXICO, Yucatan (*Linden*, 383); NICARAGUA, Chontales (*Seemann*, 56); PANAMA, Isle of Taboga (*Seemann*, 1092).—WEST INDIES and north part of SOUTH AMERICA. Hb. Kew.

Commonly cultivated for its fruit in America and elsewhere.

5. BUMELIA.

Bumelia, Sw. Prodr. p. 49; Fl. Ind. Occ. i. p. 486, t. 8; Benth. et Hook. Gen. Plant. ii. p. 660.

About twenty species, inhabiting Tropical America and the Southern States of North America.

1. ***Bumelia cuneata***, Sw. Fl. Ind. Occ. i. p. 496; A. Gr. Synop. Fl. N. Am. ii. p. 68.

Sideroxylon cuneatum, A. DC. Prodr. viii. p. 181.

FLORIDA to TEXAS.—MEXICO (ex *A. Gray*).—WEST INDIES.

2. ***Bumelia ferox***, Cham. et Schl. in Linnæa, vi. p. 392; DC. Prodr. viii. p. 189. SOUTH MEXICO, near Tecoluta (*Schiede & Deppe*).

✓ 3. ***Bumelia hayesii***, Hemsley, n. sp.

Inermis, glabra, foliis parvis obovatis, petalorum appendicibus vel lobis lateralibus lineari-subulatis integris, staminodiis lanceolatis superne leviter fimbriatis.

Frutex 15–20-pedalis, inermis, glabra, ramulis brevibus. *Folia* sparsa vel fasciculata, breviter petiolata vel subsessilia, tenuia, obovata, 1–2 poll. longa, apice rotundata, basi cuneata, integra. *Flores* glabri, sæpius 4–6 fasciculatim aggregati, pedicellis gracilibus, 2–3 lineas longis; calycis segmenta herbaceo-scariosa, rotundata; corollæ appendices omnino exteriores, lineari-subulatæ, integræ, lobis paullo breviores; lobi apice pæne truncati, obsolete denticulati; stamina petala excedentia; staminodia lanceolata, superne leviter fimbriata, lobos corollæ pæne æquantia; ovarium basi parce pilosum. *Fructus* nondum visus.

GUATEMALA, San José de Guatemala (*Hayes*, 451). Hb. Kew.

Near *B. cuneata*, from which it differs in the thinner texture of its leaves, in the narrow entire appendages of the corolla, &c.

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4. **Bumelia læte-virens**, Hemsley, n. sp.

Foliis supra glaberrimis ovato-ellipticis vel obovatis obtusis pallidis, floribus puberulis, corollæ appendicibus oblique ovatis acuminatis sæpius integris, staminodiis amplis corollæ lobos subæquantibus subintegris.

Frutex inermis, ramulis annotinis puberulis, graciliusculis. *Folia* longiuscule petiolata, subcoriacea, læte viridia, ovato-elliptica vel obovata, absque petiolo 2–4 poll. longa, $1\frac{1}{2}$ –2 poll. lata, apice obtusissima vel interdum retusa, basi cuneata, integra, supra glaberrima, nitida, subtus pilis albis pellucidis appressis instructa, utrinque crebre nec conspicue venosa; petiolus 4–12 lineas longus. *Flores* albi, suaveolentes, 6–12 fasciculatim aggregati, fasciculis axillaribus extra-axillaribusque; pedicelli 2–3 lineas longi, puberuli; calycis segmenta herbaceo-scariosa, orbicularia, puberula; corollæ appendices subinteriores, oblique ovatae, acuminatae, subintegræ, lobis paullo breviores; lobi apice rotundati, emarginati, vix denticulati; stamina petala excedentia; staminodia late ovata, lobos corollæ subæquantia, subintegræ; ovarium pilosum. *Fructus* immaturus tantum visus.

SOUTH MEXICO, Cordillera of Oaxaca, at 3000 feet (*Galeotti*, 7000), Orizaba (*Botteri*, 1014). Hb. Kew.

5. **Bumelia lycioides**, Gærtn. fil. Fruct. iii. p. 127, t. 202; DC. Prodr. viii. p. 189; A. Gr. Synop. Fl. N. Am. ii. p. 68.

Bumelia reclinata, Vent. Choix, t. 22.

VIRGINIA and ILLINOIS to FLORIDA and TEXAS.—MEXICO “ex ic. Mex. ined.” (*De Candolle*).

The Mexican drawing alluded to by De Candolle may represent our *B. læte-virens*, which resembles large-leaved forms of *B. lycioides*.

6. **Bumelia occidentalis**, Hemsley, n. sp.

Inermis, ramulis graciliusculis nodosis, foliis parvis (3–6 lineas longis) obovato-oblongis, calycis segmentis extusque tomentosus, corollæ appendicibus ovatis integris, staminodiis fimbriatis.

Frutex, ramulis glabris, crebre nodosis. *Folia* sæpius fasciculata, brevissime petiolata, crassiuscula, oblonga vel obovata, 3–6 lineas longa, integra, apice obtusissima vel rotundata, basi cuneata, utrinque tomentosa. *Flores* fasciculati, pauci aggregati, pedicellis tomentosus, 2–3 lineas longis; calycis segmenta crassa, orbicularia, intus extusque tomentosa; corollæ appendices omnino exteriores, oblique ovatae, acuminatae, integræ, lobis breviores; lobi suborbiculares, subunguiculati; staminodia ovato-lanceolata, fimbriata, petalis breviora; ovarium pilosum. *Fructus* ignotus.

NORTH MEXICO, Sonora Alta (*Coulter*, 934). Hb. Kew.

7. **Bumelia persimilis**, Hemsley, n. sp.

Facie *Dipholis salicifoliae* sed foliis basi minus attenuatis, pedicellis longioribus, floribus majoribus, ovario piloso, seminibus exalbuminosis.

Arbor vel *frutex* glabrescens, novellis ferrugineo-hirsutis. *Folia* breviter petiolata, subcoriacea, cito glabrata, deinde nitida, oblongo-elliptica, $2\frac{1}{2}$ – $3\frac{1}{2}$ poll. longa, utrinque plus minus (nec longe) attenuata, apice obtusa, costa infra elevata, venis lateralibus crebris, haud conspicuis. *Flores* fasciculatim aggregati, fasciculis usque ad 20-floris; pedicelli ferrugineo-hirsuti, 3–5 lineas longi; calycis segmenta crassa, orbiculari-oblonga, extus intusque ferrugineo-hirsuta; corollæ appendices omnino exteriores, oblique lanceolatae, acuminatae, parce fimbriatae, lobis dimidio

breviores ; lobi oblongo-elliptici, denticulati ; staminodia ovato-lanceolata, acuminata, fimbriata, lobis paullo breviora ; ovarium pilosum. *Fructus* sphæroideus ; semina exalbuminosa.

SOUTH MEXICO, Orizaba (*Botteri*, 989), without locality (*Hahn*). Hb. Kew.

This species bears a striking resemblance to *Dipholis salicifolia* ; but the latter dries a much darker colour, its leaves are much more attenuated downwards, and its flowers are smaller on shorter pedicels, and the ovary is quite glabrous. It is not quite certain that Hahn's fruiting specimens are the same species as Botteri's, which are only in flower.

8. **Bumelia spiniflora**, A. DC. Prodr. viii. p. 191 ; Calques des Dess. Fl. Mex. 753.

TEXAS ?—MEXICO (*Moçino & Sessé*).

9. **Bumelia spinosa**, A. DC. Prodr. viii. p. 191 ; Calques des Dess. Fl. Mex. 755.

MEXICO (*Moçino & Sessé*).

10. **Bumelia subsessiflora**, Hemsley, n. sp.

Spinosa, foliis coriaceis supra nitidis oblongis utrinque obtusis, floribus supra spinas axillares sessilibus vel subsessilibus.

Frutex spinis axillaribus, rigidis, acutis, semipollicaribus armatus ; ramuli crassiusculi, elongati, primum ferrugineo-tomentosi, internodiis quam folia multo brevioribus. *Folia* coriacea, breviter petiolata, oblonga, cum petiolo 2–4 poll. longa, 10–15 lineas lata, utrinque obtusa vel obtusissima, primum plus minus ferrugineo-puberula, demum glabra, supra nitida, conspicue venosa. *Flores* conferti, super spinas sessiles vel subsessiles ; calycis segmenta ferrugineo-hirsuta, ovato-orbicularia ; corollæ appendices omnino exteriores, lineares, integræ, lobis fere dimidio breviores ; lobi obovato-oblongi, obsolete denticulati ; staminodia ovato-lanceolata, fimbriata, lobis paullo breviora ; ovarium pilosum. *Fructus* a nobis non visus.

SOUTH MEXICO, Guadalajara, 3000 feet (*Galeotti*, 7198). Hb. Kew.

11. **Bumelia**, sp. ?

SOUTH MEXICO, Zimapan (*Coulter*, 1267). Hb. Kew.

Order LXXXIV. EBENACEÆ.

Ebenaceæ, Benth. et Hook. Gen. Plant. ii. p. 662 ; Hiern, Monogr. Eben. in Trans. Camb. Phil. Soc. xii.

Trees and shrubs. Six genera, comprising about 260 species, are referred to this Order, which is represented in most warm countries, though absent from Andine and extratropical South America, South Australia, and New Zealand.

1. MABA.

Maba, Forst. Char. Gen. p. 121, t. 61 ; Hiern, in Trans. Camb. Phil. Soc. xii. p. 106 ; Benth. et Hook. Gen. Plant. ii. p. 664.

Fifty-nine species described, having nearly the same range as the order.

1. **Maba acapulcensis**, Hiern in Trans. Camb. Phil. Soc. xii. p. 128.
Diospyros acapulcensis, H. B. K. Nov. Gen. et Sp. iii. p. 254.
Macreightia acapulcensis, A. DC. Prodr. viii. p. 221, excl. syn. *Diospyros salicifolia*.
SOUTH MEXICO, Acapulco (*Humboldt & Bonpland*).
2. **Maba albens**, Hiern in Trans. Camb. Phil. Soc. xii. p. 126.
Diospyros albens, Presl, Reliq. Hænk. ii. p. 62.
Macreightia albens, A. DC. Prodr. viii. p. 221.
SOUTH MEXICO, Acapulco (*Hænke*), Soledad (*Wawra*).
3. **Maba pavonia**, Hiern in Trans. Camb. Phil. Soc. xii. p. 129.
Macreightia pavonia, A. DC. Prodr. viii. p. 222.
MEXICO ? ; PERU ? (ex *De Candolle*).

2. DIOSPYROS.

Diospyros, Linn. Gen. Plant. n. 403 ; Benth. et Hook. Gen. Plant. ii. p. 665 ; Hiern in Trans. Camb. Phil. Soc. p. 144.

About 180 species, spread over the whole area of the Order.

1. **Diospyros ciliata**, A. DC. Prodr. viii. p. 229 ; Hiern in Trans. Camb. Phil. Soc. xii. p. 223.
SOUTH MEXICO (*Pavon*).
2. **Diospyros cuneifolia**, Hiern in Trans. Camb. Phil. Soc. xii. p. 268.
MEXICO (*Pavon*).
3. **Diospyros ebenaster**, Retz. Obs. Bot. fasc. v. p. 31 ; Hiern in Trans. Camb. Phil. Soc. xii. p. 244.
Diospyros obtusifolia, H. B. K. Nov. Gen. et Sp. iii. p. 253, t. 247.
MEXICO, in cultivated places, and perhaps originally introduced, Cuernavaca (*Humboldt & Bonpland*), Orizaba (*Botteri*, 909).—WEST INDIES ; SOUTH AMERICA ; PHILIPPINE ISLANDS ; CELEBES. Hb. Kew.
4. **Diospyros texana**, Scheele in Linnæa, xxii. p. 145 ; Hiern in Trans. Camb. Phil. Soc. xii. p. 238 ; A. Gr. Synop. Fl. N. Am. ii. p. 70.
TEXAS.—NORTH MEXICO (ex *A. Gray*).
5. **Diospyros velutina**, Hiern in Trans. Camb. Phil. Soc. xii. p. 200.
SOUTH MEXICO, Carmen and neighbourhood (*Wawra*).—COLOMBIA ; BRAZIL.

Order LXXXV. STYRACEÆ.

Styraceæ, Benth. et Hook. Gen. Plant. ii. p. 666.

Trees and shrubs. About 220 species, belonging to seven genera, and inhabiting the warm regions of Asia, Australia, and America ; a few occurring in the north temperate regions. The Order appears to be unrepresented in Africa.

1. SYMPLOCOS.

Symplocos, Linn. Gen. Plant. n. 677; Benth. et Hook. Gen. Plant. ii. p. 668; Miers in Journ. Linn. Soc. xvii. p. 283.

About 160 species, occupying the whole area of the order.

1. ***Symplocos (Alstonia) ciliata***, Benth. Pl. Hartw. p. 78; DC. Prodr. viii. p. 249.

SOUTH MEXICO, Banco (*Hartweg*). Hb. Kew.

2. ***Symplocos coccinea***, Humb. et Bonpl. Pl. Æquin. i. p. 185, t. 52; DC. Prodr. viii. p. 249. (Tab. LIV.)

Gordonia parviflora, Hemsley, Diag. Pl. Nov. Mex. pars I, p. 4.

Hypopogon brevipes, Turcz. in Bull. Soc. Nat. Mosc. 1858, i. p. 246?

SOUTH MEXICO, near Jalapa (*Humboldt & Bonpland*; *Linden*, 391; *Galeotti*, 1680), Sierra San Pedro Nolasco, &c. (*Jurgensen*, 834), Vera Cruz to Orizaba (*Müller*, 635). Hb. Kew.

3. ***Symplocos (Ciponima) costaricana***, Hemsley, n. sp.

Foliis crasse coriaceis glabris integerrimis obtusissimis, floribus mediocribus brevissime pedicellatis in racemos petiolos vix æquantes dispositis, bracteis calycibusque ciliolatis, corolla glabra, ovario glabro.

Arbor vel *frutex*, ramulis brevibus, glabris, dense foliosis. *Folia* petiolata, crasse coriacea, glabra, lanceolato-oblonga vel oblanceolata, 2-3 poll. longa, ad 1 poll. lata, utrinque attenuata, apice obtusissima, basi cuneata, margine integerrima, incrassata, costa venisque subtus leviter elevatis; petiolus 3-5 lineas longus. *Flores* 4-5 lineas longi, racemosi, brevissime pedicellati, racemis puberulis, 3-4 lineas longis, sæpius 5-6-floris; bracteæ rotundatæ, ciliolatæ; calycis segmenta 5, suborbicularia, ciliolata; corolla glabra, lobis tubo longioribus, obovato-rotundatis, minutissime ciliolatis; stamina alte adnata; ovarium glabrum. *Fructum* non vidi.

COSTA RICA (*Endres*, 148). Hb. Kew.

4. ***Symplocos hartwegi***, A. DC. Prodr. viii. p. 252.

Symplocos cernua, Benth. Pl. Hartw. p. 78, non Humb. et Bonpl.

GUATEMALA, Santa Maria (*Hartweg*). Hb. Kew.

5. ***Symplocos (Ciponima) jurgensenii***, Hemsley, n. sp.

Fere omnino glabra, foliis vix coriaceis obtusis crenulatis, floribus brevissime pedicellatis, racemis brevissimis 3-4-floris, petalis fere liberis, filamentis alte connatis, ovario fere libero apice piloso.

Arbor vel *frutex*, ramulis glabris, cinereis. *Folia* breviter petiolata, tenuia, vix coriacea, lanceolato-oblonga, 2½-4 poll. longa, utrinque attenuata, apice obtusa, crenulata, supra glabra, costa canaliculata, subtus secus costam elevatam plus minus pilosa, venis lateralibus distantibus, arcuatis, inconspicuis. *Flores* circiter 4 lineas longi, racemosi, brevissime pedicellati, racemis puberulis, 5-6 lineas longis, 3-4-floris; bracteæ oblongæ, apice rotundatæ; calycis segmenta late ovato-rotundata, puberula, ciliolata; petala glabra, fere libera, oblongo-obovata vel spatulata, apice rotundata, minutissime ciliolata vel denticulata; filamenta alte connata; ovarium vertice pilosum, stylo glabro. *Fructus* nobis ignotus.

SOUTH MEXICO, Sierra San Pedro Nolasco &c. (*Jurgensen*, 746). Hb. Kew.

6. **Symplocos martinicensis**, Jacq. Amer. p. 166, t. 175. fig. 68, ubi solum flos; DC. Prodr. viii. p. 249, et *β. berterii*, A. DC. loc. cit. p. 250.

Symplocos berterii, Miers in Journ. Linn. Soc. xvii. p. 286.

Symplocos limoncillo, Humb. et Bonpl. Pl. Æquin. i. p. 196.

SOUTH MEXICO, near Jalapa (*Humboldt & Bonpland*; *Hahn*; *Linden*, 392; *Galeotti*, 1681, 1683), without locality (*Jurgensen*, 425).—WEST INDIES. Hb. Kew.

7. **Symplocos (Ciponima) prionophylla**, Hemsley, n. sp.

Ramulis rufo-pubescentibus, foliis oblongo-obovatis subtus plus minus hirsutis subtiliter serrulatis, floribus subsessilibus glomeratis, petalis fere vel omnino liberis, filamentis alte conuatis, ovario vertice piloso.

Arbor vel *frutex*, ramulis crassiusculis, rufo-puberulis. *Folia* petiolata, coriacea, oblongo-obovata, cum petiolo $2\frac{1}{2}$ –5 poll. longa, usque ad 2 poll. lata, breviter acuminata, vix acuta, basi cuneata, subtiliter serrulata, supra glabra, costa canaliculata, subtus secus costam elevatam pilosa, venis lateralibus brevibus, vix conspicuis; petiolus 3–6 lineas longus. *Flores* 4–5 lineas longi, subsessiles, in glomerulos axillares conferti, glomerulis 3–6-floris; calycis segmenta ovato-oblonga, apice rotundata, albido-sericea; petala inter se et a filamentis fere vel omnino libera, oblongo-obovata vel spathulata, leviter cucullata, extus hirsuta; filamenta alte connata; ovarium vertice pilosum, stylo glabro. *Fructum* non vidi.

SOUTH MEXICO, Oaxaca (*Ghiesbreght*). Hb. Kew.

This and *S. jurgensenii* have almost or quite free petals associated with monadelphous or perhaps pentadelphous very numerous stamens,—the filaments being united high up; and the union, if any, with the petals is very slight.

8. **Symplocos (Ciponima) pycnantha**, Hemsley, n. sp.

Ramis puberulis vel pubescentibus, foliis coriaceis integris supra glabris, floribus sessilibus 5–10 aggregatis, petalis alte connatis, ovario vertice glabro, stylo infra medium longissime piloso.

Frutex, ramulis graciliusculis, ferrugineo-puberulis vel pubescentibus. *Folia* petiolata, coriacea, oblongo-obovata vel oblanceolata, $2\frac{1}{2}$ –4 poll. longa, $1-1\frac{1}{2}$ poll. lata, acuminata, obtusa vel subacuta, basi cuneata, margine integra, supra glabra, nitida, subtus parce strigosa. *Flores* rosei (ex *Lindenio*), circiter 6 lineas longi, sessiles, in glomerulos axillares arcte congesti, glomerulis 5–10-floris; calycis segmenta suborbicularia, dense sericeo-pilosa, albida; petala glabrescentia, extus superne primum parce hirsuta, usque ad medium connata, apice rotundata, minute ciliolata; stamina alte connata et petalis adnata; ovarium vertice glabrum, stylo infra medium longissime piloso. *Fructus* ignotus.

SOUTH MEXICO, pine-forests of Pueblo Nuevo, Chiapas (*Linden*, 359), Sierra San Pedro Nolasco &c. (*Jurgensen*, 892). Hb. Kew.

9. **Symplocos schiedeana**, Schl. in Linnæa, viii. p. 527; DC. Prodr. viii. p. 258.

SOUTH MEXICO, between Tioselo and Jicochimalco (*Schiede*). Hb. Kew.

10. **Symplocos (Ciponima) speciosa**, Hemsley, n. sp.

Ramulis ferrugineo-puberulis, foliis lanceolatis longe caudato-acuminatis integris, floribus brevissime pedicellatis racemosis vel subfasciculatis 3–6 aggregatis, petalis glabris haud ad medium connatis, ovario vertice styloque infra medium piloso.

Arbor speciosissima (ex *Galeottio*), ramulis gracilibus, ferrugineo-puberulis. *Folia* graciliter petiolata,

tenuia, vix coriacea, lanceolata, 2-5 poll. longa, 8-15 lineas lata, longe caudato-acuminata, vix acuta, basi cuneata, margine integra, supra glabra, nitida, venis immersis, subtus pallidiora, secus costam elevatam ferrugineo-pubescentia, venis lateralibus inconspicuis; petiolus pubescens, 3-4 lineas longus. *Flores rosei* (*Galeotti*), circiter 6 lineas longi, brevissime pedicellati, racemosi vel subfasciculati, 3-6 aggregati, racemi vel fasciculi axillares; calyx dense sericeo-hirsutus, segmentis ovatis, obtusis; petala glabra, haud ad medium connata, apice leviter cucullata, minute denticulata; filamenta alte connata, usque ad medio petalorum adnata; ovarium vertice pilosum, stylo infra medium piloso. *Fructus* ignotus.

SOUTH MEXICO, pine-woods in the Cordillera of Oaxaca, at 6000 to 7000 feet (*Galeotti*, 1682). Hb. Kew.

2. STYRAX.

Styrax, Linn. Gen. Plant. n. 595; Benth. et Hook. Gen. Plant. ii. p. 669; Miers, Contrib. Bot. i. p. 178.

About sixty species, widely dispersed in Tropical Asia and America; a few occurring in temperate Asia and the south of Europe; but none hitherto detected in Tropical or South Africa or in Australia.

1. *Styrax argenteum*, Presl, Reliq. Hænk. ii. p. 60; DC. Prodr. viii. p. 264.

SOUTH MEXICO, Acapulco (*Hænke*), Chiapas (*Ghiesbreght*, 620). Hb. Kew.

Ghiesbreght's specimen bearing the above name in Kew herbarium may belong to a different species.

2. *Styrax glabrescens*, Benth. Pl. Hartw. p. 66; DC. Prodr. viii. p. 265.

SOUTH MEXICO, between Tampico and Real del Monte (*Berlandier*, 429), around Jalapa (*Galeotti*, 2851; *Linden*, 7; *Hahn*; *Schiede & Deppe*), Llano Verde (*Hartweg*, 489), Totutla, Vera Cruz (*Linden*, 76). Hb. Kew.

3. *Styrax punctatum*, DC. Prodr. viii. p. 264.

PANAMA, Boquete, Veraguas (*Seemann*, 1229, 1612).—COLOMBIA; PERU; BRAZIL. Hb. Kew.

4. *Styrax*, sp.

SOUTH MEXICO, Chiapas (*Linden*, 358), Orizaba (*Botteri*, 1006). Hb. Kew.

These specimens may be the typical *S. argenteum*, Presl.

Series III. BICARPELLATÆ.

Order LXXXVI. OLEACEÆ.

Oleaceæ, Benth. et Hook. Gen. Plant. ii. p. 672.

Eighteen genera, comprising about 280 species, which are either trees or shrubs, except some of the species of *Menodora*. Widely dispersed in temperate and warm regions.

1. MENODORA.

Menodora, Humb. et Bonpl. Pl. Æquin. ii. p. 98, t. 110; Benth. et Hook. Gen. Plant. ii. p. 674.

About fifteen herbaceous and half-shrubby species, inhabiting Extratropical and Subtropical North America, Extratropical South America, and South Africa.

1. ***Menodora coulteri***, A. Gr. in Silliman's Journ. ser. 2, xiv. p. 44; Walp. Ann. v. p. 487.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 571); SOUTH MEXICO, Zimapan (*Coulter*, 938). Hb. Kew.

2. ***Menodora helianthemoides***, Humb. et Bonpl. Pl. Æquin. ii. p. 98, t. 110; Walp. Ann. v. p. 487.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 570); SOUTH MEXICO, Actopan (*Humboldt & Bonpland*), without locality (*Coulter*, 937). Hb. Kew.

3. ***Menodora heterophylla***, Moric.; DC. Prodr. viii. p. 316; Walp. Ann. v. p. 487; A. Gr. Synop. Fl. N. Am. ii. p. 78.

Bolivaria grisebachii, Scheele in Linnæa, xxv. p. 254.

TEXAS.—NORTH MEXICO (ex *A. Gray*).

4. ***Menodora longiflora***, A. Gr. in Sillim. Journ. ser. 2, xiv. p. 45; Walp. Ann. v. p. 488.

TEXAS.—NORTH MEXICO?, along the Rio Grande.

5. ***Menodora mexicana***, A. Gr. in Sillim. Journ. ser. 2, xiv. p. 45.

Bolivaria mexicana, A. DC. Prodr. viii. p. 315.

SOUTH MEXICO, around Oaxaca (*Andrieux*, 228). Hb. Kew.

6. ***Menodora scabra***, A. Gr. in Sillim. Journ. ser. 2, xiv. p. 44; Walp. Ann. v. p. 488; A. Gr. Synop. Fl. N. Am. ii. p. 78; Torr. Pacif. Railr. Rep. vii. t. 7.

TEXAS; SOUTH ARIZONA.—NORTH MEXICO (*Gregg*). Hb. Kew.

7. ***Menodora scoparia***, Engelm. in Bot. Calif. i. p. 471; A. Gr. Synop. Fl. N. Am. ii. p. 78.

SOUTH-EAST CALIFORNIA; ARIZONA.—NORTH MEXICO, Sonora (*Palmer*), Saltillo (*Gregg*).

2. FRAXINUS.

Fraxinus, Linn. Gen. Plant. n. 1160; Benth. et Hook. Gen. Plant. ii. p. 676.

From twenty to thirty arboreous species, generally dispersed in the temperate and subtropical regions of the northern hemisphere.

1. ***Fraxinus cuspidata***, Torr. Bot. U. S. & Mex. Bound. Surv. p. 166; A. Gr. Synop. Fl. N. Am. ii. p. 74.

TEXAS; NEW MEXICO.—NORTH MEXICO, mountains east of Saltillo (*Palmer*, 796). Hb. Kew.

2. **Fraxinus dipetala**, Hook. et Arn. Bot. Beech. Voy. p. 362, t. 87; A. Gr. Synop. Fl. N. Am. ii. p. 73.

TEXAS; CALIFORNIA.—NORTH MEXICO, a few miles south of the boundary in the west (*Parry*).

3. **Fraxinus greggii**, A. Gr. in Proc. Am. Acad. xii. p. 64; Synop. Fl. N. Am. ii. p. 74.

Fraxinus schiedeana, var. *parvifolia*, Torr. Bot. U.S. & Mex. Bound. Surv. p. 166.

TEXAS.—NORTH MEXICO, Santa Rosa, Coahuila (*Bigelow*).

4. **Fraxinus pistaciæfolia**, Torr. in Pacif. Railr. Rep. iv. p. 128; Bot. U.S. & Mex. Bound. Surv. p. 166; A. Gr. Synop. Fl. N. Am. ii. p. 74.

Fraxinus velutina, Torr. in Emory Rep. 1848, p. 149.

TEXAS; ARIZONA.—NORTH MEXICO, Ojito (*Gregg*), Sonora (*Schott*), Chihuahua (*Thurber*). Hb. Kew.

5. **Fraxinus schiedeana**, Cham. et Schl. in Linnæa, vi. p. 391.

SOUTH MEXICO, Jalapa, cultivated (*Schiede*). Hb. Kew.

6. **Fraxinus viridis**, Michx. f. Sylv. t. 120, excl. fruct., ex A. Gr. Synop. Fl. N. Am. ii. p. 75.

Var. **berlandieriana**, A. Gr. loc. cit.; DC. Prodr. viii. p. 278 (species).

TEXAS.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 572).—CUBA? Hb. Kew.

The typical variety is dispersed from Canada to Florida and Texas.

3. FORESTIERA.

Forestiera, Poir. Dict. Suppl. ii. p. 664; Benth. et Hook. Gen. Plant. ii. p. 676.

About ten shrubby species, whereof eight inhabit the south-eastern States of North America and adjacent Mexico, one Cuba, and one Brazil.

1. **Forestiera angustifolia**, Torr. Bot. U.S. & Mex. Bound. Surv. p. 168; A. Gr. Synop. Fl. N. Am. ii. p. 77.

TEXAS.—NORTH MEXICO, Tamaulipas (*Berlandier*), without locality (*Gregg*), Monterey (*Palmer*, 799, 800). Hb. Kew.

2. **Forestiera phyllyreoides**, Torr. Bot. U.S. & Mex. Bound. Surv. p. 177; A. Gr. Synop. Fl. N. Am. ii. p. 77.

Piptolepis phyllyreoides, Benth. Pl. Hartw. p. 29.

NORTH MEXICO, near Monterey, Nuevo Leon, and plains west of San Pablo (*Gregg*); SOUTH MEXICO, Guanajuato (*Hartweg*, 259).

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3. **Forestiera pubescens**, Nutt. Trans. Amer. Phil. Soc. n. s. v. p. 177; A. Gr. Synop. Fl. N. Am. ii. p. 77; Torr. Bot. U.S. & Mex. Bound. Surv. p. 167.

Forestiera ligustrina, var. *pubescens*, A. Gr. in Proc. Am. Acad. iv. p. 364.

FLORIDA; ARKANSAS; TEXAS.—NORTH MEXICO, Chihuahua (ex *Torrey*).

Order LXXXVII. APOCYNACEÆ.

Apocynaceæ, Benth. et Hook. Gen. Plant. ii. p. 681.

About 900 species, chiefly shrubby and arboreous, belonging to 103 genera; they are rare in extratropical regions.

1. ALLAMANDA.

Allamanda, Linn. Mant. n. 1295; Benth. et Hook. Gen. Plant. ii. p. 690.

Trees or shrubs, often lofty climbers. About twelve species have been described, nearly all of them Brazilian.

1. **Allamanda cathartica**, Linn. Mant. p. 214; DC. Prodr. viii. p. 318; Bot. Mag. t. 338; Lam. Ill. t. 171.

Allamanda aubletii, Pohl, Bras. i. p. 74; Bot. Mag. t. 4411.

NICARAGUA (*Tate*, 352); PANAMA, Chagres (*Fendler*, 201, 235, 457).—Southward to PERU and BRAZIL, and in the WEST INDIES. Hb. Kew.

2. VALLESIA.

Vallesia, Ruiz et Pav. Prodr. Fl. Per. et Chil. p. 28, t. 5; Benth. et Hook. Gen. Plant. ii. p. 696.

Limited to the following species, which are shrubs or small trees.

1. **Vallesia glabra**, Cav. Ic. Pl. iii. p. 50, t. 297; DC. Prodr. viii. p. 349.

Vallesia dichotoma, Ruiz et Pav. Fl. Per. ii. p. 26, t. 151. fig. B.

Vallesia chiococcoides, H. B. K. Nov. Gen. et Sp. iii. p. 233, t. 241.

Vallesia cymbæfolia, Ort. Dec. p. 58.

FLORIDA; LOWER CALIFORNIA.—MEXICO, Tehuacan, at 5000 feet (*Galeotti*, 7193).—BAHAMAS; CUBA; COLOMBIA, southward to CHILI and eastward to Buenos Ayres; also in the GALAPAGOS. Hb. Kew.

2. **Vallesia mexicana**, Müll. Arg. in Linnæa, xxx. p. 393.

SOUTH MEXICO, region of Orizaba (*Müller*, 1000; *Bourgeau*, 2876); GUATEMALA, Dueñas (*Fraser*). Hb. Kew.

3. RAUWOLFIA.

Rauwolfia, Linn. Gen. Plant. n. 293; Benth. et Hook. Gen. Plant. ii. p. 697.

About forty arboreous and shrubby species, inhabiting tropical Asia, Africa, and America, and extratropical South Africa.

1. **Rauwolfia heterophylla**, Rœm. et Sch. Syst. iv. p. 105; Hook. Ic. Pl. t. 366; DC. Prodr. viii. p. 338.

SOUTH MEXICO, Tantoyuca (*Ervendberg*), Jalapa (*Galeotti*, 7114), Yucatan and Tabasco (*Johnson*, 88); NICARAGUA, environs of Granada (*Lévy*, 214); PANAMA, common on the Isle of Taboga and around the town of Panama (*S. Hayes*, 185).—COLOMBIA; ECUADOR. Hb. Kew.

2. **Rauwolfia longifolia**, A. DC. Prodr. viii. p. 338.

Rauwolfia ternifolia, H. B. K., var. ? foliis longioribus, Benth. Pl. Hartw. p. 67.

SOUTH MEXICO, mountains near San Miguel Sola (*Hartweg*, 491), Tuspango, region of Orizaba (*Bourgeau*, 2446). Hb. Kew.

4. THEVETIA.

Thevetia, Linn. Gen. Plant. ed. 1, n. 177; Benth. et Hook. Gen. Plant. ii. p. 699.

About seven shrubby and small arboreous species, ranging from Mexico to Paraguay.

1. **Thevetia cuneifolia**, A. DC. Prodr. viii. p. 344.

Cerbera cuneifolia, H. B. K. Nov. Gen. et Sp. iii. p. 224.

SOUTH MEXICO, between Zumpango and Mescala, 3000 feet (*Humboldt & Bonpland*).

β. **andrieuxii**, A. DC. Prodr. viii. p. 344.

SOUTH MEXICO, Gonacatepec (*Andrieux*, 254). Hb. Kew.

2. **Thevetia neriifolia**, Juss.; DC. Prodr. viii. p. 343; Mart. et Gal. in Bull.

Acad. Brux. xi. (errore *laurifolia*); Jacq. Amer. t. 47; Descour. Fl. Ant. iii. t. 158.

Cerbera thevetia, Linn. Sp. Pl. p. 304; Bot. Mag. t. 2309.

SOUTH MEXICO, Vera Cruz (*Hahn*), Acapulco (*Sinclair*); PANAMA, Isle of Taboga (*Sinclair*).—Common in many parts of TROPICAL AMERICA and the WEST INDIES, but often cultivated. Hb. Kew.

3. **Thevetia nitida**, A. DC. Prodr. viii. p. 344.

SOUTH MEXICO, Yucatan and Tabasco (*Johnson*, 139); PANAMA, Chagres (*Fendler*, 2), near the towns of Panama and Cruces (*Seemann*, 500). Hb. Kew.

4. **Thevetia ovata**, A. DC. Prodr. viii. p. 344.

Cerbera ovata, Cav. Ic. Pl. iii. p. 35, t. 270.

MEXICO.

5. **Thevetia plumeriæfolia**, Benth. Bot. Voy. 'Sulphur,' p. 124, t. 43.

HONDURAS, Gulf of Fonseca (*Sinclair*). Hb. Kew.

6. **Thevetia yecotli**, A. DC. Prodr. viii. p. 343.

Cerbera thevetioides, H. B. K. Nov. Gen. et Sp. iii. p. 223.

SOUTH MEXICO, near Tasco and Tehuilotepac, 5000 to 6000 feet (*Humboldt & Bonpland*), Gonacatepec (*Andrieux*, 253). Hb. Kew.

β. **glabra**, A. DC. Prodr. viii. p. 343.

SOUTH MEXICO, Tampico (*Berlandier*, 189).

5. AMSONIA.

Amsonia, Walt. Fl. Carol. p. 98; Benth. et Hook. Gen. Plant. ii. p. 702.

Seven herbaceous or half-shrubby species, whereof six are North American and one Japanese.

1. **Amsonia longiflora**, Torr. Bot. U.S. & Mex. Bound. Surv. p. 159; A. Gr. Synop. Fl. N. Am. ii. p. 82.

TEXAS; NEW MEXICO.—NORTH MEXICO (ex *A. Gray*).

2. **Amsonia tomentosa**, Torr. & Frem. in Frem. 2nd Rep. p. 316; Torr. Bot. U.S. & Mex. Bound. Surv. p. 158.

UTAH; TEXAS.—NORTH MEXICO, Sonora and Chihuahua (ex *Torrey*).

6. ASPIDOSPERMA.

Aspidosperma, Mart. et Zucc. Nov. Gen. et Sp. i. p. 57, t. 34 ad 36; Benth. et Hook. Gen. Plant. ii. p. 702.

An exclusively tropical American genus of about forty-five arboreous species, the greater part growing in Guiana and Brazil.

1. **Aspidosperma megalocarpon**, Müll. Arg. in Linnæa, xxx. p. 400.

SOUTH MEXICO, Colipa (*Karwinski*), "ubi ab incolis 'Volador' nuncupatur."

7. PLUMERIA.

Plumeria, Linn. Gen. Plant. n. 298; Benth. et Hook. Gen. Plant. ii. p. 704.

A tropical American genus of trees. About forty species have been described, some of them probably more than once. Some of the species are cultivated and more or less naturalized in other tropical countries.

1. **Plumeria acutifolia**, Poir. Dict. Suppl. ii. p. 667; DC. Prodr. viii. p. 392.

Plumeria acuminata, Ait. Hort. Kew, ed. 2, ii. p. 70; Bot. Mag. t. 3952.

SOUTH MEXICO, region of Orizaba (*Bourgeau*, 2415); GUATEMALA, Dueñas (*Fraser*).—Widely dispersed in TROPICAL AMERICA, and naturalized in many parts of the Old World. Hb. Kew.

2. **Plumeria lambertiana**, Lindl. Bot. Reg. t. 1378; DC. Prodr. viii. p. 391.

Plumeria gouani, D. Don; G. Don, Gen. Syst. iv. p. 94.

Plumeria mexicana, Lodd. Bot. Cab. t. 1024?

MEXICO.

3. **Plumeria megaphylla**, A. DC. Prodr. viii. p. 391.
SOUTH MEXICO, Puebla (*Andrieux*, 256).
4. **Plumeria mollis**, H. B. K. Nov. Gen. et Sp. iii. p. 230; DC. Prodr. viii. p. 393.
SOUTH MEXICO, Aguas Calientes (*Hartweg*, 212).—ORINOCO. Hb. Kew.
5. **Plumeria rubra**, Linn. Sp. Pl. p. 306; DC. Prodr. viii. p. 390; Bot. Mag. t. 279.
SOUTH MEXICO, Chili, Puebla (*Andrieux*, 257, 258). Hb. Kew.
6. **Plumeria xanthostoma**, Schl. in Linnæa, viii. p. 523.
MEXICO, Malpays de Naulingo (*Schiede*).

8. TABERNÆMONTANA.

Tabernæmontana, Linn. Gen. Plant. n. 301; Benth. et Hook. Gen. Plant. ii. p. 706.

Upwards of 100 arboreous and shrubby species, widely dispersed in tropical countries.

1. **Tabernæmontana acapulcensis**, Miers, Apoc. S. Am. p. 57.
Tabernæmontana amygdalifolia, Seem. Bot. Voy. 'Herald,' p. 167, non Jacq., ex Miersio loc. cit.
SOUTH MEXICO, Acapulco (*Pavon*), Tehuantepec (*Schott*); PANAMA, David, Veraguas (*Seemann*). Hb. Kew.
2. **Tabernæmontana alba**, Mill. Dict. n. 2; DC. Prodr. viii. p. 362.
SOUTH MEXICO, Vera Cruz (*Houston*).
3. **Tabernæmontana grandiflora**, Jacq. Amer. p. 40, t. 31; DC. Prodr. viii. p. 368; Bot. Mag. t. 3226.
Stemmadenia grandiflora, Miers, Apoc. S. Amer. p. 75.
PANAMA, Chagres (*Fendler*, 234), woods near the town of Panama (*Seemann*, 344).—COLOMBIA to PERU. Hb. Kew.
4. **Tabernæmontana litoralis**, H. B. K. Nov. Gen. et Sp. iii. p. 228; DC. Prodr. viii. p. 363.
Peschiera litoralis, Miers, Apoc. S. Amer. p. 45.
SOUTH MEXICO, Acapulco (*Beechey*), woods near Vera Cruz (*Galeotti*, 1577; *Linden*, 357), valley of Cordova (*Bourgeau*, 2222), Teapa (*Linden*, 329), Campeachy (*Humboldt & Bonpland*); BRITISH HONDURAS, Belize (*March*). Hb. Kew.
5. **Tabernæmontana macrophylla**, Poir. Dict. Suppl. v. p. 276?, ex Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 3).
SOUTH MEXICO, Mirador, Vera Cruz, 3000 feet (*Galeotti*, 1590).
6. **Tabernæmontana martensii**, Peyr. in Linnæa, xxx. p. 31.
SOUTH MEXICO, Los Baños, 1000 feet (*Heller*).

9. STEMMADENIA.

Stemmadenia, Benth. Bot. Voy. 'Sulphur,' p. 124; Benth. et Hook. Gen. Plant. ii. p. 707; Miers, Apoc. S. Amer. pp. 74 ad 77.

Shrubs or trees. In addition to those below, there is one Cuban species.

1. ***Stemmadenia bella***, Miers, Apoc. S. Amer. p. 77.

SOUTH MEXICO, Orizaba (*Botteri*, 884; *Müller*, 834; *Bilimek*, 269), around Misantla (*Hahn*), Teapa (*Linden*, 330). Hb. Kew.

2. ***Stemmadenia bignoniæflora***, Miers, Apoc. S. Amer. p. 77.

Echites bignoniæflora, Schl. in Linnæa, xxvi. p. 372.

SOUTH MEXICO, without locality (*Schaffner*).

3. ***Stemmadenia glabra***, Benth. Bot. Voy. 'Sulphur,' p. 124, t. 44.

HONDURAS, Gulf of Fonseca (*Sinclair*). Hb. Kew.

4. ***Stemmadenia insignis***, Miers, Apoc. S. Amer. p. 76.

MEXICO.

5. ***Stemmadenia mollis***, Benth. Bot. Voy. 'Sulphur,' p. 125.

SOUTH MEXICO, near Vera Cruz (*Galeotti*, 1632; *Linden*, 355); GUATEMALA (*Skinner*).—ECUADOR. Hb. Kew.

6. ***Stemmadenia pubescens***, Benth. Bot. Voy. 'Sulphur,' p. 125.

Bignonia? *obovata*, Hook. et Arn. Bot. Beech. Voy. p. 439.

NICARAGUA, Realejo (*Sinclair*). Hb. Kew.

10. NERIANDRA.

Neriandra, A. DC. Prodr. viii. p. 422; Benth. et Hook. Gen. Plant. ii. p. 704 sub *Skytantho*.

The following plant belongs most likely to a different genus:—

1. ***Neriandra?* *aurantiaca***, Mart. et Gal. in Bull. Acad. Brux. xi. p. 356.

SOUTH MEXICO, Santiago and Huatusco, Vera Cruz, 3500 to 4000 feet (*Galeotti*, 1591).

11. MALOUETIA.

Malouetia, A. DC. Prodr. viii. p. 378; Benth. et Hook. Gen. Plant. ii. p. 708.

Trees and shrubs. About twenty species, with one exception in Western Tropical Africa, Tropical-American.

1. ***Malouetia panamensis***, Heurck et Müll. Arg. Pl. Nov. fasc. ii. p. 185.

Stemmadenia guatemalensis, Müll. Arg. in Linnæa, xxx. p. 410.

GUATEMALA (*Friedrichsthal*); NICARAGUA, between Sapoa and Tortuga (*Ersted*); PANAMA, Chagres (*Fendler*, 184).—PERU. Hb. Kew.

12. PRESTONIA.

Prestonia, R. Br. in Mem. Wern. Soc. i. p. 69; Benth. et Hook. Gen. Plant. ii. p. 709.

About thirty species of climbing shrubs, restricted to Tropical America.

1. *Prestonia contorta*, Hemsley.

Hæmadictyon contortum, Mart. et Gal. in Bull. Acad. Brux. xi. p. 360.

Exothostemon contortum, Miers, Apoc. S. Amer. p. 241.

SOUTH MEXICO, Zacatepec, Oaxaca, 2500 to 4000 feet (*Galeotti*, 1588).

2. *Prestonia glabrata*, H. B. K. Nov. Gen. et Sp. iii. p. 222; Miers, Apoc. S. Amer. p. 145.

Hæmadictyon glabratum, A. DC. Prodr. viii. p. 427.

PANAMA (*Seemann*, 1062, ex *Miers* loc. cit.).—ECUADOR.

3. *Prestonia ipomœifolia*, A. DC. Prodr. viii. p. 429.

Prestonia tomentosa, Seem. Bot. Voy. 'Herald,' p. 168, non R. Br.

Prestonia seemanni, Miers, Apoc. S. Amer. p. 146.

PANAMA, meadows near the town of Panama (*Seemann*, 159). Hb. Kew.

4. *Prestonia* (*Hæmadictyon*) *macrocarpa*, Hemsley, n. sp. (Tab. LV.)

Glabra vel cito glabrescens, foliis oblongo-ellipticis acuminatis, floribus racemosis, racemis abbreviatis, bracteis squamæformibus, squamis calycinis deltoideis integris, squamis corollinis linearibus integris, disco urceolato ovarium includente, folliculis angustis usque sesquipedalibus arcuatis apice cohærentibus.

Frutex volubilis, glaber vel cito glabrescens, ramis teretibus, ultimis graciliusculis. *Folia* vix coriacea, breviter petiolata, oblonga vel elliptica, 3-6-pollicaria, basi rotundata vel interdum cuneata, apice breviter acuminata, integerrima. *Flores* aurei et sulphurei (*Hayesio*), ad 15 lineas diametro et longitudine, racemosi; racemi abbreviati, pauciflori, bracteis squamiformibus; calycis segmenta fere libera, lanceolata, acuta, 6-9 lineas longa, squamis calycinis 5, deltoideis, integris; corollæ hypocraterimorphæ tubus intus ad medium retrorso-barbatus, supra staminum squamis 5 linearibus integris erectis lobis limbi alternis instructus, fauce annulata; limbi lobi divaricati, rotundati. Stamina ad medium tubi affixa, subinclusa; filamenta brevia, dilatata, retrorso-barbata; antheræ sagittatæ, circa stigma conniventes. Discus urceolatus, ovarium vestiens, basi carnosus, apice tenuior et laceratus, intus bilamellatus, lamellæ ovarii alternantes; stylus sursum leviter dilatatus. *Folliculi* angusti, usque sesquipediales, arcuati, apice cohærentes; semina oblonga, compressa, rugosa, coma ampla appendiculata.

GUATEMALA, without locality (*Skinner*); PANAMA, Chagres (*Fendler*, 250), Aspinwall (*S. Hayes*, 375). Hb. Kew.

EXPLANATION OF TAB. LV.

Fig. 1, a flower laid open; 2, one of the calyx-segments, with its scale-like appendage; 3, vertical section of the lower part of the flower; 4, disk; 5, a stamen; 6, cross-section of young fruit (carpels incorrectly represented as united); 7, portion of a ripe fruit; 8, a seed: all, except 7 and 8, enlarged.

5. **Prestonia mexicana**, A. DC. Prodr. viii. p. 429; Calques des Dess. Fl. Mex. 795.

Mitozus mexicanus, Miers, Apoc. S. Amer. p. 225.

SOUTH MEXICO, San Bartolo, Oaxaca (*Andrieux*, 251). Hb. Kew.

6. **Prestonia schizadenia**, Hemsley.

Hæmadictyon schizadenium, Müll. Arg. in Linnæa, xxx. p. 431.

SOUTH MEXICO, Papantla (*Karwinski*).

7. **Prestonia sericea**, Mart. et Gal. in Bull. Acad. Brux. xi. p. 360.

Exoostemon sericeum, Miers, Apoc. S. Amer. p. 241.

SOUTH MEXICO, Oaxaca, near the Pacific (*Galeotti*, 1586).

13. THENARDIA.

Thenardia, H. B. K. Nov. Gen. et Sp. iii. p. 209; Benth. et Hook. Gen. Plant. ii. p. 710.

One or two climbing species, restricted to Mexico.

1. **Thenardia floribunda**, H. B. K. Nov. Gen. et Sp. iii. p. 210, t. 240.

SOUTH MEXICO, near the city of Mexico, at about 7000 feet (*Humboldt & Bonpland*), Oaxaca (*Ghiesbreght*), without locality (*Bates*). Hb. Kew.

2. **Thenardia? suaveolens**, Mart. et Gal. in Bull. Acad. Brux. xi. p. 359.

SOUTH MEXICO, Michoacan (*Galeotti*, 1557).

14. FORSTERONIA.

Forsteronia, G. F. W. Mey. Prim. Fl. Esseq. p. 133; Benth. et Hook. Gen. Plant. ii. p. 710.

An exclusively Tropical-American genus, comprising about thirty shrubby climbing species.

1. **Forsteronia spicata**, G. F. W. Mey. Prim. Fl. Esseq. p. 135; DC. Prodr. viii. p. 437.

Echites spicata, Jacq. Amer. t. 29.

Thyrsanthus spicatus, Miers, Apoc. S. Amer. p. 95.

SOUTH MEXICO, Campeachy (*Houston*, ex *Miers*, loc. cit.).—COLOMBIA.

15. APOCYNUM.

Apocynum, Linn. Gen. Plant. n. 305; Benth. et Hook. Gen. Plant. ii. p. 716.

Erect herbs or half-shrubs, inhabiting the south of Europe, Temperate Asia, and North America—three species belonging to the Old World, and two limited to America.

1. **Apocynum androsæmifolium**, Linn. Sp. Pl. i. p. 213; Bot. Mag. t. 280; A. Gr. Synop. Fl. N. Am. ii. p. 82.

CANADA and BRITISH COLUMBIA southward.—NORTH MEXICO, mountains south-east of Monclova, Coahuila (*Palmer*, 806). Hb. Kew.

In *Palmer's* specimen the cymes are only two- or three-flowered; but it does not seem to differ otherwise.

2. **Apocynum cannabinum**, Linn. Sp. Pl. p. 311; Torr. Bot. U.S. & Mex. Bound. Surv. p. 158; A. Gr. Synop. Fl. N. Am. p. 83; Hook. Fl. Bor.-Am. t. 139.

Apocynum hypericifolium, Ait. Hort. Kew. ed. 1, i. p. 304; Hook. l. c. t. 140.

OREGON and eastern CANADA southward on both sides of the continent.—NORTH MEXICO, Sonora (ex *Torrey*).

16. HAPLOPHYTON.

Haplophyton, A. DC. Prodr. viii. p. 412; Benth. et Hook. Gen. Plant. ii. p. 722.

An herbaceous monotype.

1. **Haplophyton cimicidum**, A. DC. Prodr. viii. p. 412; A. Gr. Synop. Fl. N. Am. ii. p. 82.

Echites cinerea, A. Rich. in Sagra's Fl. Cub. iii. p. 93.

NEW MEXICO; ARIZONA.—NORTH MEXICO, Sonora (*Thurber*, *Schott*); SOUTH MEXICO, Tehuantepec (*Andrieux*, 250); GUATEMALA, Acasaguastlan (*Bernoulli*, 973).—CUBA. Hb. Kew.

17. TRACHELOSPERMUM.

Trachelospermum, Lemaire, Jard.-Fleur. i. t. 61; Benth. et Hook. Gen. Plant. ii. p. 720.

Six or seven species of climbing shrubs or trees, all except the following inhabiting tropical and temperate Eastern Asia.

1. **Trachelospermum difforme**, A. Gr. Synop. Fl. N. Am. ii. p. 85.

Echites difformis, Walt. Carol. p. 98; Bart. Fl. Am. Sept. i. t. 10.

Forsteronia difformis, A. DC. Prodr. viii. p. 437.

Secondatia, Benth. et Hook. Gen. Plant. ii. p. 723.

VIRGINIA to FLORIDA and TEXAS.—NORTH MEXICO, Monterey (*Eaton & Edwards*)?. Hb. Kew.

18. ODONTADENIA.

Odontadenia, Benth. in Hook. Journ. Bot. iii. p. 242; Benth. et Hook. Gen. Plant. ii. p. 723.

Climbing shrubs. About eighteen species in Tropical America, chiefly in Brazil and Guiana.

BIOL. CENTR.-AMER., Bot. Vol. II., December 1881.

1. **Odontadenia speciosa**, Benth. in Hook. Journ. Bot. iii. p. 242; DC. Prodr. viii. p. 360.

Odontadenia grandiflora et harrisii, Miers, Apoc. S. Amer. pp. 127, 128.

Dipladenia harrisii, Purdie in Bot. Mag. t. 4825.

Calycadenia harrisii, Lemaire in Rev. Hort. 1863, p. 135.

PANAMA, dense woods near Lion-Hill station (*S. Hayes*, 663).—GUIANA; TRINIDAD. Hb. Kew.

19. ECHITES.

Echites, Linn. Gen. Plant. n. 299, pro parte; Benth. et Hook. Gen. Plant. ii. p. 724.

An exclusively Tropical-American genus of climbing shrubs, numbering about thirty-five species.

1. **Echites aspera**, Mart. et Gal. in Bull. Acad. Brux. xi. p. 359.

SOUTH MEXICO, Rio de las Vueltas, road from Tehuacan to Oaxaca (*Galeotti*, 1587).

2. **Echites? billbergii**, Beurling in Kong. Vet. Handl. 1854, p. 137.

PANAMA, Portobello (*Billberg*).

3. **Echites cordata**, A. DC. Prodr. viii. p. 451; Calques des Dess. Fl. Mex. 796.

Temnadenia cordata, Miers, Apoc. S. Amer. p. 212.

MEXICO (*Moçino & Sessé*).

4. **Echites jasminiflora**, Mart. et Gal. in Bull. Acad. Brux. xi. p. 357.

Mesechites jasminiflora, Miers, Apoc. S. Amer. p. 235.

SOUTH MEXICO, woods near Vera Cruz, 3000 feet (*Galeotti*, 1575). Hb. Kew.

5. **Echites lanata**, Mart. et Gal. in Bull. Acad. Brux. xi. p. 359.

SOUTH MEXICO, Sola, Oaxaca, 4000 feet (*Galeotti*, 1584).

6. **Echites mexicana**, Miers, Apoc. S. Amer. p. 205.

Amblyanthera mexicana, Müll. Arg. in Linnæa, xxx. p. 424.

MEXICO, near Victoria (*Karwinski*).

7. **Echites microcalyx**, A. DC. Prodr. viii. p. 456.

Amblyanthera microcalyx, Müll. Arg. in Linnæa, xxx. p. 428.

SOUTH MEXICO, Mirador (*Linden*), Jalapa (*Schiede*); GUATEMALA (*Skinner*); COSTA RICA (*Endres*, 214, 215); PANAMA (*S. Hayes*, 345).—Widely dispersed in the WEST INDIES and Tropical SOUTH AMERICA. Hb. Kew.

8. **Echites pandurata**, A. DC. Prodr. viii. p. 458.

SOUTH MEXICO, San Dionisio, Oaxaca (*Andrieux*, 245, 246). Hb. Kew.

9. **Echites portobellensis**, Beurling in Kong. Vet. Handl. 1854, p. 137.

PANAMA, Portobello (*Billberg*).

10. **Echites rosea**, A. DC. Prodr. viii. p. 450.*Mesechites rosea*, Miers, Apoc. S. Amer. p. 232.NORTH MEXICO, region of San Luis Potosi to Tampico (*Palmer*, 1127).—CUBA. Hb. Kew.11. **Echites secundiflora**, A. DC. Prodr. viii. p. 457; Calques des Dess. Fl. Mex. 798.*Temnadenia secundiflora*, Miers, Apoc. S. Amer. p. 211.SOUTH MEXICO, Mirador, Vera Cruz (*Linden*, 359). Hb. Kew.12. **Echites torulosa**, Linn. Sp. Pl. p. 307.*Echites torosa*, Jacq. Amer. p. 33, t. 27; DC. Prodr. viii. p. 449.*Mesechites torulosa*, Miers, Apoc. S. Amer. p. 229.*Amblyanthera torosa*, Müll. Arg. in Linnæa, xxx. p. 446.SOUTH MEXICO, Campeachy (*Houston*; *Schott*).—WEST INDIES. Hb. Kew.13. **Echites tubiflora**, Mart. et Gal. in Bull. Acad. Brux. xi. p. 358.*Amblyanthera tubiflora*, Müll. Arg. in Linnæa, xxx. p. 454.SOUTH MEXICO, Jalapa (*Galeotti*, 1579). Hb. Kew.14. **Echites trifida**, Jacq. Amer. p. 31, t. 24; DC. Prodr. viii. p. 454; Miers, Apoc. S. Amer. p. 202.HONDURAS, Gulf of Fonseca (*Sinclair*); PANAMA, near the city of Panama (*Seemann*, 161).—COLOMBIA; VENEZUELA. Hb. Kew.15. **Echites umbellata**, Jacq. Amer. p. 30, t. 22; DC. Prodr. viii. p. 447.MEXICO (*Coulter*, 961).—WEST INDIES. Hb. Kew.

20. MACROSIPHONIA.

Macrosiphonia, Müll. Arg. in Fl. Bras. vi. p. 137, tt. 42, 43; Benth. et Hook. Gen. Plant. ii. p. 726.

About ten species of undershrubs—six Brazilian, and four in the Texano-Mexican region.

1. **Macrosiphonia berlandieri**, A. Gr. Synop. Fl. N. Am. ii. p. 83.*Echites macrosiphon*, Torr. Bot. U.S. & Mex. Bound. Surv. p. 158, t. 43.TEXAS.—NORTH MEXICO, Chihuahua (ex *Torrey*); SOUTH MEXICO, Zimapan (*Coulter*, 966). Hb. Kew.2. **Macrosiphonia brachysiphon**, A. Gr. Synop. Fl. N. Am. ii. p. 83.*Echites brachysiphon*, Torr. Bot. U.S. & Mex. Bound. Surv. p. 158.ARIZONA; NEW MEXICO.—NORTH MEXICO, Sonora (*Schott*; *Thurber*).3. **Macrosiphonia hypoleuca**, Müll. Arg. in Linnæa, xxx. p. 452.*Echites hypoleuca*, Benth. Pl. Hartw. p. 23.*Echites suaveolens*, Mart. et Gal. in Bull. Acad. Brux. xi. p. 356.*Rhodocalyx hypoleuca* et *suaveolens*, Miers, Apoc. S. Am. pp. 139, 140.NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 574);

SOUTH MEXICO, near Morelia, Michoacan, 3500 to 7000 feet (*Galeotti*, 1593), Zimapan (*Coulter*, 967, 968), Aguas Calientes (*Hartweg*). Hb. Kew.

4. **Macrosiphonia lanuginosa**, Hemsley.

Echites lanuginosa, Mart. et Gal. in Bull. Acad. Brux. xi. p. 357.

Rhodocalyx lanuginosus, Miers, Apoc. S. Amer. p. 139.

NORTH MEXICO, Monterey (*Eaton & Edwards*)? SOUTH MEXICO, Mextitlan, 6000 feet (*Galeotti*, 1594). Hb. Kew.

We have not seen the type of this species, which may be the same as *M. berlandieri*.

21. MANDEVILLA.

Mandevilla, Lindl. Bot. Reg. 1840, t. 7; Benth. et Hook. Gen. Plant. ii. p. 726.

An exclusively Tropical-American genus of climbing shrubs, numbering about forty-five species.

1. **Mandevilla andrieuxii**, Hemsley.

Amblyanthera andrieuxii, Müll. Arg. in Linnæa, xxx. p. 422.

Mesechites andrieuxii, Miers, Apoc. S. Amer. p. 235.

SOUTH MEXICO, San Francisco, between Huauapan and Oaxaca (*Andrieux*, 249). Hb. Kew.

2. **Mandevilla convolvulacea**, Hemsley.

Echites convolvulacea, A. DC. Prodr. viii. p. 451.

Amblyanthera convolvulacea, Müll. Arg. in Linnæa, xxx. p. 430.

SOUTH MEXICO, near San Bartolo (*Karwinski*).

This, according to Müller, is not Peruvian, as recorded by De Candolle.

3. **Mandevilla foliosa**, Hemsley.

Amblyanthera foliosa, Müll. Arg. in Linnæa, xxx. p. 427.

Laseguea foliosa, Miers, Apoc. S. Amer. p. 253.

SOUTH MEXICO, near the city of Mexico (*Ghiesbreght*).

4. **Mandevilla hispida**, Hemsley.

Echites hispida, Rœm. et Schultz, Syst. iv. p. 395.

Echites lasiocarpa, A. DC. Prodr. viii. p. 463.

Echites hirsuta, Stedelm. in Flora, 1841, Beibl. p. 27 (non alior.); Bot. Mag. t. 3997.

PANAMA, in meadows near Anton (*Seemann*, 160).—GUIANA; BRAZIL. Hb. Kew.

5. **Mandevilla karwinskii**, Hemsley.

Amblyanthera karwinskii, Müll. Arg. in Linnæa, xxx. p. 426.

Echites karwinskii, Miers, Apoc. S. Amer. p. 206.

MEXICO (*Karwinski*).

6. **Mandevilla oaxacana**, Hemsley.

Echites oaxacana, A. DC. Prodr. viii. p. 451.

Echites hirtella, Benth. Pl. Hartw. p. 67, non H. B. K.

Echites glaucescens, Mart. et Gal. in Bull. Acad. Brux. xi. p. 358.

Amblyanthera oaxacana, Müll. Arg. in Linnæa, xxx. p. 447.

Mesechites oaxacana et *hirtellula*, Miers, Apoc. S. Amer. p. 234.

Temnadenia glaucescens, Miers, Apoc. S. Amer. p. 214.

SOUTH MEXICO, Cordillera of Oaxaca, 7000 feet (*Galeotti*, 1582; *Andrieux*, 248), Puente del Gia (*Hartweg*, 492). Hb. Kew.

7. **Mandevilla palustris**, Hemsley.

Amblyanthera palustris, Müll. Arg. in Fl. Bras. vi. p. 145.

COSTA RICA (*Endres*, 235).—GUIANA; BRAZIL. Hb. Kew.

8. **Mandevilla veraguensis**, Hemsley.

Echites veraguensis, Seem. Bot. Voy. 'Herald,' p. 168.

PANAMA, Boquete (*Seemann*, 1220).—COLOMBIA. Hb. Kew.

22. LASEGUEA.

Laseguea, A. DC. Prodr. viii. p. 481; Benth. et Hook. Gen. Plant. ii. p. 725.

About half a dozen shrubby species, limited to Tropical America.

1. **Laseguea villosa**, Miers, Apoc. S. Amer. p. 250.

NICARAGUA (*Seemann*, 95). Hb. Kew.

23. RHABDADENIA.

Rhabdadenia, Müll. Arg. in Fl. Bras. vi. p. 173; Benth. et Hook. Gen. Plant. ii. p. 727.

About eight shrubby species, limited to Tropical America.

1. **Rhabdadenia cordata**, Miers, Apoc. S. Amer. p. 122.

Apocynum cordatum, Miller, Dict. (1768) n. 10; Houston, Icon. t. 44. figg. 5, 10, 11; DC. Prodr. viii. p. 440.

SOUTH MEXICO, Vera Cruz (*Houston*).

24. URECHITES.

Urechites, Müll. Arg. in Bot. Zeit. 1860, p. 22, et in Linnæa, xxx. p. 440; Benth. et Hook. Gen. Plant. ii. p. 727.

About four shrubby species, inhabiting Mexico and the West Indies.

1. **Urechites andrieuxii**, Müll. Arg. in Linnæa, xxx. p. 442.

SOUTH MEXICO, near Tehuantepec (*Andrieux*, 247). Hb. Kew.

2. **Urechites karwinskii**, Müll. Arg. in Linnæa, xxx. p. 404.

SOUTH MEXICO, near Victoria (*Karwinski*).

3. **Urechites**, sp. ?

CENTRAL AMERICA (*Barclay*). Hb. Kew.

Order LXXXVIII. ASCLEPIADEÆ.

Asclepiadeæ, Benth. et Hook. Gen. Plant. ii. p. 728.

An order embracing about 150 genera and 1300 species, generally dispersed in warm countries—a few in the temperate regions of the northern hemisphere, very few in South America and Extratropical Australia, and absent from New Zealand, but numerous in South Africa.

1. PHILIBERTIA.

Philibertia, H. B. K. Nov. Gen. et Sp. iii. p. 195; Benth. et Hook. Gen. Plant. ii. p. 750.

An exclusively American genus of shrubs and undershrubs. There are about thirty species, dispersed from Texas to Buenos Ayres.

1. ***Philibertia crassifolia***, Hemsley.

Sarcostemma crassifolium, Dcne. in DC. Prodr. viii. p. 540.

SOUTH MEXICO, Oaxaca, at 2000 feet (*Galeotti*, 1529). Hb. Kew.

2. ***Philibertia crispa***, Hemsley.

Sarcostemma crispum, Benth. Pl. Hartw. p. 79.

SOUTH MEXICO, Aguas Calientes (*Hartweg*). Hb. Kew.

Possibly the same as *P. undulata*.

3. ***Philibertia cumanensis***, Hemsley.

Sarcostemma cumanense, H. B. K. Nov. Gen. et Sp. iii. p. 195.

SOUTH MEXICO, Teapa (*Linden*, 309), Oaxaca, near the Pacific (*Galeotti*, 1527); PANAMA (*S. Hayes*, 544).—COLOMBIA; VENEZUELA; GUIANA; north of BRAZIL; CUBA. Hb. Kew.

4. ***Philibertia cynanchoides***, A. Gr. Synop. Fl. N. Am. ii. p. 87.

Sarcostemma cynanchoides, Dcne. in DC. Prodr. viii. p. 541.

Sarcostemma bilobum, Hook. et Arn. Bot. Beech. Voy. p. 317.

SOUTH UTAH to ARIZONA and TEXAS.—NORTH MEXICO, Sonora (*Thurber*), around Matamoros (*Berlandier*, 2334); SOUTH MEXICO, Acapulco (*Sinclair*); GUATEMALA, Volcan de Fuego, 8000 feet (*Salvin*). Hb. Kew.

5. ***Philibertia elegans***, Hemsley.

Sarcostemma elegans et *S. bicolor*, Dcne. in DC. Prodr. viii. p. 541.

SOUTH MEXICO, mountains east of Oaxaca, 7000 feet (*Galeotti*, 1534), tableland of Tehuacan, 5000 feet (*Galeotti*, 1537), Real del Monte (*Coulter*, 971), San Felipe (*Andrieux*, 239), Santa Fé (*Bourgeau*). Hb. Kew.

6. ***Philibertia lindeniana***, Hemsley.

Sarcostemma lindeniana, Dcne. in DC. Prodr. viii. p. 541.

SOUTH MEXICO, Yucatan (*Linden*).

7. **Philibertia linearis**, A. Gr. in Proc. Am. Acad. xii. p. 64; Synop. Fl. N. Am. ii. p. 88.

Sarcostemma lineare, Dcne. in Benth. Pl. Hartw. p. 25; DC. Prodr. viii. p. 539.

ARIZONA.—NORTH MEXICO; SOUTH MEXICO, Zimapan (*Coulter*, 998), Leon (*Hartweg*, 217). Hb. Kew.

Var. **heterophylla**, A. Gr. Synop. Fl. N. Am. ii. p. 88.

Sarcostemma heterophyllum, Torr. Bot. U.S. & Mex. Bound. Surv. p. 161.

CALIFORNIA; ARIZONA.—NORTH MEXICO, Sonora and Chihuahua (*Wright*), Parras, Coahuila (*Palmer*). Hb. Kew.

8. **Philibertia lurida**, Hemsley.

Sarcostemma (Ceramanthus) luridum, Kze. in Linnæa, xx. p. 26.

MEXICO.

9. **Philibertia odorata**, Hemsley, n. sp.

Volubilis, omnino hirsuta, foliis orbiculari-cordatis abrupte acuminatis, cymis 6–12-floris breviter pedunculatis, corona exteriore annulari undulata, interioris squamis inflatis longioribus quam antheræ, polliniis lineari-oblongis, ovariis glabris.

Frutex volubilis, omnino hirsutus, ramulis teretibus, graciliusculis, pilosulis. *Folia* membranacea, longiuscule petiolata, orbiculari-cordata, $1\frac{1}{2}$ –2-pollicaria, abrupte lineari-acuminata, integra, supra pilosula, subtus dense pubescentia, pallidiora, petiolo gracili ad pollicari. *Flores* (odorati, *Salvin*) 7–8 lineas diametro, in cymas pedunculatas umbelliformes dispositi; cymæ 6–12-floræ; pedunculi ad pollicares; pedicelli 6–8 lineas longi, graciles; calyx 5-partitus, segmentis angustis, acutis, ad 3 lineas longis; corolla subrotata, alte 5-partita, extus pilosa, segmentis ovato-oblongis, obtusis; corona exterior annularis, undulata; squamæ coronæ interioris membranaceæ, inflatæ, antheris longiores; pollinia lineari-oblonga, tenuia; ovaria glabra; stigma apice rostro brevissime bifido instructum. *Folliculi* desunt.

GUATEMALA, Dueñas, 5000 feet (*Salvin*). Hb. Kew.

10. **Philibertia pavoni**, Hemsley, n. sp.

Volubilis, foliis oblongo-cordatis vel ovato-cordatis acuminatis supra pilosulis subtus dense argenteo-velutinis, cymis usque 30-floris longiuscule pedunculatis, pedicellis gracilibus, floribus mediocribus, calyce parvo, corolla subrotata extus hirsuta, corona exteriore annulari brevi, interioris squamis inflatis, brevioribus quam antheræ, polliniis lineari-oblongis, ovariis incanis.

Frutex volubilis, ramulis teretibus, graciliusculis, primum incanis sed cito glabrescentibus. *Folia* membranacea, petiolata, oblongo-cordata vel ovato-cordata, 2–4-pollicaria, acute acuminata, supra viridia, pilosula, subtus dense argenteo-velutina, integra, leviter undulata. *Flores* 7–9 lineas diametro, in cymas pedunculatas umbelliformes dispositi; cymæ usque 30-floræ sed sæpe pauciores; pedunculi 2–4-pollicares; pedicelli 1– $1\frac{1}{2}$ -pollicares, graciles; calyx parvus, 5-partitus, segmentis acutis, $1\frac{1}{2}$ –2 lineas longis; corolla subrotata, alte 5-partita, extus hirsuta, segmentis ovato-lanceolatis, acutis; corona exterior annularis, brevis; squamæ coronæ interioris membranaceæ, inflatæ, antheris breviores; pollinia lineari-oblonga; ovaria incana; stigma apice rostro brevissimi bifido instructum. *Folliculi* desunt.

SOUTH MEXICO, Oaxaca (*Ghiesbreght*, 200), without locality (*Pavon*). Hb. Kew.

This is evidently allied to *P. pannosa*, and possibly the same species, though it has not the *folia margine crispata et stigma apiculatum* ascribed to that species.

11. **Philibertia pannosa**, Hemsley.

Sarcostemma pannosum, Dcne. in DC. Prodr. viii. p. 540.

MEXICO?

12. **Philibertia rotundifolia**, Hemsley.

Sarcostemma rotundifolium, Dcne. in DC. Prodr. viii. p. 540.

SOUTH MEXICO, in woods, Guazacualcos (*Mairet*).

2. FISCHERIA.

Fischeria, DC. Cat. Hort. Monsp. p. 11; Benth. et Hook. Gen. Plant. ii. p. 750.

About twelve shrubby species, inhabiting Tropical and Subtropical America.

1. **Fischeria (?) heterophylla**, Hemsley, n. sp.

Setuloso-pilosa, ferruginea, foliis nunc oblongo-lanceolatis utrinque attenuatis nunc rhomboideo-oblongis basi cordatis, pedunculis brevissimis paucifloris, corolla extus setulosa intus glabra, corona exteriore annulari, interioris squamis bifidis.

Frutex volubilis, setuloso-pilosus, siccitate ferrugineus. *Folia* membranacea, petiolata, dimorpha (scil., nunc oblongo-lanceolata utrinque attenuata, nunc rhomboideo-oblonga, basi cordata, apice acuminata, vix acuta), maxima 5-pollicaria, petiolo semipollicari. *Flores* umbellatim cymosi, 10–12 lineas lati; pedunculi brevissimi, ad 5-flori; pedicelli infrapollicares; calycis segmenta setosa, lineari-lanceolata, acuta, ad 3 lineas longa; corolla rotata, alte 5-lobata, lobis planis, angustis, acutis, extus setulosus, intus glabris; coronæ inter se septatæ, exterior carnosa, annularis, undulata, interioris squamæ a dorso antherarum radiantes, reflexæ, bifidæ; gynostegium breve; ovarium glabrum. *Folliculi* a nobis non visi.

NICARAGUA, Chontales (*Tate*, 171, 240). Hb. Kew.

A very distinct species, if correctly referred to this genus. The structure of the coronal rings is very similar to that of some other species.

2. **Fischeria martiana**, Dcne. in DC. Prodr. viii. p. 601.

Gonolobus martianus, Hook. Bot. Mag. t. 4472.

NICARAGUA, Chontales (*Tate*, 449).—Southward to PERU and BRAZIL. Hb. Kew.

3. MACROSCEPIS.

Macroscepis, H. B. K. Nov. Gen. et Sp. iii. p. 200; Benth. et Hook. Gen. Plant. ii. p. 751.

Three or four closely allied species of climbing shrubs, inhabiting Peru, Colombia, and Central America.

1. **Macroscepis obovata**, H. B. K. Nov. Gen. et Sp. iii. p. 201, t. 233; Dcne. in DC. Prodr. viii. p. 599.

SOUTH MEXICO, Campeachy (*Humboldt & Bonpland*), Tehuantepec (*Andrieux*, 240), Oaxaca (*Galeotti*, 1521, 1526). Hb. Kew.

Galeotti's 1526 is likewise quoted under *Gonolobus fuscus* by Decaisne.

2. **Macroscepis rotata**, Dcne. in DC. Prodr. viii. p. 599.

SOUTH MEXICO, Yucatan (*Linden*).

3. **Macrocephis tristis**, Benth. et Hook. Gen. Plant. ii. p. 751.

Schubertia tristis, Seem. Bot. Voy. 'Herald,' p. 160.

PANAMA, Rio de Santa Maria (*Seemann*, 158). Hb. Kew.

4. **Macrocephis**, sp. ?

SOUTH MEXICO, valley of Cordova (*Bourgeau*, 1510). Hb. Kew.

4. OXYPETALUM.

Oxypetalum, R. Br. in Mem. Wern. Soc. i. p. 41; Benth. et Hook. Gen. Plant. ii. p. 752.

Herbs or shrubs. About fifty species in South America, chiefly in Brazil.

1. **Oxypetalum riparium**, H. B. K. Nov. Gen. et Sp. iii. p. 197; DC. Prodr. viii. p. 582.

Gothofreda cordifolia, Vent. Choix, t. 60.

SOUTH MEXICO, Vera Cruz, 2000 to 3000 feet (*Galeotti*, 1576; *Linden*, 350), valley of Cordova (*Bourgeau*, 1481).—Southward to PERU and BRAZIL, and in the WEST INDIES. Hb. Kew.

5. ASCLEPIODORA.

Asclepiodora, A. Gr. in Proc. Am. Acad. xii. p. 66.

Two herbaceous species.

1. **Asclepiodora decumbens**, A. Gr. Synop. Fl. N. Am. ii. p. 89.

Anantherix decumbens, Nutt. in Trans. Am. Phil. Soc. ser. 2, v. p. 201.

Acerates decumbens, Dcne. in DC. Prodr. viii. p. 522.

Asclepias brevicornu, Scheele in Linnæa, xxi. p. 756.

UTAH; NEW MEXICO; ARKANSAS; TEXAS.—NORTH MEXICO (ex *A. Gray*).

2. **Asclepiodora viridis**, A. Gr. in Proc. Am. Acad. xii. p. 66; Synop. Fl. N. Am. ii. p. 89.

Gomphocarpus viridis, Spreng. Syst. Veg. i. p. 849.

Asclepias viridis, Walt. Carol. p. 107.

Anantherix paniculatus, Nutt. in Trans. Am. Phil. Soc. ser. 2, v. p. 201.

Acerates paniculata, Dcne. in DC. Prodr. viii. p. 521.

Asclepias longipetala, Scheele in Linnæa, xxi. p. 757.

UTAH; ARKANSAS; TEXAS; NEW MEXICO.—NORTH MEXICO (ex *A. Gray*); SOUTH MEXICO, San Felipe (*Andrieux*, 232), region of Orizaba (*Bourgeau*, 2904). Hb. Kew.

6. ACERATES.

Acerates, Ell. Sk. i. p. 316; A. Gr. Proc. Am. Acad. xii. p. 66; Benth. et Hook. Gen. Plant. ii. p. 754, sub *Gomphocarpo*.

About eight herbaceous species, inhabiting North America from Canada to Mexico.

1. **Acerates asperula**, Dcne. in DC. Prodr. viii. p. 522.

SOUTH MEXICO, near Huejutla (*Ghiesbreght*).

BIOL. CENTR.-AMER., Bot. Vol. II., December 1881.

2. **Acerates circinalis**, Dcne. in Ann. Sc. Nat. série 2, ix. p. 322, t. 11. fig. c; DC. Prodr. viii. p. 522.

SOUTH MEXICO, San Felipe (*Andrieux*, 238). Hb. Kew.

3. **Acerates gomphocarpoides**, Dcne. in DC. Prodr. viii. p. 522.

SOUTH MEXICO, Toluca (*Andrieux*, 235). Hb. Kew.

4. **Acerates humilis**, Benth. Pl. Hartw. p. 291.

SOUTH MEXICO, Leon (*Hartweg*). Hb. Kew.

7. ASCLEPIAS.

Asclepias, Linn. Gen. Plant. n. 306; Benth. et Hook. Gen. Plant. ii. p. 754.

About sixty perennial herbaceous species, the greater part inhabiting North America, including Mexico, a few in Central and South America, two in Africa, and one now widely dispersed in warm regions, though probably introduced in most places.

1. **Asclepias angustifolia**, Schweig. Enum. Pl. Hort. Bot. Regiomont. 1812, p. 13; Rœm. et Schult. Syst. Veg. vi. p. 70, non Ell.

Asclepias virgata, Balb. Cat. Stirp. Hort. Acad. Taur. 1813, p. 14; Lag. Nov. Gen. et Sp. 1815, p. 14; Sweet, Brit. Fl. Gard. ser. 2, t. 85; A. Gr. in Proc. Am. Acad. xii. p. 70.

Asclepias linifolia, H. B. K. Nov. Gen. et Sp. iii. p. 190.

Asclepias verticillata β . *linifolia*, Dcne. in DC. Prodr. viii. p. 570.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 581); SOUTH MEXICO, Misteca Alta, Oaxaca, 7000 feet (*Galeotti*, 1509), Orizaba (*Botteri*, 1068), and many garden specimens. Hb. Kew.

2. **Asclepias auriculata**, H. B. K. Nov. Gen. et Sp. iii. p. 191, t. 228; DC. Prodr. viii. p. 570.

SOUTH MEXICO, San Felipe, near Oaxaca (*Andrieux*, 232), near Ario, 6000 feet (*Humboldt & Bonpland*), oak-woods at 2000 feet (*Galeotti*, 1507, 1513), region of Orizaba (*Bourgeau*, 2904). Hb. Kew.

3. **Asclepias bidentata**, Hemsley, n. sp.

Glabrescens, foliis petiolatis tenuibus ovato-lanceolatis usque ad semipedalibus, umbellis interpetiolaribus longiuscule pedunculatis, cucullis supra columnam sessilibus latis ventre apice bidentatis, ligula lunata breviter exserta, ovariis ventre pilosulis.

Herba erecta, glabrescens, caulibus simplicibus (?), teretibus, leviter puberulis. *Folia* opposita, breviter petiolata, tenuia, primum plus minus pilosula, ovato-lanceolata, 4–6 poll. longa, usque ad 2 poll. longa, longe acuminata, acuta, basi rotundata, venis transversis remotiusculis, inconspicuis. *Flores* mediocres, umbellati; umbellæ interpetiolaris, pedunculatæ, multifloræ, 1½–2 poll. diametro; pedunculi 1–2 poll. longi, pilosuli; pedicelli 5–10 lineas longi, pilosuli, gracillimi, bracteis brevibus angustissimis; calycis segmenta angusta, acuta, extus pilosula; corollæ lobi oblongi, 4–5 lineas longi, arcte reflexi, intus basin versus minutissime papilloso; cuculli (coronæ squamæ) supra columnam lineam longam sessiles, antheras paulo superantes, lati, inflati, dorso apice truncati, ventre bidentati, i. e. marginibus sursum producti; ligula (processus interior cuculli) arcuata vel lunata, leviter exserta; ovaria ventre leviter pilosula, lævia. *Folliculi* desunt.

SOUTH MEXICO, Real del Monte (*Coulter*, 985). Hb. Kew.

4. **Asclepias brachystephana**, Engelm. in Torr. Bot. U.S. & Mex. Bound. Surv. p. 163; A. Gr. Synop. Fl. N. Am. ii. p. 94.

WYOMING; COLORADO; ARIZONA; TEXAS.—NORTH MEXICO, Sonora (*Wright*), Chihuahua (*Potts*), west of Saltillo (*Gregg*), mountains south of Saltillo (*Palmer*, 814), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 576). Hb. Kew.

5. **Asclepias coulteri**, A. Gr. in Proc. Am. Acad. xii. p. 71.

MEXICO (*Coulter*, 983). Hb. Kew.

6. **Asclepias curassavica**, Linn.; DC. Prodr. viii. p. 566; A. Gr. Synop. Fl. N. Am. ii. p. 90; Bot. Reg. t. 81.

FLORIDA and LOUISIANA, "perhaps introduced" (*A. Gray*).—Common in MEXICO and CENTRAL AMERICA, and in nearly all WARM COUNTRIES. Hb. Kew.

7. **Asclepias elata**, Benth. Pl. Hartw. p. 290.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 579); SOUTH MEXICO, Aguas Calientes (*Hartweg*), region of Orizaba (*Bourgeau*, 2713). Hb. Kew.

8. **Asclepias erosa**, Torr. Bot. U.S. & Mex. Bound. Surv. p. 162.

SOUTH UTAH; CALIFORNIA; ARIZONA.—NORTH MEXICO, Sonora, within the old boundary (*Thurber*).

9. **Asclepias euphorbiæfolia**, Engelm. in Proc. Am. Acad. xvi. p. 104. (Tab. LVI. A. figg. 1-4.)

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*; *Schaffner*). Hb. Kew.

EXPLANATION OF TAB. LVI. A. FIGS. 1-4.

Fig. 1, a flower; 2, column and corona; 3, one of the coronal hoods; 4, a pair of pollinia: all enlarged.

10. **Asclepias fragrans**, Dcne. in DC. Prodr. viii. p. 571.

Otaria fragrans, Benth. Pl. Hartw. p. 89.

GUATEMALA (*Hartweg*). Hb. Kew.

11. **Asclepias glaucescens**, H. B. K. Nov. Gen. et Sp. iii. p. 190, t. 227; A. Gr. Synop. Fl. N. Am. ii. p. 92.

TEXAS; NEW MEXICO.—MEXICO, Oaxaca (*Galeotti*, 1503), Vera Cruz to Orizaba (*Müller*, 506, 809), Chiapas &c. (*Ghiesbreght*, 667, 668), Cuernavaca (*Bilimek*); GUATEMALA, Dueñas, Volcan de Fuego, 4950 feet (*Salvin*), without locality (*Friedrichsthal*). Hb. Kew.

12. **Asclepias involucrata**, Engelm. in Torr. Bot. U.S. & Mex. Bound. Surv., p. 163; A. Gr. Synop. ii. p. 94.

ARIZONA; NEW MEXICO.—NORTH MEXICO, between Lake Guzman and Rio Grande (*Bigelow*, *Thurber*), San Luis Mountains, Sonora (*Smith*). Hb. Kew.

13. **Asclepias jamesii**, Torr. Bot. U.S. & Mex. Bound. Surv. p. 162; A. Gr. Synop. Fl. N. Am. ii. p. 92.

COLORADO; TEXAS; ARIZONA.—NORTH MEXICO, Tascate, Sonora (*Parry*).

14. **Asclepias lanuginosa**, H. B. K. Nov. Gen. et Sp. iii. p. 193; DC. Prodr. viii. p. 564.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 578); SOUTH MEXICO, between Casave and Pachuca, 7800 feet (*Humboldt & Bonpland*), Jalisco (*Sinclair*), Toluca (*Andrieux*, 231), valley of Mexico (*Bourgeau*, 62; *Graham*, 246, 247), Cordillera of Oaxaca, 5000 to 7000 feet (*Galeotti*, 1510). Hb. Kew.

15. **Asclepias laxiflora**, Dcne. in DC. Prodr. viii. p. 571.

Otaria laxiflora, Benth. Pl. Hartw. p. 67.

SOUTH MEXICO, La Parada (*Hartweg*). Hb. Kew.

16. **Asclepias linaria**, Cav. Ic. Pl. i. p. 42, t. 57; DC. Prodr. viii. p. 570; Proc. Am. Acad. xii. p. 71.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 585), Sierra Madre (*Seemann*, 2066), between Saltillo and San Luis Potosi (*Berlandier*); SOUTH MEXICO, Toluca (*Andrieux*, 236), Mitla (*Andrieux*, 237), cold districts of the tableland, 7000 feet (*Galeotti*, 1515), Piñion, Guadalupe, &c., valley of Mexico (*Bourgeau* 61; *Bilimek*, 224, 226), Guanajuato (*Hartweg*). Hb. Kew.

17. **Asclepias longicornu**, Benth. Pl. Hartw. p. 24; DC. Prodr. viii. p. 570; A. Gr. Synop. Fl. N. Am. ii. p. 98.

Asclepias lindheimeri, Engelm. et A. Gr. Pl. Lindh. ii. p. 42.

Asclepias ænotheroides, Cham. et Schl. in Linnæa, v. p. 123.

TEXAS; NEW MEXICO.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 587), Zacatecas (*Coulter*, 988); SOUTH MEXICO, sand-hills, Vera Cruz (*Galeotti*, 1543), Tehuantepec (*Andrieux*, 229), Vera Cruz to Orizaba (*Müller*); GUATEMALA (*Skinner*); NICARAGUA, Realejo (*Sinclair*). Hb. Kew.

18. **Asclepias macrotis**, Torr. Bot. U.S. & Mex. Bound. Surv. p. 164, t. 45 B (ubi *macrocera*); A. Gr. Synop. Fl. N. Am. ii. p. 94.

NEW MEXICO; TEXAS.—NORTH MEXICO, Chihuahua (ex *A. Gray*), near Silver City within the old boundary (*Greene*). Hb. Kew.

19. **Asclepias melantha**, Dcne. in DC. Prodr. viii. p. 570.

SOUTH MEXICO, Oaxaca, 8000 to 9000 feet (*Galeotti*, 1514), San Felipe (*Andrieux*, 233). Hb. Kew.

20. **Asclepias mexicana**, Cav. Ic. Pl. i. p. 42, t. 58; A. Gr. in Proc. Am. Acad. xii. p. 71; Synop. Fl. N. Am. ii. p. 96.

Asclepias fasciculata, Dcne. in DC. Prodr. viii. p. 569.

Asclepias macrophylla, Nutt. Pl. Gamb. p. 180.

OREGON ; CALIFORNIA ; ARIZONA.—MEXICO, valley of Mexico (*Bourgeau*, 63 ; *Schaffner*, 331), Chiapas &c. (*Ghiesbreght*). Hb. Kew.

21. ***Asclepias neglecta***, Hemsley, n. sp.

Erecta, puberula, foliis breviter petiolatis ovato-oblongis (usque ad 4 poll. longis) conspicue venosis, umbellis interpetiolaribus multifloris breviter pedunculatis, corollæ lobis reflexis, cucullis supra columnam longiusculam sessilibus antheras vix æquantibus, ligula angusta longiuscule exserta, ovariis glabris, folliculis parce pilosulis.

Herba erecta, puberula, caulibus subsimplicibus, robustiusculis. *Folia* opposita vel subopposita, breviter petiolata, crassiuscula, ovata vel oblonga, 2–4 poll. longa, 1–2 poll. lata, basi rotundata, leviter cordata vel interdum leviter cuneata, apice acuta, obtusa vel rotundata, simul apiculata, supra cito glabrata, subtus plus minus puberula, conspicue venosa, venis primariis lateralibus utrinque 4–5. *Flores* mediocres, umbellati ; umbellæ interpetiolares, pedunculatæ, multifloræ, 1–1½ poll. diametro ; pedunculi 6–18 lineas longi ; pedicelli 4–8 lineas longi ; bracteæ nullæ vel paucæ, parvæ ; calycis segmenta lanceolata, acuta, extus pilosula ; corollæ lobi oblongi, arcte reflexi, extus primum parce pilosuli ; cuculli (coronæ squamæ) supra columnam lineam longam sessiles, antheris breviores, lati, apice truncati ; ligula angusta, arcuata, incurva, longiuscule exserta, antheras paulo superans ; ovaria glabra, lævia. *Folliculi* nondum maturi parce pilosuli, læves, angusti, acuminati, ad 3 lineas longi.

SOUTH MEXICO, Zimapan (*Coulter*, 984), valley of Mexico (*Bourgeau*, 319), Tlalpuexahua (*Graham*), Rio Blanco, region of Orizaba (*Bourgeau*, 2714), and a specimen from Ruiz and Pavon's herbarium, labelled *Asclepias amœna*—N. E. (*i. e.* Nouvelle Espagne). Hb. Kew.

It is possible that Coulter's 984, a specimen in young fruit, may be a different species ; but the foliage matches so well that we have not hesitated to associate it with the other specimens.

22. ***Asclepias nivea***, Linn. ; DC. Prodr. viii. p. 566 ; non Bot. Mag. 1181.

NORTH MEXICO, Caracol Mountains, south-east of Monclova (*Palmer*, 812).—CUBA ; JAMAICA. Hb. Kew.

23. ***Asclepias nummularia***, Torr. Bot. U.S. & Mex. Bound. Surv. p. 163, t. 45 ; A. Gr. Synop. Fl. N. Am. ii. p. 92.

NEW MEXICO.—NORTH MEXICO, Chihuahua (*Parry*), Sonora (*Smith*), without locality (*Coulter*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 580). Hb. Kew.

24. ***Asclepias ovata***, Mart. et Gal. in Bull. Acad. Brux. xi. p. 363.

SOUTH MEXICO, oak-forests of El Sabino, near Ismiquilpan, at 6500 feet (*Galeotti*, 1554).

25. ***Asclepias pratensis***, Benth. Pl. Hartw. p. 45 ; DC. Prodr. viii. p. 568.

SOUTH MEXICO, Morelia, Michoacan, 6000 feet (*Galeotti*, 1549 ; *Hartweg*). Hb. Kew.

26. ***Asclepias puberula***, A. Gr. in Proc. Am. Acad. xvi. p. 104.

NORTH MEXICO, near Morales, San Luis Potosi (*Schaffner*, 60). Hb. Kew.

27. **Asclepias quinquentata**, A. Gr. in Proc. Am. Acad. xii. p. 71, et xvi. p. 103.

MEXICO.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 583; *Schaffner*, 57). Hb. Kew.

28. **Asclepias rosea**, H. B. K. Nov. Gen. et Sp. iii. p. 189; DC. Prodr. viii. p. 569.

SOUTH MEXICO, near Chilpancingo, at 4200 feet (*Humboldt & Bonpland*), Cordillera of Vera Cruz, 2500 feet (*Galeotti*, 1516, 1542), Mirador (*Linden*, 349), Guanajuato (*Hartweg*); GUATEMALA (*Skinner*; *Bernoulli*, 312). Hb. Kew.

29. **Asclepias rubricaulis**, H. B. K. Nov. Gen. et Sp. iii. p. 189; DC. Prodr. viii. p. 569.

SOUTH MEXICO, La Venta del Peregrino, 1550 feet (*Humboldt & Bonpland*).

30. **Asclepias schaffneri**, A. Gr. in Proc. Am. Acad. xvi. p. 103.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 582; *Schaffner*). Hb. Kew.

31. **Asclepias setosa**, Benth. Pl. Hartw. p. 24; DC. Prodr. viii. p. 567.

SOUTH MEXICO, Aguas Calientes (*Hartweg*), Zimapan (*Coulter*, 989, 991), Zacuapan (*Linden*, 343), Oaxaca (*Ghiesbreght*, 669), region of Orizaba (*Bourgeau*, 3036). Hb. Kew.

32. **Asclepias similis**, Hemsley, n. sp.

Puberula, foliis floribusque iis *A. rubrae*, *A. phytolaccoidei* et *A. purpurascens* similibus sed venis primariis transversis crebrioribus, cucullis supra vaginam distinctam sessilibus antheras superantibus, ligula vix exserta.

Herba robusta, erecta, primum puberula, caulibus simplicibus cito glabrescentibus. *Folia* opposita, breviter petiolata, crassiuscula, late ovata, $4\frac{1}{2}$ – $5\frac{1}{2}$ poll. longa, 2–3 poll. lata, vel superiora interdum fere lanceolata, simul minora, acuta, basi late rotundata vel cuneata, supra glabra vel cito glabrescentia, subtus puberula, pallidiora, venis primariis transversis 20–30, conspicuis. *Flores* majusculi, umbellati; umbellæ terminales vel saltem in apicibus caulorum 2–4 aggregatæ, multifloræ, $1\frac{1}{2}$ –2 poll. diametro; pedunculi 1– $1\frac{1}{2}$ poll. longi; pedicelli graciles, puberuli, 6–12 lineas longi, bracteis linearibus; calycis segmenta oblongo-lanceolata, vix acuta, glabra; corollæ lobi purpurei, oblongi, arcte recurvi; cuculli (coronæ squamæ) supra vaginam lineam longam sessiles, subcylindrici, apice oblique truncati, antheras superantes; ligula vix exserta; ovaria glabra. *Folliculi* nobis ignoti.

SOUTH MEXICO, Chiapas &c. (*Ghiesbreght*, 665, 666). Hb. Kew.

33. **Asclepias subulata**, Dcne. in DC. Prodr. viii. p. 571; A. Gr. Synop. Fl. N. Am. ii. p. 96; Torr. in Pacif. Railr. Rep. v. t. 7.

South-east CALIFORNIA and West ARIZONA; LOWER CALIFORNIA.—West MEXICO? (ex *A. Gray*).

34. **Asclepias uncialis**, Greene in Coulter's Bot. Gaz. v. p. 64; Proc. Am. Acad. xvi. p. 103.

COLORADO; NEW MEXICO.—NORTH MEXICO, within the old boundary, near Silver City (*Greene*).

35. **Asclepias verticillata**, Linn.; Dcne. in DC. Prodr. viii. p. 569, excl. β . *linifolia*; A. Gr. in Proc. Am. Acad. xii. p. 71; Synop. Fl. N. Am. ii. p. 97; Hook. Fl. Bor.-Am. ii. t. 144; Lodd. Bot. Cab. t. 1067; Sweet, Brit. Fl. Gard. t. 144.

Asclepias galioides, H. B. K. Nov. Gen. et Sp. iii. p. 188.

CANADA to NEBRASKA and south to FLORIDA, TEXAS, and NEW MEXICO.—NORTH MEXICO, Sonora and Chihuahua (*Parry &c.*); SOUTH MEXICO, valley of Mexico (*Bourgeau*, 65), Leon (*Hartweg*), Hacienda de Pateo &c. (*Graham*). Hb. Kew.

36. **Asclepias wrightii**, Greene in Proc. Am. Acad. xvi. p. 102.

NORTH MEXICO, near Santa Rita and Silver City, within the old boundary (*Greene*).

8. METASTELMA.

Metastelma, R. Br. in Mem. Wern. Soc. i. p. 52; Benth. et Hook. Gen. Plant. ii. p. 755.

About forty species of twining shrubs, restricted to America, and inhabiting tropical and subtropical regions.

1. **Metastelma angustifolium**, Turcz. in Bull. Soc. Nat. Mosc. 1852, ii. p. 315.
SOUTH MEXICO, Miradores, 3000 feet (*Linden*).

2. **Metastelma barbigerum**, Scheele in Linnæa, xxi. p. 760; A. Gr. Synop. Fl. N. Am. ii. p. 101.

TEXAS.—NORTH MEXICO, near Monterey (*Edwards*), west of Cerralbo (*Gregg*).

3. **Metastelma cubense**, Dcne. in DC. Prodr. viii. p. 515?
SOUTH MEXICO, Chiapas, &c. (*Ghiesbreght*, 664). Hb. Kew.

4. **Metastelma parviflorum**, R. Br. in Mem. Wern. Soc. i. p. 52; DC. Prodr. viii. p. 513.

MEXICO (*hb. Pavon*).—WEST INDIES; COLOMBIA. Hb. Kew.

5. **Metastelma pedunculare**, Dcne. in DC. Prodr. viii. p. 514.
GUATEMALA, Cuesta de Pinula (*Hartweg*). Hb. Kew.

6. **Metastelma schlechtendalii**, Dcne. in DC. Prodr. viii. p. 514.
Metastelma parviflorum, Schl. in Linnæa, vi. p. 731, et viii. p. 518, non R. Br.

SOUTH MEXICO, Zacuapan (*Linden*, 363), Hacienda de la Laguna (*Schiede & Deppe*), Vera Cruz to Orizaba (*Müller*, 195), near Jalapa (*Galeotti*, 1541); PANAMA, Isle of Taboga, and near the town of Panama (*S. Hayes*, 182).—VENEZUELA; WEST INDIES. Hb. Kew.

9. MELINIA.

Melinia, Dcne. in DC. Prodr. viii. p. 588; Benth. et Hook. Gen. Plant. ii. p. 757.

Twining shrubs. One Mexican species and two or three in extratropical South America.

1. **Melinia angustifolia**, A. Gr. Synop. Fl. N. Am. ii. p. 101.

Metastelma ? angustifolia, Torr. Bot. U.S. & Mex. Bound. Surv. p. 159.

NORTH MEXICO, Sonora (*Wright*). Hb. Kew.

10. BLEPHARODON.

Blepharodon, Dcne. in DC. Prodr. viii. p. 603, pro parte; Benth. et Hook. Gen. Plant. ii. p. 756.

Twining shrubs. About sixteen species, restricted to tropical America.

1. **Blepharodon mucronatum**, Dcne. in DC. Prodr. viii. p. 603.

SOUTH MEXICO, Vera Cruz (*Schiede*; *Galeotti*, 1524; *Linden*, 344), Sierra de Zongolica (*Botteri*, 981); PANAMA, Paraiso (*S. Hayes*, 351). Hb. Kew.

11. ENSLENIA.

Enslenia, Nutt. Gen. N. Am. Pl. i. p. 164; Benth. et Hook. Gen. Plant. ii. p. 757.

1. **Enslenia ligulata**, Benth. Pl. Hartw. p. 290.

SOUTH MEXICO, Aguas Calientes (*Hartweg*), without locality (*hb. Pavon*). Hb. Kew.

12. VINCETOXICUM.

Vincetoxicum, Moench. Meth. p. 717; Benth. et Hook. Gen. Plant. ii. p. 761.

Herbaceous perennials, or erect or twining shrubs, inhabiting temperate, subtropical, and, more rarely, tropical regions in both hemispheres. About seventy species are known.

1. **Vincetoxicum kunthii**, Hemsley.

Orthosia kunthii, Dcne. in DC. Prodr. viii. p. 527.

Cynanchum lanceolatum, H. B. K. Nov. Gen. et Sp. iii. p. 203.

SOUTH MEXICO, Toluca (*Andrieux*, 242). Hb. Kew.

There are many other specimens in Kew herbarium belonging to this or one or more very closely allied species.

2. **Vincetoxicum sepium**, Dcne. in DC. Prodr. viii. p. 526.

SOUTH MEXICO, mountains east of Oaxaca, at 7000 feet (*Galeotti*, 1533), Zimapan (*Coulter*, 1001). Hb. Kew.

13. ROULINIA.

Roulinia, Dcne. in DC. Prodr. viii. p. 516; Benth. et Hook. Gen. Plant. ii. p. 762.

About twelve shrubby, mostly twining species, inhabiting Tropical America.

1. **Roulinia jacquini**, Dcne. in DC. Prodr. viii. p. 517.*Asclepias fœtida*, Cav. Ic. Pl. t. 158.*Cynanchum fœtidum*, H. B. K. Nov. Gen. et Sp. iii. p. 202.*Cynanchum racemosum*, Jacq. Amer. t. 54.SOUTH MEXICO, Yucatan (*Linden*, 351), tableland, Oaxaca, 5000 feet (*Galeotti*, 1538; *Ghiesbreght*), Queretaro, at 6000 feet (*Humboldt & Bonpland*). Hb. Kew.2. **Roulinia unifaria**, Engelm. in Torr. Bot. U.S. & Mex. Bound. Surv. p. 160.*Gonolobus unifarius*, Scheele in Linnæa, xxi. p. 760.TEXAS.—NORTH MEXICO, north of Monoclova, Coahuila (*Palmer*, 829). Hb. Kew.

14. DICTYANTHUS.

Dictyanthus, Dcne. in DC. Prodr. viii. p. 604; Benth. et Hook. Gen. Plant. ii. p. 765.

Twining shrubs, endemic in Mexico.

1. **Dictyanthus parviflorus**, Hemsley, n. sp.

Erectus?, pilosus, foliis parvis cordatis, pedunculis 1-2-floris brevioribus quam folia, floribus puberulis ad 9 lineas diametro, corollæ tubo brevi.

Frutex erectus?, ramis teretibus, gracilibus, pilosis, pilis patentibus. *Folia* longiuscule petiolata, crassiuscula, ovato-cordata, vel interdum fere orbiculari-cordata, absque petiolo usque ad pollicaris, utrinque hispidulo-pilosa, apice obtusa, venis subtus prominulis. *Flores* solitarii vel gemini; pedunculi foliis subduplo breviores; calyx alte 5-partitus, extus pilosus, intus basi 5-glandulosus, segmentis lineari-lanceolatis, acutis, ad 3 lineas longis; corolla badia, reticulata, minute puberula, ad 9 lineas lata, tubo brevi, lobis deltoideis. *Folliculi* non visi.MEXICO, Cuernavaca and Chiapas (*Ghiesbreght*, 663). Hb. Kew.2. **Dictyanthus pavonii**, Dcne. in DC. Prodr. viii. p. 605; Bot. Mag. t. 4750.*Dictyanthus campanulatus*, Reichb. Select. Sem. Hort. Dresd. 1850, coll. p. 4; Walp. Ann. iii. p. 60.*Tympananthe suberosa*, Hassk. in Flora, xxx. p. 758.SOUTH MEXICO, ravines near Morelia, 3500 feet (*Galeotti*, 1304), Oaxaca (*Ghiesbreght*). —“Peru” (*hb. Pavon*). Hb. Kew.3. **Dictyanthus reticulatus**, Benth. et Hook. Gen. Plant. ii. p. 765.*Rytidoloma reticulatum*, Turcz. in Bull. Soc. Nat. Mosc. 1852, ii. p. 320.SOUTH MEXICO, Sierra San Pedro Nolasco, &c. (*Jurgensen*, 692), Vera Cruz to Orizaba (*Müller*, 1108). Hb. Kew.4. **Dictyanthus stapeliæflorus**, Rchb. Select. Sem. Hort. Dresd. 1850, coll. p. 4; Walp. Ann. iii. p. 60.NORTH MEXICO, foot of the Sierra Madre, Durango (*ex Reichenbach*).

15. TRICHOSACME.

Trichosacme, Zucc. in Abhandl. k. Baier. Akad. Wiss. iv. pars 2, p. 11; Benth. et Hook. Gen. Plant. ii. p. 765.

A remarkable monotype, which we have not seen.

BIOL. CENTR.-AMER., Bot. Vol. II., February 1882.

1. **Trichosacme lanata**, Zucc. in Abhandl. k. Baier. Akad. Wiss. iv. pars 2, p. 11; Flore des Serres, t. 1123; Lindl. & Paxt. Fl. Gard. i. p. 105, fig. 71.

MEXICO.

16. GONOLOBUS.

Gonolobus, Mich. Fl. Bor.-Am. i. p. 119; Benth. et Hook. Gen. Plant. ii. p. 766; A. Gr. in Proc. Am. Acad. xii. p. 75.

Between eighty and ninety species of herbs and shrubs, many of them twiners, inhabiting Tropical and North America.

We have followed Gray in referring *Chthamalia* and *Ibatia*, Dcne., to this genus rather than to *Lachnostoma*.

1. **Gonolobus asper**, Dcne. in DC. Prodr. viii. p. 595.

SOUTH MEXICO, San Felipe (*Andrieux*, 244). Hb. Kew.

2. **Gonolobus barbatus**, H. B. K. Nov. Gen. et Sp. iii. p. 209, t. 239; DC. Prodr. viii. p. 597.

SOUTH MEXICO, sea-shore, Campeachy? (*Humboldt & Bonpland*), sandhills of the Pacific, Oaxaca (*Galeotti*, 1525). Hb. Kew.

3. **Gonolobus billbergianus**, Beurling in Kong. Vet. Handl. 1854, p. 138.

PANAMA, Portobello (*Billberg*).

4. **Gonolobus** (§ *Chthamalia*) **bifidus**, Hemsley, n. sp.

Puberulus, caulibus gracilibus, foliis cordatis sæpissime longe acuminatis, pedunculis quam folia multo brevioribus paucifloris, calyce intus sæpissime 10-glanduloso, corolla hirsuta rotata segmentis longitudinaliter revolutis, corona cyathiformi margine undulata intus ligulis 5 elongatis bifidis instructa, folliculis lævibus tenuibus.

Herba vel *suffrutex* puberulus, caulibus gracilibus, numerosis, e caudice tuberiformi prostratis vel volubilibus, 1½–3-pedalibus. *Folia* tenuia, graciliter petiolata, cordata (sinu lato, lobis rotundatis), cum petiolo 1½–2-pollicaria, sæpissime longe acuminata, acuta. *Flores* ad 9 lineas diametro, in cymas paucifloras breviter pedunculatas conferti; pedunculi petiolis æquilongi; calyx parvus, segmentis oblongis, intus sæpissime 10-glandulosis, glandulis minutis per paria in sinibus, vel interdum nunc solitariis nunc pluribus aggregatis; corolla rotata, præcipue intus strigillosa, segmentis patentibus, angustis, longitudinaliter revolutis; corona cyathiformis, undulata, fere libera, gynostegium brevissimum superans, intus ligulis 5 elongatis bifidis staminibus oppositis instructa; pollinia minuta, obliqua; ovaria glabra, stigmatibus vertice depresso. *Folliculi* læves, tenues, acuminati, 2½–3-pollicares; semina ovata, subconcano-convexa, facie hili marginata, coma maxima.

NORTH MEXICO, in the region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 590). Hb. Kew.

In floral structure this comes nearest to *G. biflorus*, a species found in Arkansas and Texas; but it is quite distinct in the corona and smooth follicles.

5. **Gonolobus chloranthus**, Schl. in Linnæa, xiii. p. 520; DC. Prodr. viii. p. 592.
Gonolobus grandiflorus, Lindl. Bot. Reg. t. 1053, non R. Br.

SOUTH MEXICO, woods of Jalapa, 4000 feet (*Galeotti*, 1523; *Schiede & Deppe*), Totutla (*Linden*, 336). Hb. Kew.

6. **Gonolobus congestus**, Dcne. in DC. Prodr. viii. p. 597.

SOUTH MEXICO, mountains near the Pacific, Oaxaca, 5000 feet (*Galeotti*, 1528).

7. **Gonolobus** (§ **Eugonolobus**) **edulis**, Hemsley, n. sp.

Villosus vel pilosus, foliis ovato-oblongis basi profunde cordatis, sinu sæpissime lato, venis subtus ferrugineis, pedunculis brevibus 3-5-floris, corolla mediocri alba intus densissime barbata, corona brevi intus longitudinaliter 5-lamellata, folliculis (fide *Endresii*) magnitudine ovi cygni esculentis.

Frutex volubilis, plus minusve ferrugineo-pilosus vel villosus, ramis teretibus, crassiusculis. *Folia* membranacea, petiolata, ovato-oblonga, 2-6-pollicaria, basi profunde cordata (sinu sæpissime lato sed interdum clauso), apice acuminata vix acuta, præcipue subtus in venis ferrugineo-pilosa; petiolus gracilis, 1-2-pollicaris. *Flores* umbellatim cymosi, 10-15 lineas lati; pedunculi 3-6 lineas longi, 3-5-flori; pedicelli usque ad 15 lineas longi; calyx pubescens, 5-partitus, segmentis lineari-lanceolatis, obtusiusculis, 3-4 lineas longis; corolla alba, rotata, intus valde barbata, lobis latis, apice leviter cucullatis; corona brevis, intus longitudinaliter 5-lamellata. *Folliculi* (fide *Endresii*) esculenti, magnitudinis ovi cygni.

GUATEMALA (*Friedrichsthal*); COSTA RICA (*Endres*, 213). Hb. Kew.

Apparently a very distinct species. According to Endres, it is the guayote of the natives of Costa Rica.

8. **Gonolobus erianthus**, Dcne. in DC. Prodr. viii. p. 592.

Gonolobus grandiflorus, Benth. Pl. Hartw. p. 24, non R. Br.

SOUTH MEXICO, region of Orizaba (*Bourgeau*, 2457; *Botteri*, 928), Jalapa, 4000 feet (*Galeotti*, 1519), Leon (*Hartweg*), Sola, Oaxaca, 4000 feet (*Galeotti*, 1532), near Chiconguia (*Schiede & Deppe*); GUATEMALA (*Skinner*). Hb. Kew.

Probably more than one species under this name.

9. **Gonolobus fraternus**, Schl. in Linnæa, xiii. p. 521; DC. Prodr. viii. p. 592.

SOUTH MEXICO, Hacienda de la Laguna (*Schiede & Deppe*). Hb. Kew.

10. **Gonolobus fuscus**, Dcne. in DC. Prodr. viii. p. 592.

SOUTH MEXICO, humid ravines of Arumbaro, near Morelia, Michoacan, 3500 feet (*Galeotti*, 1546).

11. **Gonolobus gracilis**, Dcne. in DC. Prodr. viii. p. 596.

SOUTH MEXICO, Oaxaca, 5000 feet (*Galeotti*, 1531).

12. **Gonolobus lanceolatus**, Dcne. in DC. Prodr. viii. p. 598.

SOUTH MEXICO, woods near Vera Cruz, 4000 feet (*Galeotti*, 1518), Zacuapan (*Linden*, 334). Hb. Kew.

13. **Gonolobus littoralis**, Dcne. in DC. Prodr. viii. p. 593.
SOUTH MEXICO, sandhills of Vera Cruz (*Galeotti*, 1545). Hb. Kew.
14. **Gonolobus luridus**, Dcne. in DC. Prodr. viii. p. 592.
SOUTH MEXICO, near the Hacienda de Guadalupe in the laguna de Mexitlan (*Ghiesbreght*, 662). Hb. Kew.
15. **Gonolobus luteolus**, Dcne. in DC. Prodr. viii. p. 593.
SOUTH MEXICO, Teapa (*Ghiesbreght*, 310). Hb. Kew.
16. **Gonolobus macranthus**, Kze. in Linnæa, xx. p. 27; Walp. Ann. i. p. 508.
MEXICO, Hacienda de la Laguna (*Schiede & Deppe*).
17. **Gonolobus nemorosus**, Dcne. in DC. Prodr. viii. p. 596.
SOUTH MEXICO, Misteca Alta, Oaxaca, 7000 feet (*Galeotti*, 1540).
18. **Gonolobus niger**, R. Br. in Mem. Wern. Soc. i. p. 35; DC. Prodr. viii. p. 597; Bot. Mag. t. 2799.
Cynanchum nigrum, Cav. Ic. t. 159.
SOUTH MEXICO, near Vera Cruz (*Galeotti*, 1522; *Linden*, 335). Hb. Kew.
19. **Gonolobus nigrescens**, Schl. in Linnæa, viii. p. 522; DC. Prodr. viii. p. 597.
SOUTH MEXICO, Hacienda de la Laguna (*Schiede & Deppe*).
20. **Gonolobus nummularius**, Hemsley.
Chthamalia nummularia, Dcne. in DC. Prodr. viii. p. 605.
SOUTH MEXICO, Jalapa (*Coulter*, 980). Hb. Kew.
21. **Gonolobus pedunculatus**, Hemsley.
Chthamalia pedunculata, Dcne. in DC. Prodr. viii. p. 605.
NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 588);
SOUTH MEXICO, Morelia, 7000 feet (*Galeotti*, 1548), Santa Fé (*Bourgeau*, 132 bis).
Hb. Kew.
22. **Gonolobus** (§ **Dictyanthus**) **picturatus**, Hemsley, n. sp. (Tab. LVI. B. figg. 5 et 6.)
Præter flores glaberrimus, nitidus, ramis ad nodos tumidis, foliis longe petiolatis subcordato-ovatis acuminatis, pedunculis paucifloris, calyce parvulo, corolla rotata striata intus villosa, gynostegio brevissimo, corona sinuata, stigmatate vertice lacteo.
Frutex volubilis, præter flores glaberrimus, ramis graciliusculis, teretibus, ochraceis, nitidis, ad nodos tumidis. *Folia* membranacea, longe petiolata; lamina pendula, subcordato-ovata vel oblonga, longe acuminata, obtusiuscula, 3-5-pollicaris; petiolus divaricatus, usque ad 2½-pollicaris, basi dilatatus, canaliculatus. *Flores* umbellatim cymosi, circiter 1 poll. lati; pedunculi pauciflori, graciliusculi, ad 2-pollicares; pedicelli 4-12 lineas longi; calyx 5-partitus, segmentis oblongo-lanceolatis, obtusis, 1½-2 lineas longis; corolla flavo-virens, longitudinaliter striata, intus villosa, rotata, lobis planis, late ovatis, obtusis; corona carnosae, undulatae; gynostegium brevissimum; pollinia obliqua, pendula; stigma vertice depressum, lacteum. *Folliculi* ignoti.
GUATEMALA, Cerro de Zunil, 4350 feet (*Salvin*). Hb. Kew.

In a note accompanying a drawing of this species Mrs. Salvin says, "flowers like delicate work in metal and enamel." The metallic white of the stigma is preserved in the dried specimens. It consists of a thin pellicle, which is easily removed.

23. **Gonolobus pilosus**, Benth. Pl. Hartw. p. 289.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 591); SOUTH MEXICO, Leon (*Hartweg*), Zimapan (*Coulter*, 975). Hb. Kew.

24. **Gonolobus** (§ **Eugonolobus**) **pogonanthus**, Hemsley, n. sp.

Herbaceus vel suffruticosus, villosus, caudice tuberiformi, caulibus nanis erectis, foliis oblongis usque orbicularibus, cymis subsessilibus, corolla rotata, segmentis intus medio densissime barbatis, corona alte 5-lobata, lobis latis gynostegium paullo superantibus, polliniis fere horizontalibus, ovariis glabris.

Herba vel *suffrutex* plus minusve villosus, caudice tuberiformi, caulibus crassiusculis, erectis, 4–8-pollicaribus, internodiis brevibus. *Folia* crassiuscula, petiolata, oblonga, ovata vel interdum fere orbicularia, cum petiolo 1–2-pollicaria, basi cuneata, rotundata vel cordiformia, apice obtusa vel rotundata, venis immersis. *Flores* 5–6 lineas diametro, in cymas subsessiles plurifloras dispositi; pedicelli 1–3 lineas longi; calyx intus 5–10-glandulosus; segmenta fere libera, ovato-oblonga, obtusa, petalis triente breviora, glandulis parvis, sæpissime in sinibus geminis; corolla rotata, extus parcissime villosa, segmentis ovato-lanceolatis, obtusis, margine leviter incurvis, intus medio densissime et longissime barbatis; corona fere libera, membranacea, alte 5-lobata, lobis latis, sursum latioribus, intus inappendiculatis, gynostegium superantibus, apice truncatis vel obscure denticulatis; pollinia oblonga, fere horizontalia; ovaria glabra, stigmatibus supra stamina in rostrum globosum producto. *Folliculi* nobis ignoti.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 586); SOUTH MEXICO, Chiapas (*Ghiesbreght*, 670). Hb. Kew.

25. **Gonolobus productus**, Torr. Bot. U.S. and Mex. Bound. Surv. p. 165; A. Gr. Synop. Fl. N. Am. ii. p. 106.

TEXAS; ARIZONA.—NORTH MEXICO, Cadena (*Gregg*).

26. **Gonolobus prostratus**, R. Br. in Mem. Wern. Soc. i. p. 35.

Lachnostoma prostratum, Dcne. in DC. Prodr. viii. p. 602.

Cynanchum prostratum, Willd.; Cav. Ic. i. t. 7.

SOUTH MEXICO, San Angel (*Bourgeau*, 132). Hb. Kew.

27. **Gonolobus** (§ **Dictyanthus**) **reflexus**, Hemsley, n. sp.

Fruticosus, ferrugineo-pilosus vel villosus, foliis membranaceis ovato-oblongis acuminatis, cymis umbelliformibus 6–12-floris subsessilibus, corolla rotata insigniter reflexa puberula reticulata, segmentis oblongis apice rotundatis, corona cyathiformi 10-dentata gynostegium includente, tubo stamineo elongato, stigmatibus vertice depresso.

Frutex ferrugineo-pilosus vel villosus, ramis teretibus, elongatis, pilis patentibus vestitis. *Folia* membranacea, mollia, breviter petiolata, ovato-oblonga, 3–5-pollicaria, acuminata, strigoso-villosa. *Flores* 8–9 lineas diametro, in cymas umbelliformes subsessiles dispositi; cymæ 6–12-floræ; pedicelli graciles, 6–15 lineas longi; calyx parvus, extus ferrugineo-villosus, intus sæpe 5-glandulosus, segmentis lineari-lanceolatis, glandulis minimis; corolla rotata, eleganter reticulata, insigniter reflexa, extus puberula vel villosula, intus pulverulenta, tubo brevi, fauce nuda, segmentis oblongis, apice rotundatis; corona cyathiformis, gynostegium turbinatum

includens et paullo superans, calloso-5-dentata; tubus stamineus elongatus; pollinia clavata, subpendula; ovaria glabra, stigmatibus vertice depresso. *Folliculi* non visi.

NICARAGUA, Chontales (*Tate*, 241, 410). Hb. Kew.

In habit and foliage, as well as in the markings of the flowers, this closely resembles *Lachnostoma tigrinum*, differing in its subsessile cymes, slender pedicels, remarkably reflexed corolla, which has a very short tube, in not being hairy in the throat, and also in the corona being free from the corolla.

28. **Gonolobus reticulatus**, Engelm. in Proc. Am. Acad. xii. p. 75.

Gonolobus granulatus, Torr. Bot. U.S. and Mex. Bound. Surv. p. 165, non Scheele.

TEXAS; ARIZONA.—NORTH MEXICO, Sonora (*Schott*), Monterey (*Eaton & Edwards*).

29. **Gonolobus (?) salvinii**, Hemsley, n. sp.

Glabrescens, ramis gracilibus, foliis membranaceis graciliter petiolatis oblongo-lanceolatis, pedunculis brevibus paucifloris, corolla subrotata sinibus protrusis, corona exteriore 5-lobata, lobis bifidis, interioris squamis obovato-oblongis apice antherarum recurvis.

Frutex (volubilis?), cito glabrescens, ramis teretibus, gracilibus, primum pilosulis. *Folia* membranacea, graciliter petiolata, glabra, oblongo-lanceolata, 4–5-pollicaria, acuminata, vix acuta. *Flores* cymosi, ad sesquipollicem lati; pedunculi 3–6 lineas longi; pedicelli usque ad 9 lineas longi; calycis segmenta parce puberula, linearia, acuta, 2½–3 lineas longa; corolla subrotata, alte 5-fida, intus extusque parce puberula, segmentis angustis, sinibus protrusis, subauriculatis; coronæ inter se breviter septatæ; exterior annularis, 5-lobata, lobis gynostegio fere æquilongis, bifidis; interioris lobi vel squamæ amplæ, obovato-oblongæ, apice antherarum recurvæ; ovaria glabra. *Folliculi* desunt.

GUATEMALA, Las Nubes, Cerro de Zunil, 4350 feet (*Salvin*). Hb. Kew.

This species resembles *G. stellatus*, Griseb., a West-Indian species, differing in the structure of the corona, and in the bulging at the base of the lobes of the corolla.

30. **Gonolobus (‡ Chthamalia) schaffneri**, A. Gr. MSS.

“*G. prostrato* affinis, hispidulo-pubens; foliis sagittato-cordatis sinu angustiori; pedunculis brevibus glomerato-plurifloris; pedicellis flore haud longioribus; corolla intus extusque hispidulo-puberula, lobis primum ovato- mox lineari-lanceolatis, corona staminea cyathiformi vel pateriformi margine undulata fere integra intus ligulis 5 angusto-linearibus apice emarginatis longe exsertis adnatim aucta.”—*A. Gray*.

NORTH MEXICO, mountains around the city of San Luis Potosi (*Schaffner*, 651). Hb. Kew.

31. **Gonolobus sidæfolius**, Mart. et Gal. in Bull. Acad. Brux. xi. p. 367; Walp. Rep. vi. p. 489.

SOUTH MEXICO, Mirador and Zacuapan, 2000 feet (*Galeotti*, 1520, 1561).

32. **Gonolobus striatus**, Mart. et Gal. in Bull. Acad. Brux. xi. p. 365; Walp. Rep. vi. p. 489.

SOUTH MEXICO, oak woods of El Sabino, 6500 feet (*Galeotti*, 1558).

33. **Gonolobus tingens**, Dcne. in DC. Prodr. viii. p. 592.

SOUTH MEXICO, Zimapán, 6500 feet (*Galeotti*, 1559).

34. **Gonolobus triflorus**, Mart. et Gal. in Bull. Acad. Brux. xi. p. 365; Walp. Rep. vi. p. 489.

SOUTH MEXICO, Misteca Alta, Oaxaca, 6500 feet (*Galeotti*, 1539).

35. **Gonolobus tristis**, Dcne. in DC. Prodr. viii. p. 596.

SOUTH MEXICO, eastern Cordillera of Oaxaca, 7000 feet (*Galeotti*, 1530). Hb. Kew.

36. **Gonolobus uniflorus**, H. B. K. Nov. Gen. et Sp. iii. p. 207, t. 238; DC. Prodr. viii. p. 591.

SOUTH MEXICO, near Mexico city, 7000 feet (*Humboldt & Bonpland*), Toluca, 7000 feet (*Andrieux*, 243), Oaxaca, 6000 feet (*Galeotti*). Hb. Kew.

37. **Gonolobus velutinus**, Schl. in Linnæa, xiii. p. 521; DC. Prodr. viii. p. 593.

SOUTH MEXICO, region of Orizaba (*Bourgeau*, 2458; *Bilimek*, 234), Jalapa (*Coulter*, 979; *Müller*, 536; *Schiede & Deppe*), Misantla (*Hahn*). Hb. Kew.

38. **Gonolobus virescens**, Dcne. in DC. Prodr. viii. p. 596.

SOUTH MEXICO, near Regla, 5000 feet (*Galeotti*, 1552); PANAMA (*Seeman*)? Hb. Kew.

39. **Gonolobus viridiflorus**, Rœm. et Schult. Syst. vi. p. 61; DC. Prodr. viii. p. 594.

COSTA RICA, Cartego (*Ersted*).—COLOMBIA to PERU and GUIANA. Hb. Kew.

17. LACHNOSTOMA.

Lachnostoma, H. B. K. Nov. Gen. et Sp. iii. p. 198, t. 232; Benth. et Hook. Gen. Plant. ii. p. 767, excl. *Ibatia* et *Chthamalia*; A. Gr. in Proc. Am. Acad. xii. p. 74.

Taking Gray's view of the genus, two species only are known, the original *L. tigrinum* being a native of Colombia.

1. *Lachnostoma lasiostemma*, Hemsley, n. sp.

Foliis longe petiolatis hastato-cordatis, corona corollæ tubo adnata duplici, squamis 5 corollæ lobis oppositis maximis subgaleatis sessilibus valde barbatis, gynostegio libero.

Frutex (?) ferrugineo-hirsutus, ramulis crassiusculis, retrorso-pilosis. *Folia* tenuia, mollia, longe petiolata, hastato-cordata, absque petiolo $2\frac{1}{2}$ –3 poll. longa, acuminata, acuta, margine leviter undulata, utrinque præcipue subtus in venis ferrugineo-pubescentia, petiolo gracili, $1\frac{1}{2}$ –2-pollicari. *Flores* 12–15 lineas diametro, in cymas breviter pedunculatas umbelliformes dispositi; pedicelli usque ad semipollicares; calyx villosus, alte 5-partitus, intus 5-glandulosus, segmentis lineari-lanceolatis, acutis, corollam fere æquantibus; corolla distincte tubulosa, tubo lobis brevior, lobis angustis, obtusiusculis, extus hirsutis, longitudinaliter striatis; corona duplex, corollæ tubo ad apicem adnato; squamæ 5, corollæ lobis oppositæ, maximæ, subgaleatæ vel saccatæ, antice fissæ, extus undique barbatae, intus squamuliferæ, 5 corollæ lobis alternæ, angustæ, bifidæ, glabræ; gynostegium liberum, 5-lobum, stigmatibus vertice depresso; ovaria glabra. *Folliculi* desunt.

GUATEMALA, without locality (*Skinner*). Hb. Kew.

This differs remarkably from *L. tigrinum* in the large, bearded, saccate coronal scales

opposite the lobes of the corolla, of which there are only slight traces in the latter—also in the gynostegium being quite free from the corona.

18. POLYSTEMMA.

Polystemma, Dcne. in DC. Prodr. viii. p. 602; Benth. et Hook. Gen. Plant. ii. p. 768.

A twining shrubby monotype.

1. **Polystemma viridiflora**, Dcne. in DC. Prodr. viii. p. 602; Deless. Ic. Sel. v. t. 79.

SOUTH MEXICO, country east of Orizaba, 4000 feet (*Galeotti*, 1517), Mirador (*Linden*, 338), between Tehuantepec and the sea (*Andrieux*, 456). Hb. Kew.

19. FIMBRISTEMMA.

Fimbristemma, Turcz. in Bull. Soc. Nat. Mosc. 1852, ii. p. 320; Benth. et Hook. Gen. Plant. ii. p. 768.

Climbing shrubs—one species inhabiting Guatemala, and another Venezuela.

1. **Fimbristemma warscewiczii**, Benth. et Hook. Gen. Plant. ii. p. 768.

Callæolepium warscewiczii, Karst. Fl. Columb. ii. t. 165.

GUATEMALA and COSTA RICA (*Warscewicz*).

20. NEPHRADENIA.

Nephradenia, Dcne. in DC. Prodr. viii. p. 604; Benth. et Hook. Gen. Plant. ii. p. 771.

Six herbaceous species, whereof five are Brazilian.

1. **Nephradenia neriifolia**, Benth. et Hook. Gen. Plant. ii. p. 771.

Blepharodon neriifolium, Dcne. in DC. Prodr. viii. p. 604.

Acerates gomphocarpoides, Benth. Pl. Hartw. p. 66, non Dcne.

SOUTH MEXICO, Totontepec (*Hartweg*), eastern Cordillera of Oaxaca, 2000 feet (*Galeotti*, 1535), Sierra San Pedro Nolasco, &c. (*Jurgensen*, 714). Hb. Kew.

21. MARSDENIA.

Marsdenia, R. Br. in Mem. Wern. Soc. i. p. 28; Benth. et Hook. Gen. Plant. ii. p. 772.

About sixty shrubby species, mostly twiners, widely dispersed in hot countries of both hemispheres, and one inhabiting the Mediterranean region.

1. **Marsdenia clausa**, R. Br. in Mem. Wern. Soc. i. p. 30; DC. Prodr. viii. p. 615; Griseb. Fl. Brit. W. Ind. p. 422.

Marsdenia obovata, Turcz. in Bull. Soc. Nat. Mosc. 1852, ii. p. 321.

MEXICO, specimen ex hb. Pavon.—WEST INDIES. Hb. Kew.

2. **Marsdenia coulteri**, Hemsley, n. sp.

Hirsuta, ramulis brevissimis, foliis parvis ovatis utrinque hirsutis, umbellis paucifloris, floribus parvis, corollæ fauce barbata, coronæ squamis minutis, stigmatibus rostrato.

Frutex vel *suffrutex* caule caudiciformi?, ramulis brevissimis, pilosis. *Folia* conferta, petiolata, tenuia, membranacea, ovata, absque petiolo 1-1½ poll. longa, 7-10 lineas lata, obtusa, basi rotundata, utrinque pilosa, subtus venis prominenter reticulatis; petiolus gracilis, 4-6 lineas longus. *Flores* parvi (2-2½ lineas diametro), umbellati vel subumbellati; umbellæ sessiles, paucifloræ; pedicelli 1½-2½ lineas longi; calycis segmenta suborbicularia, extus pilosula, margine scariosa; corolla subrotata, extus glabra, intus fauce lobisque barbata, lobis ovato-oblongis, obtusissimis, patentissimis; coronæ squamæ minutæ; ovaria glabra, stigmatibus longiuscule rostrato. *Folliculi* desunt.

SOUTH MEXICO, Zimapan (*Coulter*, 970). Hb. Kew.

3. *Marsdenia crassipes*, Hemsley, n. sp.

Glaberrima, ramulis elongatis, foliis carnosissimis, rhachi brevi bracteata pedicellisque incrassatis, corollæ fauce imberba, coronæ squamis antheras superantibus, stigmatibus convexo.

Frutex scandens, undique glaberrima, ramulis graciliusculis, teretibus. *Folia* petiolata, carnosissima, supra nitida, ovata, obovata vel oblongo-elliptica, absque petiolo 3-5 poll. longa, usque ad 3 poll. lata sed sæpius angustiora, acuminata, vix acuta, basi rotundata vel plus minus cuneata, venis primariis transversis distantibus, immersis; petiolus ad semipollicaris. *Flores* 3-3½ lineas diametro, racemosi; racemi breves, interpetiolares, bracteati, rhachi pedicellisque incrassatis; bracteæ parvæ, squamiformes; calycis segmenta ovato-orbicularia, minute ciliolata, corollæ tubum æquantia; corolla brevis, hypocraterimorpha, imberbis, lobis ovato-oblongis, obtusissimis, minute ciliolatis, patentissimis vel recurvis; coronæ squamæ anguste oblongæ, antheras excedentes; ovaria glabra, stigmatibus convexo. *Folliculi* non visi.

PANAMA, Aspinwall (*S. Hayes*, 373). Hb. Kew.

4. *Marsdenia maculata*, Hook. Bot. Mag. t. 4299; Griseb. Fl. Brit. W. Ind. p. 422.

PANAMA, near the city of Panama (*Seemann*, 611).—COLOMBIA; VENEZUELA; TRINIDAD. Hb. Kew.

5. *Marsdenia mexicana*, Dcne. in DC. Prodr. viii. p. 527.

SOUTH MEXICO, Tlacolola, Oaxaca (*Andrieux*, 241), Tuspango, region of Orizaba (*Bourgeau*, 2450), Zacuapan (*Linden*, 340). Hb. Kew.

6. *Marsdenia propinqua*, Hemsley, n. sp.

M. maculata arcte affinis, differt foliis floribusque pubescentibus, cymis distincte pedunculatis [folliculis lignosis fere semipedalibus?].

Frutex alte scandens, ramulis elongatis, teretibus, plus minus pubescentibus. *Folia* petiolata, crassiuscula nec coriacea, late elliptica, absque petiolo usque ad 7 poll. longa, acuminata, vix acuta, basi rotundata, primum utrinque præcipue subtus pubescentia, supra demum glabra nitidaque, subtus semper pubescentia; petiolus usque ad semipollicaris. *Flores* 4-5 lineas diametro, densissime cymosi; cymæ umbelliformes, multiflori, breviter pedunculati, pedicellis brevibus; calycis segmenta ovato-rotundata, pubescentia; corolla brevis, hypocraterimorpha, imberbis, lobis minute ciliolatis; coronæ squamæ acutæ, antheras excedentes; ovaria glabra, stigmatibus conico. [*Folliculi* lignosi, læves, angusti, 5-6 poll. longi, acuti?]

SOUTH MEXICO, region of Orizaba (*Botteri*, 929; *Bourgeau*, 2455?). Hb. Kew.

The follicles in Bourgeau's specimen are not attached; therefore we cannot be certain that they belong to our species.

7. **Marsdenia zimapanica**, Hemsley, n. sp.

Gracilis, ramulis brevibus, foliis subtus hirsutis, umbellis paucifloris breviter pedunculatis, corollæ fauce imberbi, coronæ squamis antheras excedentibus, stigmatè convexo.

Frutex scandens?, ramulis brevibus, gracilibus, teretibus, glabrescentibus. *Folia* longiuscule petiolata, tenuia, supra cito glabrescentia, subtus pubescentia, lanceolato-oblonga, ovata vel ovato-orbicularia, acuminata, obtusa vel subacuta, basi rotundata vel plus minus cuneata; petiolus gracilis, 6–9 lineas longus. *Flores* 4–5 lineas diametro, umbellati; umbellæ paucifloræ, pedunculis pedicellisque 2–3 lineas longis; calyx hispidulo-hirsutus, segmentis ovato-oblongis, obtusissimis, corollæ tubum æquantibus; corolla hypocraterimorpha, intus extusque glabra, lobis ovato-oblongis, obtusissimis, patentissimis, minute ciliolatis; coronæ squamæ angustæ, apice rotundatæ vel fere truncatæ, antheras excedentes; ovaria glabra, stigmatè convexo. *Folliculi* non visi.

SOUTH MEXICO, Zimapan (*Coulter*, 964). Hb. Kew.

[*Stapelia bufonia*, Jacq., a South-African plant, has become established in cultivated ground near San Luis Potosi.]

Order LXXXIX. LOGANIACEÆ.

Loganiaceæ, Benth. et Hook. Gen. Plant. ii. p. 786.

Herbs, shrubs, or trees, various in habit. Thirty genera, embracing about 350 species, widely dispersed in the tropics; a few in extratropical America and Australia, and in South Africa. The Order is not represented in Europe and Asiatic Russia.

1. GELSEMIUM.

Gelsemium, Juss. Gen. Plant. p. 150; Benth. et Hook. Gen. Plant. ii. p. 789.

Twining shrubs. Three species—one North-American, one Chinese, and one Sumatran.

1. **Gelsemium sempervirens**, Ait. Hort. Kew. ed. 2, ii. p. 64; A. Gr. Synop. Fl. N. Am. ii. p. 107.

Gelsemium lucidum, Michx. Fl. Bor.-Am. i. p. 120.

Jasminum luteum etc., Catesby, Carol. i. t. 53.

VIRGINIA to FLORIDA and TEXAS.—MEXICO, Orizaba (*Botteri*, 934), Sierra San Pedro Nolasco &c. (*Jurgensen*, 835), pine forests, Titotolé, Chiapas (*Linden*, 1658). Hb. Kew.

2. PLOCOSPERMA.

Plocosperma, Benth. in Benth. et Hook. Gen. Plant. ii. p. 789.

A remarkable shrubby monotype.

1. **Plocosperma buxifolium**, Benth. in Hook. Ic. Pl. t. 1195.

GUATEMALA, without locality (*Skinner*). Hb. Kew.

3. SPIGELIA.

Spigelia, Linn. Gen. Plant. n. 209, et Amœn. Acad. v. t. 2; Benth. et Hook. Gen. Plant. ii. p. 790.

An exclusively American (tropical and north) genus of herbs and half-shrubs. About thirty species are known.

1. ***Spigelia anthelmia***, Linn. Amœn. Acad. v. t. 2; Progel in Mart. Fl. Bras. vi. p. 262; Bot. Mag. t. 2359.

GUATEMALA (*Friedrichsthal*); NICARAGUA, Greytown (*Tate*, 8); COSTA RICA (*Endres*, 229); PANAMA, Chagres (*Fendler*, 283)—Common nearly all over TROPICAL SOUTH AMERICA and the WEST INDIES. Hb. Kew.

2. ***Spigelia coulteriana***, Benth. in Journ. Linn. Soc. i. p. 90.
SOUTH MEXICO, Zimapan (*Coulter*, 962). Hb. Kew.

3. ***Spigelia hedyotidea***, A. DC. Prodr. ix. p. 7; Calques des Dess. Fl. Mex. 813.

MEXICO.

Perhaps the same as *S. texana*.

4. ***Spigelia humboldtiana***, Cham. et Schl. in Linnæa, i. p. 200, v. p. 122, vi. p. 387; Mart. Fl. Bras. vi. p. 261.

SOUTH MEXICO, Jalapa, &c. (*Schiede & Deppe*).—GULIANA, BRAZIL.

5. ***Spigelia longiflora***, Mart. et Gal. in Bull. Acad. Brux. xi. p. 376; Walp. Rep. vi. p. 496.

SOUTH MEXICO, near Real del Monte, at 6500 feet (*Galeotti*, 1477).

6. ***Spigelia mexicana***, A. DC. Prodr. ix. p. 7.

SOUTH MEXICO, Jalapa (*Linden*, 210; *Galeotti*, 7077), Teapa (*Linden*, 536); GUATEMALA, Mazatenango (*Bernoulli*, 380); NICARAGUA, Chontales (*Tate*, 291). Hb. Kew.

7. ***Spigelia pauciflora***, Mart. et Gal. in Bull. Acad. Brux. xi. p. 376; Walp. Rep. vi. p. 496.

SOUTH MEXICO, near Adumbero, at 3000 feet, and Morelia, at 6000 feet (*Galeotti*, 1475, 1479).

8. ***Spigelia scabrella***, Benth. Pl. Hartw. p. 45.

SOUTH MEXICO, without locality (*Hartweg*, 346). Hb. Kew.

9. ***Spigelia speciosa***, H. B. K. Nov. Gen. et Sp. iii. p. 186, t. 226; DC. Prodr. ix. p. 4.

SOUTH MEXICO, near the city of Mexico at 7000 feet (*Humboldt & Bonpland*), Vera Cruz to Orizaba (*Müller*, 210; *Bourgeau*, 2902), Zimapan (*Coulter*, 1215), Oaxaca, 7000 feet (*Galeotti*, 1471), Chiapas (*Ghiesbreght*, 695). Hb. Kew.

10. **Spigelia splendens**, Wendl. ; Bot. Mag. t. 5268.

Spigelia platyphylla, Progel in Mart. Fl. Bras. vi. p. 256.

SOUTH MEXICO, Chiapas, &c. (*Ghiesbreght*, 694); GUATEMALA (*Friedrichsthal*). Hb. Kew.

4. MITREOLA.

Mitreola, Linn. Gen. Plant. ed. 1737, n. 932; Benth. et Hook. Gen. Plant. ii. p. 790.

Four herbaceous species, inhabiting Tropical and North America, Tropical and Subtropical Asia, and Tropical Australia.

1. **Mitreola petiolata**, Torr. & Gray, Fl. N. Am. ii. p. 45; A. Gr. Synop. Fl. N. Am. ii. p. 108; Mart. Fl. Bras. vi. p. 266, t. 82. fig. 1; Torr. Bot. U.S. & Mex. Bound. Surv. p. 121.

Ophiorhiza mitreola, Linn. ; Lam. Ill. Pl. t. 107; Swartz, Obs. t. 3.

VIRGINIA to FLORIDA and TEXAS.—NORTH MEXICO, Monterey (*Eaton & Edwards*), Santa Rosa valley, Chihuahua (ex *Torrey*); SOUTH MEXICO, Jalisco (*Beechey*); PANAMA (*Seemann*, 193), Empire station (*S. Hayes*, 434, 556).—Southward to BRAZIL and in the WEST INDIES. Hb. Kew.

5. POLYPREMUM.

Polypremum, Linn. Gen. Plant. n. 137; Benth. et Hook. Gen. Plant. ii. p. 791.

An herbaceous monotype.

1. **Polypremum procumbens**, Linn. Act. Ups. 1741, p. 78; DC. Prodr. iv. p. 435, ix. pp. 12 et 560; Lam. Ill. Pl. t. 71; A. Gr. Synop. Fl. N. Am. ii. p. 109.

Polypremum linnæi, Michx. Fl. Bor.-Am. i. p. 83.

Polypremum schlechtendalii, Walp. in Nov. Act. Acad. Cæs. Leop. Carol. xix. Suppl. i. p. 350; Repert. vi. p. 56.

MARYLAND to FLORIDA and TEXAS.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 59); SOUTH MEXICO, Vera Cruz to Orizaba (*Müller*, 8). CUBA; JAMAICA. Hb. Kew.

6. BUDDLEIA.

Buddleia, Linn. Gen. Plant. n. 140; Benth. et Hook. Gen. Plant. ii. p. 793.

About seventy species of shrubs and trees, a very few herbaceous. Most numerous in Tropical and Subtropical America, the remainder inhabiting South Africa, Madagascar, and Tropical and Subtropical Asia. There are probably not more than from fifteen to twenty distinct species in Mexico.

1. **Buddleia abbreviata**, H. B. K. Nov. Gen. et Sp. ii. p. 353; DC. Prodr. x. p. 7.

Buddleia brevifolia, Willd. in Rœm. et Schult. Syst. iii., Mant. p. 97.

SOUTH MEXICO, between Pachuca and Real de Moran, at 8000 feet (*Humboldt & Bonpland*), Rancho del Ojo de Agua (*Hartweg*, 503), Jalapa (*Galeotti*). Hb. Kew.

2. **Buddleia alpina**, Erst. in Vidensk. Meddel. 1853, p. 25.
COSTA RICA, Volcan de Irazu, 10,000 feet (*Ersted*).
3. **Buddleia americana**, Linn. Sp. Pl. p. 162; DC. Prodr. x. p. 438; Ruiz et Pav. Fl. Per. i. p. 53, t. 82, fig. *b*.
Buddleia occidentalis, Ruiz et Pav. l. c. t. 82, fig. *a*.
Buddleia callicarpoides, H. B. K. Nov. Gen. et Sp. ii. p. 350.
Buddleia decurrens, Cham. et Schl. in Linnæa, v. p. 105.
Buddleia rufescens, Willd., ex Rœm. et Schult. Syst. iii., Mant. p. 97.
SOUTH MEXICO, between Jalapa and the river Chachalacas, 4000–5000 feet (*Humboldt & Bonpland*).
A common and variable species, extending southward to PERU and in the WEST INDIES. Hb. Kew.
4. **Buddleia barbata**, Kth. et Bouché, Ind. Sem. Hort. Berol. 1847, p. 12; Walp. Ann. i. p. 534.
MEXICO.
5. **Buddleia cordata**, H. B. K. Nov. Gen. et Sp. ii. p. 348, t. 185; DC. Prodr. x. p. 438.
SOUTH MEXICO, valley of Guanajuato, 6300 feet (*Humboldt & Bonpland*), near the city of Mexico (*Berlandier*). Hb. Kew.
6. **Buddleia elliptica**, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 24; Walp. Rep. vi. p. 645.
SOUTH MEXICO, near Morelia, at 7000 feet (*Galeotti*, 1268).
7. **Buddleia floccosa**, Kth. in Abhandl. Akad. Wiss. Berl. 1844, p. 68; Linnæa, xviii. p. 500.
MEXICO.
8. **Buddleia floribunda**, H. B. K. Nov. Gen. et Sp. ii. p. 352; DC. Prodr. x. p. 439.
SOUTH MEXICO, near Tasco and Tehuilotepic, 5500 feet (*Humboldt & Bonpland*).
9. **Buddleia gracilis**, Kth. in Abhandl. Akad. Wiss. Berl. 1844, p. 64; Linnæa, xviii. p. 500.
MEXICO.
10. **Buddleia humboldtiana**, Rœm. et Schult. Syst. iii. Mant. p. 93; DC. Prodr. x. p. 438; A. Gr. Synop. Fl. N. Am. ii. p. 109.
Buddleia acuminata, H. B. K. Nov. Gen. et Sp. ii. p. 349, t. 187.
South-west TEXAS and Southern NEW MEXICO.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Berlandier*, 1303; *Parry & Palmer*, 725), Zacatecas (*Coulter*, 1321); SOUTH MEXICO, Santa Rosa, 8000 feet (*Humboldt & Bonpland*), Regla (*Hartweg*), valley of Mexico (*Bourgeau*, 607), Oaxaca, 8500 feet (*Galeotti*, 1033). Hb. Kew.

11. **Buddleia intermedia**, H. B. K. Nov. Gen. et Sp. ii. 350; DC. Prodr. x. p. 438.

SOUTH MEXICO, Santa Rosa, at about 8000 feet (*Humboldt & Bonpland*).

12. **Buddleia lanceolata**, Benth. Pl. Hartw. p. 48; DC. Prodr. x. p. 437.

SOUTH MEXICO, common, ascending to 10,000 feet on the peak of Orizaba (*Andrieux*, 165; *Galeotti*, 1032, 1034, 1035; *Botteri*, 992, 993; *Linden*, 1094; *Bourgeau*, 1105, 3045); GUATEMALA?, Volcan de Fuego, at 11,000 feet (*Salvin & Godman*). Hb. Kew.

13. **Buddleia macrophylla**, Kth. in Abhandl. Akad. Wiss. Berl. 1844, p. 67; Linnæa, xviii. p. 500.

MEXICO.

14. **Buddleia marrubiifolia**, Benth. in DC. Prodr. x. p. 441; A. Gr. Synop. Fl. N. Am. ii. p. 109.

SOUTH TEXAS.—NORTH MEXICO, Monterey (*Berlandier*, 1407; *Eaton & Edwards*; *Gregg*, 444). Hb. Kew.

15. **Buddleia melliodora**, Kth. et Bouché, Ind. Sem. Hort. Berol. 1845, p. 10; Linnæa, xix. 386.

MEXICO.

16. **Buddleia microphylla**, H. B. K. Nov. Gen. et Sp. ii. p. 353; DC. Prodr. x. p. 436.

Buddleia obtusifolia, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 25.

SOUTH MEXICO, Jorullo, 2500 feet (*Humboldt & Bonpland*), Moran, 7000 feet, and near Morelia, 8500 feet (*Galeotti*, 1037, 1038), valley of Mexico (*Bourgeau*, 392, 900). Hb. Kew.

17. **Buddleia nitida**, Benth. in DC. Prodr. x. p. 437.

SOUTH MEXICO, Chiapas (*Ghiesbreght*, 503; *Linden*, 196, 202). Hb. Kew.

18. **Buddleia ovalifolia**, Kth. in Abhandl. Akad. Wiss. Berl. 1844, p. 66; Linnæa, xviii. p. 500.

MEXICO.

19. **Buddleia parviflora**, H. B. K. Nov. Gen. et Sp. ii. p. 353; DC. Prodr. x. p. 437.

SOUTH MEXICO, Cuernavaca (*Humboldt & Bonpland*), Orizaba (*Linden*, *Galeotti*). Hb. Kew.

This and *B. lanceolata* are intermixed in Kew herbarium.

20. **Buddleia perfoliata**, H. B. K. Nov. Gen. et Sp. ii. p. 346; DC. Prodr. x. p. 441.

Buddleia sphaerantha, Cham. et Schl. in Linnæa, v. p. 104.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*,

596); SOUTH MEXICO, between Chalco and Mexico, at 7000 feet (*Humboldt & Bonpland*), Actopan (*Hartweg*), San Augustin (*Schaffner*), region of Orizaba (*Bourgeau*, 3278). Hb. Kew.

21. **Buddleia propinqua**, Kth. in Abhandl. Akad. Wiss. Berl. 1844, p. 68; Linnæa, xviii. p. 501.

MEXICO.

22. **Buddleia scordioides**, H. B. K. Nov. Gen. et Sp. ii. p. 345, t. 183; DC. Prodr. x. p. 442; A. Gr. Synop. Fl. N. Am. ii. p. 109.

SOUTH-EAST TEXAS to ARIZONA.—NORTH MEXICO, east of Saltillo, at 10,000 feet (*Palmer*, 836), Corallitas, Chihuahua (*Thurber*), Saltillo (*Berlandier*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 592, 595), Zacatecas (*Coulter*, 1317); SOUTH MEXICO, near the city of Mexico (*Humboldt & Bonpland*). Hb. Kew.

23. **Buddleia sessiliflora**, H. B. K. Nov. Gen. et Sp. ii. p. 345, t. 182; DC. Prodr. x. p. 441.

Buddleia pseudo-verticillata, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 24; Walp. Rep. vi. p. 646.

SOUTH MEXICO, near the city of Mexico, 6000 to 7000 feet (*Humboldt & Bonpland*), Yavezia, 6000 to 7000 feet (*Galeotti*, 767), Guanajuato (*Hartweg*). Hb. Kew.

24. **Buddleia spectabilis**, Kth. et Bouché, Ind. Sem. Hort. Berol. 1845, p. 11; Linnæa, xix. p. 387.

MEXICO.

25. **Buddleia venusta**, Kth. in Abhandl. Akad. Wiss. Berl. 1844, p. 65; Linnæa, xviii. p. 500.

MEXICO.

26. **Buddleia verticillata**, H. B. K. Nov. Gen. et Sp. ii. p. 346, t. 184; DC. Prodr. x. p. 441.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 594); SOUTH MEXICO, between Acaguisotla and Chilpancingo, at about 4000 feet (*Humboldt & Bonpland*), Cuernavaca (*Bilimek*, 200), Toluca (*Andrieux*, 164). Hb. Kew.

7. STRYCHNOS.

Strychnos, Linn. Gen. Plant. n. 253; Benth. et Hook. Gen. Plant. ii. p. 797.

Trees or shrubs; often lofty climbers. About sixty species, widely dispersed in tropical regions.

1. **Strychnos darienensis**, Seem. Bot. Voy. 'Herald,' p. 166.

PANAMA, island of Coiba (*Seemann*, 632).—Coast of DARIEN. Hb. Kew.

2. **Strychnos panamensis**, Seem. Bot. Voy. 'Herald,' p. 166.

PANAMA, island of Taboga (*Seemann*). Hb. Kew.

Order XC. GENTIANEÆ.

Gentianeæ, Benth. et Hook. Gen. Plant. ii. p. 799.

Annual or perennial herbs, rarely shrubs. About 520 species, referred to fifty genera; represented in nearly all parts of the world, but most abundant in temperate and mountainous regions.

1. VOYRIA.

Voyria, Aubl. Pl. Guian. i. p. 208; Benth. et Hook. Gen. Plant. ii. p. 806.

About sixteen species of dwarf, slender, unbranched, leafless herbs, with one exception in Tropical Africa, inhabiting Tropical America, chiefly Guiana and Brazil.

1. **Voyria mexicana**, Griseb. Gen. et Sp. Gentian. p. 208; DC. Prodr. ix. p. 84.

Leiphaimos parasitica, Cham. et Schl. in Linnæa, vi. p. 387.

SOUTH MEXICO, Papantla (*Schiede & Deppe*), Mirador (*Linden*, 38).—CUBA; JAMAICA. Hb. Kew.

2. **Voyria simplex**, Griseb. in Seem. Bot. Voy. 'Herald,' p. 170.

PANAMA, damp woods near Empire station (*S. Hayes*, 236), woods near mount Lancon (*Seemann*, 186).—COLOMBIA. Hb. Kew.

2. LEIANTHUS.

Leianthus, Griseb. Gen. et Sp. Gentian. p. 196; Benth. et Hook. Gen. Plant. ii. p. 807.

About twelve herbaceous and shrubby species, inhabiting Mexico, Central America, and the West Indies.

1. **Leianthus axillaris**, Hemsley, n. sp.

Herbaceous?, foliis parvis subsessilibus, floribus axillaribus solitariis breviter pedunculatis, calycis lobis apteris, stigmatibus capitato obscure bilobis.

Herba? glaberrima, caulibus vel ramis gracilibus. *Folia* subsessilia, crassiuscula, ovato-oblonga, circiter pollicaria, acutiuscula, venis immersis, obsolete. *Flores* axillares, solitarii, suberecti, $1\frac{1}{2}$ –2 poll. longi; pedunculi 4–6 lineas longi; calycis lobi anguste lanceolati, acuminati, acutissimi, corollæ tubo arcte appressi, dorso apteri; corollæ tubus angustus, ad medium valde constrictus, lobis acuminatis, 3–4 lineas longis; stamina inclusa; stigma capitatum, obscure bilobum.

BRITISH HONDURAS, without exact locality (*F. P. Barlee*). Hb. Kew.

2. **Leianthus brevidentatus**, Hemsley, n. sp.

Herbaceous, laxè trichotomo-ramosus, internodiis longissimis, floribus dense cymosis, calycis lobis apteris, corolla tubulosa dentibus vel lobis brevissimis latis, stigmatibus peltatis.

Herba glaberrima, erecta, ut videtur pluripedalis, laxè trichotomo-ramosa, ramis teretibus, graciliusculis, internodiis quam folia triplo quadruplo longioribus. *Folia* caulina sessilia, crassiuscula, evenia, lanceolata, 2–2½ poll. longa, acuminata, acutissima. *Flores* numerosissimi, in apicibus ramulorum dense trichotomo-cymosi, circiter 1 poll. longi, pedicellis brevissimis;

calycis lobi anguste lanceolati, acutissimi, corollæ tubo arcte appressi ; corolla anguste tubulosa, infra medium angustior, lobis ovato-orbicularibus, brevissime acuminatis, vix lineam longis ; stamina inclusa ; stylus exsertus, stigmatate peltato.

GUATEMALA, Sierra del Mico (*Bernoulli*, 924). Hb. Kew.

3. ***Leianthus nigrescens***, Griseb. Gen. et Sp. Gentian. p. 199 ; Bot. Mag. t. 4043.

Petasostylis nigrescens, Griseb. in DC. Prodr. ix. p. 71.

Lisianthus nigrescens, Cham. et Schl. in Linnæa, vi. p. 388.

Lisianthus cuspidatus, Bertol. Fl. Guat. t. 37.

Leianthus cuspidatus, Griseb. in DC. Prodr. ix. p. 82.

SOUTH MEXICO, Mirador (*Linden*, 328), Cordillera of Oaxaca, at 3000 feet (*Galeotti*, 1473), Papantla (*Liebmann*), Vera Cruz to Orizaba (*Müller*, 1399), Tanetze, Talea, and Comaltepec (*Hartweg*), Chiapas, foliis multo latioribus (*Ghiesbreght*, 702) ; GUATEMALA, (*Velasquez*, *Skinner*) ; COSTA RICA, Pacaca (*Ersted*). Hb. Kew.

4. ***Leianthus saponarioides***, Griseb. Gen. et Sp. Gentian. p. 198.

Lisianthus saponarioides, Cham. et Schl. in Linnæa, vi. p. 389.

Petasostylis saponarioides, Griseb. in DC. Prodr. ix. p. 71.

SOUTH MEXICO, Papantla (*Schiede*), without locality (*Sumichrast*, 1558) ? Hb. Kew.

5. ***Leianthus seemannii***, Griseb. in Seem. Bot. Voy. 'Herald,' p. 170.

COSTA RICA (*Endres*, 108).—DARIEN. Hb. Kew.

6. ***Leianthus skinneri***, Hemsley, n. sp.

Fruticosus ?, foliis angustis ad semipedalibus tenuissimis (in siccis), ramulis lateralibus folia æquantibus apice laxè 6-12-floris, calycis lobis apteris, corollæ tubulosæ lobis latis brevibus, stigmatate capitato.

Frutex ? glaberrimus, internodiis brevibus. *Folia* longe petiolata, tenuissima (saltem in siccis), lanceolato-oblonga, 4-6 poll. longa, utrinque longe attenuata, venis primariis lateralibus utrinque 2, prominulis, distantibus, longe arcuatis. *Flores* 1½-2 poll. longi, laxè ternatim cymosi, pauci ad apices ramulorum gracilium lateralium dispositi, pedicellis brevibus vel longiusculis, gracilibus ; calycis lobi ovato-lanceolati, acuti, dorso apteri ; corolla tubulosa, infra medium multo angustior, lobis ovatis, acutis, 1½-2 lineas longis ; stamina inclusa ; stylus exsertus, stigmatate capitato. *Capsula* oblonga, semipollicaris ; semina lacunosa.

GUATEMALA (*Skinner*) ; PANAMA, Chagres (*Fendler*, 137). Hb. Kew.

3. ERYTHRÆA.

Erythræa, L. C. Rich. in Pers. Syn. i. p. 283 ; Benth. et Hook. Gen. Plant. ii. p. 809.

Annual and perennial herbs. Upwards of thirty species have been described. They are widely dispersed in the temperate and subtropical regions of the northern hemisphere, including a distinct one in the Sandwich Islands ; one occurs in Chili, and another in Australasia. The Mexican species greatly need revision.

1. ***Erythræa calycosa***, Buckley in Proc. Acad. Philad. 1862, p. 7 ; A. Gr. Synop. Fl. N. Am. ii. p. 113.

SOUTH UTAH ; ARIZONA ; NEW MEXICO ; WEST TEXAS.—NORTH MEXICO (ex *A. Gray*).
BIOL. CENTR.-AMER., Bot. Vol. II., February 1882. 2 y

2. **Erythræa divaricata**, Schaffner, ex Schl. in Bot. Zeit. 1855, p. 920.*Erythræa chilensis*, Benth. Pl. Hartw. p. 87, non Pursh?SOUTH MEXICO, Huatusco (*Schaffner*), valley of Cordova (*Bourgeau*, 1885); GUATEMALA (*Hartweg*, *Skinner*). Hb. Kew.3. **Erythræa macrantha**, Hook. et Arn. Bot. Beech. Voy. p. 438.*Erythræa mexicana*, Griseb., ex Hook. et Arn. loc. cit. p. 302?*Gyrandra chironioides*, Griseb. in DC. Prodr. ix. p. 44?*Erythræa chironioides*, Torr. Bot. U.S. & Mex. Bound. Surv. p. 156, pro parte?SOUTH MEXICO, Jalisco (*Beechey*), Real del Monte (*Coulter*, 942), near Chico (*Graham*), Zimapan (*Coulter*, 941, 943). Hb. Kew.4. **Erythræa madrensis**, Hemsley, n. sp. (Tab. LVII. C. figg. 9–11.)

Annuæ, gracillima, caule basi simplici supra medium sæpissime 1–5-furcato, foliis radicalibus paucis parvis suborbicularibus, caulinis lineari-subulatis, floribus majusculis roseis pentameris, antheris semitortis, stigmatate late bilamellato.

Herba annuæ, erecta, gracillima, 3–6-pollicaris, caule fere filiformi, basi simplici, supra medium 1–5-furcato, vel rarius omnino simplici et unifloro, internodiis multo longioribus quam folia. *Folia* radicalia 4–6, subcarnosa, orbicularia vel elliptica, $1\frac{1}{2}$ –3 lineas diametro, caulina lineari-subulata vel fere acerosa, appressa, 2–6 lineas longa. *Flores* pentameri, rosei, 6–7 lineas longi; calycis segmenta fere libera, anguste lanceolata, acuta, margine scariosa, tubo corollino longiora; corolla hypocraterimorpha; limbi lobi obtusi, tubo longiores; antheræ semitortæ; stigma late bilamellatum.—*Gyrandra chironioides*, Griseb. in Seem. Bot. Voy. 'Herald,' p. 318, nec Griseb. in DC. Prodr. ix. p. 44.NORTH MEXICO, Sierra Madre (*Seemann*, 2067). Hb. Kew.

EXPLANATION OF TAB. LVII. C. FIGG. 9–11.

Fig. 9, a flower laid open; 10, an anther; 11, an ovary: all enlarged.

5. **Erythræa pauciflora**, Mart. et Gal. in Bull. Acad. Brux. xi. p. 372; Walp.

Rep. vi. p. 501.

SOUTH MEXICO, peak of Orizaba, 8000 to 9000 feet (*Galeotti*, 1482).6. **Erythræa quitensis**, H. B. K. Nov. Gen. et Sp. iii. p. 178.*Cicendia quitensis*, Griseb. in Linnæa, xxii. p. 33; Vidensk. Meddel. 1853, p. 53.COSTA RICA (*Ersted*).—ECUADOR; PERU.7. **Erythræa setacea**, Benth. Bot. Voy. 'Sulphur,' p. 128.SOUTH MEXICO, Acapulco (*Hinds*). Hb. Kew.8. **Erythræa stricta**, Schiede, ex Schl. in Bot. Zeit. 1855, p. 918.SOUTH MEXICO, Hacienda de San Gabriel (*Schiede*).9. **Erythræa tenuifolia**, Mart. et Gal. in Bull. Acad. Brux. xi. p. 372; Walp.

Rep. vi. p. 501.

Gyrandra speciosa, Benth. Bot. Voy. 'Sulphur,' p. 127, t. 45.*Erythræa macrantha* β . *major*, Hook. et Arn. Bot. Beech. Voy. p. 438.

SOUTH MEXICO, San Blas to Tepic (*Sinclair, Barclay*), near Guadalajara, 5500 feet (*Galeotti, 1478*). Hb. Kew.

10. **Erythræa tetramera**, Schiede ex Schl. in Bot. Zeit. 1855, p. 918.

SOUTH MEXICO, Cuernavaca (*Schiede*).

4. GENIOSTEMON.

Geniostemon, Engelm. et A. Gr. in Proc. Am. Acad. xvi. p. 104.

A genus of dwarf, slender, branching herbs, differing from *Erythræa* in having bearded filaments. Limited to the following species:—

1. **Geniostemon coulteri**, Engelm. et A. Gr. loc. cit.

Caulibus tenuibus parum ramosis æqualiter foliatis, ramis unifloris, foliis spathulato-lanceolatis (lin. 3 longis) basi attenuatis, pedunculis flore haud longioribus, filamentis infra medium creberrime glanduloso-barbulatis, antheræ loculis utrinque obtusis (corolla lin. 4 longa ut videtur alba?).

MEXICO (*Coulter, 945*).

2. **Geniostemon schaffneri**, Engelm. et A. Gr. loc. cit. (Tab. LVII. B. figg. 6–8.)

Radice forti annua multicauli, caulibus cymoso-ramosissimis et multifloris, foliis linearibus (lin. 2–3 longis) imisve spathulatis summis subulatis basi haud angustatis, pedunculis gracilibus flore longioribus, filamentis sub apice barbulatis inferne nudis, antheræ loculis basi subacutis, corolla cærulescente.

NORTH MEXICO, mountains of San Miguelito, San Luis Potosi (*Schaffner*). Hb. Kew.

EXPLANATION OF TAB. LVII. B. FIGG. 6–8.

Fig. 6, a flower; 7, the same, laid open; 8, a stamen: all enlarged.

5. SABBATIA.

Sabbatia, Adans. Fam. ii. p. 503; Benth. et Hook. Gen. Plant. ii. p. 810.

Annual and biennial herbs. About fifteen species in North America, two or three of them extending to Cuba.

1. **Sabbatia maculata**, Benth. et Hook. Gen. Plant. ii. p. 812, sub *Eustomate*. *Eustoma maculatum*, Benth. Pl. Hartw. p. 292.

SOUTH MEXICO, rivulets near Lagos (*Hartweg*). Hb. Kew.

6. SCHULTESIA.

Schultesia, Mart. Nov. Gen. et Sp. ii. t. 180 ad 182; Benth. et Hook. Gen. Plant. ii. p. 811.

A Tropical-American genus of annual herbs, comprising about fifteen species.

1. **Schultesia brachyptera**, Cham. in Linnæa, viii. p. 8; Vidensk. Meddel. 1853; Mart. Fl. Bras. vi. p. 208.

NICARAGUA, Volcan de Masaya (*Ersted*).—GUIANA; BRAZIL. Hb. Kew.

2. **Schultesia heterophylla**, Miq. in Linnæa, xix. p. 136; Griseb. Fl. Brit. W. Ind. p. 423.

SOUTH MEXICO, Sierra San Pedro Nolasco &c. (*Jurgensen*, 609); PANAMA, meadows near the city of Panama (*Seemann*, 179; *Halsted*, 6).—WEST INDIES; GUIANA; BRAZIL. Hb. Kew.

3. **Schultesia lisianthoides**, Benth. et Hook. Gen. Plant. ii. p. 812.

Xestea lisianthoides, Griseb. in Linnæa, xxii. p. 33; Vidensk. Meddel. 1853, p. 54.

GUATEMALA, Mazatenango (*Bernoulli*, 42); NICARAGUA, Volcan de Masaya (*Ersted*), Chontales (*Tate*, 241); PANAMA "everywhere" (*Seemann*, 420), Chagres (*Fendler*, 256), Empire station (*S. Hayes*).—VENEZUELA. Hb. Kew.

4. **Schultesia stenophylla**, Mart. Nov. Gen. et Sp. ii. p. 106, t. 182; Vidensk.

Meddel. 1853, p. 53; Mart. Fl. Bras. vi. p. 206.

Erythraea jorullensis, H. B. K. Nov. Gen. et Sp. iii. p. 177.

MEXICO, without locality (*Beechey*), Volcan de Jorullo (*Humboldt & Bonpland*); GUATEMALA, above Barbasco (*Bernoulli*, 950); PANAMA, near the city of Panama (*Seemann*, 180).—WEST INDIES; VENEZUELA; GUIANA; BRAZIL. Hb. Kew.

7. COUTOUBEA.

Coutoubea, Aubl. Pl. Guian. i. p. 72, tt. 27, 28; Benth. et Hook. Gen. Plant. ii. p. 812.

Three herbaceous species inhabiting Tropical America.

1. **Coutoubea spicata**, Aubl. Pl. Guian. ii. p. 72, t. 27; Mart. Fl. Bras. vi. p. 210; Griseb. Fl. Brit. West Ind. p. 423.

Coutoubea densiflora, Mart., et *C. minor*, H. B. K., ex Benth. et Hook. Gen. Plant. ii. p. 812.

BRITISH HONDURAS (*Temple*); PANAMA, Paraiso (*S. Hayes*, 445), Isle of Taboga (*Barclay*).—COLOMBIA; GUIANA; TRINIDAD; BRAZIL. Hb. Kew.

8. EUSTOMA.

Eustoma, Salisb. Parad. Lond. t. 34; Benth. et Hook. Gen. Plant. ii. p. 812.

Arenbergia, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 373.

Two herbaceous species,

1. **Eustoma exaltatum**, Salisb. Parad. Lond. sub t. 34; DC. Prodr. ix. p. 51; Bot. Reg. 1845, t. 13; A. Gr. Synop. Fl. N. Am. ii. p. 116.

Lisianthus glaucifolius, Jacq. Ic. Rar. t. 33.

Urananthus glaucifolius, Benth. Pl. Hartw. p. 46.

Arenbergia glauca, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 373.

Eustoma silenifolium, Salisb. Parad. Lond. t. 34.

Eustoma lacteum, Liebm. Ind. Sem. Hort. Hafn. 1847; Walp. Ann. iii. p. 78.

Urananthus pallidus, Liebm. Ind. Sem. Hort. Hafn. 1845.

Eustoma chironioides, Griseb. in DC. Prodr. ix. p. 51.

Urananthus chironioides, Benth. Pl. Hartw. p. 47.

Gentiana exaltata, Linn.; Descour. Fl. Ant. t. 15.

FLORIDA and TEXAS to CALIFORNIA.—NORTH MEXICO, Sonora Alta (*Coulter*, 946), Monterey (*Eaton & Edwards*; *Gregg*, 213); SOUTH MEXICO, Tehuantepec (*Andrieux*, 227), Santa Barbara (*Hartweg*), Jalapa (*Galeotti*); PANAMA, island off the coast of Veraguas (*Sinclair*).—VENEZUELA; WEST INDIES. Hb. Kew.

2. **Eustoma russellianum**, Griesb. in DC. Prodr. ix. p. 51.

Lisianthus russellianus, Hook. Bot. Mag. t. 3626.

Lisianthus glaucifolius, Nutt., non Jacq.

Urananthus russellianus, Benth. Pl. Hartw. p. 46.

NEBRASKA to TEXAS.—NORTH MEXICO, Monterey (*Berlandier*), Sonora (*Thurber*). Hb. Kew.

The authorities for the names have been very much confused by Grisebach and other authors.

9. LISIANTHUS.

Lisianthus, Aubl. Pl. Guian. i. p. 201; Benth. et Hook. Gen. Plant. ii. p. 813.

Herbs or rarely shrubs. From fifty to sixty species, inhabiting Tropical America, chiefly Brazil, Guiana, and Colombia.

1. **Lisianthus crassicaulis**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 374; Walp. Rep. vi. p. 503.

SOUTH MEXICO, Chinantla, Oaxaca, 5000 feet (*Galeotti*, 7176).

2. **Lisianthus ørstedii**, Griseb. in Vidensk. Meddel. 1853, p. 54.

NICARAGUA, Segovia (*Ersted*).

3. **Lisianthus tetragonus**, Benth. Pl. Hartw. p. 68.

Lisianthus acutangulus, Ruiz et Pav., ex Hook. Bot. Mag. t. 4324.

SOUTH MEXICO, Talea (*Hartweg*); GUATEMALA, without locality (*Skinner*), Alta Vera Paz, 3500 feet (*Türckheim*, 360). Hb. Kew.

10. GENTIANA.

Gentiana, Linn. Gen. Plant. n. 322; Benth. et Hook. Gen. Plant. ii. p. 815.

Herbs. About 180 species, widely dispersed in the temperate, arctic, and mountain regions of the northern hemisphere, and extending southward in America through the Andes, where they are numerous, to the extreme south; a few occur in New Zealand, whereof one recurs in Tasmania and Victoria. The Mexican species require revision.

1. **Gentiana adsurgens**, Cervantes; Griseb. Gentian. p. 286; DC. Prodr. ix. p. 113.

Pneumonanthe bicuspidata, G. Don, Gen. Syst. iv. p. 194?

MEXICO (*Cervantes*), Real del Monte (*Hartweg*)? Hb. Kew.

2. **Gentiana amarella**, Linn., var. **acuta**, Hook. f. in Trans. Linn. Soc. xxiii. p. 334; A. Gr. Synop. Fl. N. Am. ii. p. 118.

Gentiana acuta, Michx. Fl. Bor.-Am. i. p. 177.

From ARCTIC AMERICA southward through the western mountain-ranges.—NORTH MEXICO, Sierra Madre (*Seemann*, 2069).—EUROPE and ASIA. Hb. Kew.

3. **Gentiana angustifolia**, Michx. Fl. Bor.-Am. i. p. 177; DC. Prodr. ix. p. 114; A. Gr. Synop. Fl. N. Am. ii. p. 124.

NEW JERSEY southward to FLORIDA.—MEXICO, Zacatecas (*Coulter*, 950, 951), Cerro de las Cruces (*Schaffner*), valley of Mexico (*Bourgeaa*, 1123), Chiapas (*Ghiesbreght*). Hb. Kew.

Dr. Gray does not mention this species as occurring in Mexico; and the Mexican specimens may belong to a different species.

4. **Gentiana cæspitosa**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 369; Walp. Rep. vi. p. 507.

SOUTH MEXICO, peak of Orizaba, 8000 to 9000 feet (*Galeotti*, 1483).

5. **Gentiana calyculata**, Llav. et Lex. Nov. Veg. Descr. i. p. 18; DC. Prodr. ix. p. 112.

Coilanthus moçini, D. Don in G. Don's Gen. Syst. iv. p. 185?

MEXICO, Vallisoleta (*Lexarza*).

6. **Gentiana hartwegi**, Benth. Pl. Hartw. p. 47; DC. Prodr. ix. p. 96.

SOUTH MEXICO, Anganguio (*Hartweg*), valley of Mexico (*Bourgeau*, 1125). Hb. Kew. This and *G. mexicana* scarcely differ, if at all, from *G. amarella*, var. *acuta*.

7. **Gentiana lævigata**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 369; Walp. Rep. vi. p. 507.

SOUTH MEXICO, Sierra de Capulalpan, Cordillera of Oaxaca, at 5000 to 7000 feet (*Galeotti*, 1481 bis).

8. **Gentiana lanceolata**, Griseb. in DC. Prodr. ix. p. 102.

Leianthus lanceolatus, Benth. Pl. Hartw. p. 24.

SOUTH MEXICO, Bolaños (*Hartweg*). Hb. Kew.

9. **Gentiana macrantha**, Griseb. in DC. Prodr. ix. p. 102.

Gentianella macrantha, D. Don in G. Don's Gen. Syst. iv. p. 179.

MEXICO (*Moçino & Sessé*).

10. **Gentiana macrocalyx**, Llav. et Lex. Nov. Veg. Descr. i. p. 18; DC. Prodr. ix. p. 102.

MEXICO, Vallisoleta (*Lexarza*).

11. **Gentiana mexicana**, Griseb. in DC. Prodr. ix. p. 96; Gentian. p. 243.

MEXICO.

12. **Gentiana ovalis**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 369; Walp. Rep. vi. p. 507.

SOUTH MEXICO, peak of Orizaba, 8000 to 9000 feet (*Galeotti*, 1483 bis).

13. **Gentiana salpinx**, Griseb. in Linnæa, xxii. p. 44.

SOUTH MEXICO, near Temascaltepec (*Ehrenberg*).

14. **Gentiana serrata**, Gunner, Fl. Norveg. p. 10; Fl. Dan. t. 317; A. Gr. Synop. Fl. N. Am. ii. p. 117.

Gentiana detonsa, Fries, Act. Hafn. x. p. 435, t. 1. fig. 3; DC. Prodr. ix. p. 101.

CANADA southward.—NORTH MEXICO, Sierra Madre (*Seemann*, 2070), Sonora (*Thurber*).
—SIBERIA to NORWAY, ICELAND, and GREENLAND. Hb. Kew.

15. **Gentiana sessæi**, Griseb. in DC. Prodr. ix. p. 112.

Coilanthe sessæi, D. Don in G. Don's Gen. Syst. iv. p. 185.

MEXICO.

16. **Gentiana spathacea**, H. B. K. Nov. Gen. et Sp. iii. p. 175; DC. Prodr. ix. p. 113.

Ericala spathacea, G. Don, Gen. Syst. iv. p. 191.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 599), Sierra Madre (*Seemann*, 2068); SOUTH MEXICO, San Blas to Guadalajara (*Coulter*, 948), valley of Mexico (*Bourgeau*, 1124; *Schaffner*, 345), Zimapan (*Coulter*, 949). Hb. Kew.

β. **benthami**, Griseb. in DC. Prodr. ix. p. 113.

SOUTH MEXICO, Velasco, near Real del Monte (*Hartweg*). Hb. Kew.

17. **Gentiana wislizenii**, Engelm. in Trans. Acad. St. Louis, ii. p. 215, t. 7; A. Gr. Synop. Fl. N. Am. ii. p. 119.

ARIZONA.—NORTH MEXICO, mountains west of Chihuahua (*Wislizenus*).

18. **Gentiana wrightii**, A. Gr. Synop. Fl. N. Am. ii. p. 118.

NORTH MEXICO, Santa Cruz, Sonora (*Wright*).

11. HALENIA.

Halenia, Borckh. in Rœm. Archiv, i. p. 25; Benth. et Hook. Gen. Plant. ii. p. 817.

About twenty-five herbaceous species, inhabiting the mountains of Asia and North and South America. There are many more names below than species.

1. **Halenia alata**, Hemsley.

Exadenus alatus, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 372; Walp. Rep. vi. p. 508.

SOUTH MEXICO, peak of Orizaba, 9000 to 10,000 feet (*Galeotti*, 7221). Hb. Kew.

2. **Halenia decumbens**, Benth. Pl. Hartw. p. 67.

Halenia apiculata, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 371.

SOUTH MEXICO, on the Pelado (*Hartweg*), Sierra San Pedro Nolasco, &c. (*Jurgensen*, 386), Cordillera of Oaxaca, 8000 to 9000 feet (*Galeotti*, 7166). Hb. Kew.

3. **Halenia elongata**, D. Don in G. Don's Gen. Syst. iv. p. 177.

MEXICO.

4. **Halenia gracilis**, Griseb. Gentian. p. 327; DC. Prodr. ix. p. 130.

SOUTH MEXICO, Sierra San Pedro Nolasco, &c. (*Jurgensen*, 811); GUATEMALA, Volcan de Fuego, 12,000 feet. "The ground was hard from frost, and icicles hung from the rocks" (*Salvin & Godman*).—COLOMBIA; PERU. Hb. Kew.

5. **Halenia longicornu**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 370; Walp. Rep. vi. p. 508.

SOUTH MEXICO, Cerro de San Felipe, near Oaxaca, 8500 to 9500 feet (*Galeotti*, 7166). This bears the same number as *H. apiculata*, which we have reduced to *H. decumbens*.

6. **Halenia multiflora**, Benth. Pl. Hartw. p. 24; DC. Prodr. ix. p. 130.

SOUTH MEXICO, Bolaños (*Hartweg*), Tepic (*Barclay & Sinclair*); COSTA RICA, Volcan de Irazu, &c., 10,000 feet (*Ersted*). Hb. Kew.

7. **Halenia nudicaulis**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 371; Walp. Rep. vi. p. 508.

SOUTH MEXICO, peak of Orizaba, 9000 to 12,000 feet (*Galeotti*, 7220; *Linden*, 935). Hb. Kew.

8. **Halenia nutans**, Mart. et Gal. in Bull. Acad. Brux. xi. 1, p. 371; Walp. Rep. vi. p. 509.

SOUTH MEXICO, peak of Orizaba, 9000 to 10,000 feet (*Galeotti*, 7222).

9. **Halenia parviflora**, Don, Gen. Syst. iv. p. 177.

Exadenus parviflorus, Griseb. in DC. Prodr. ix. p. 128.

Swertia parviflora, H. B. K. Nov. Gen. et Sp. iii. p. 174.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 600); SOUTH MEXICO, Chiapas, &c. (*Ghiesbreght*, 137, 618), Guanajuato, at 6600 feet (*Humboldt & Boupland*).—COLOMBIA to PERU. Hb. Kew.

- β. **latifolia**, Cham. et Schl. in Linnæa, v. p. 122 (*Exadenus*).

SOUTH MEXICO, near Jalapa (*Schiede*).

10. **Halenia paucifolia**, Hemsley.

Exadenus paucifolius, Mart. et Gal. in Bull. Acad. Brux. xi. p. 372.

SOUTH MEXICO, peak of Orizaba, 9000 to 12,000 feet (*Galeotti*, 7219).

11. **Halenia plantaginea**, Griseb. Gentian. p. 327; DC. Prodr. ix. p. 139.

Swertia plantaginea, H. B. K. Nov. Gen. et Sp. iii. p. 175.

SOUTH MEXICO, Volcan de Jorullo, 3000 feet (*Humboldt & Bonpland*), pine-forests, Anganguio (*Hartweg*, 347), summit of San Felipe (*Andrieux*, 226), Real del Monte *Coulter*, 939). Hb. Kew.

12. **Halenia rothrockii**, A. Gr. in Proc. Am. Acad. xi. p. 84; Rothr. in Wheeler's Rep. t. 21.

NORTH MEXICO, Mount Graham, within the old boundary (*Rothrock*).

13. **Halenia schiedeana**, Griseb. Gentian. p. 327; DC. Prodr. ix. p. 130.
Swertia michauxiana, Cham. et Schl. in Linnæa, v. p. 122.

MEXICO (*Schiede*).

12. LIMNANTHEMUM.

Limnanthemum, S. P. Gmel. in Nov. Act. Petrop. xiv. (1769) p. 527, t. 17. fig. 2, ex C. C. Gmel.; Benth. et Hook. Gen. Plant. ii. p. 819.

Aquatic herbs, very widely dispersed in tropical and temperate regions. Twenty-four species have been described; but there are probably not more than half that number of good species.

1. **Limnanthemum humboldtianum**, Griseb. Gentian. p. 347; DC. Prodr. ix. p. 140.

Villarsia humboldtiana, H. B. K. Nov. Gen. et Sp. iii. p. 187.

Menyanthes indica, Aubl. Pl. Guian. i. p. 118; Descourt. Fl. Antill. i. p. 112, t. 24.

Generally dispersed in the WEST INDIES and TROPICAL AMERICA, including MEXICO and CENTRAL AMERICA. Hb. Kew.

Order XCI. POLEMONIACEÆ.

Polemoniaceæ, Benth. et Hook. Gen. Plant. ii. p. 820.

Herbaceous, or rarely shrubby. Eight genera, comprising about 150 species, whereof a few inhabit temperate Europe and Asia, and the rest America, chiefly the north-west, and the Andes.

1. PHLOX.

Phlox, Linn. Gen. Plant. n. 214; Benth. et Hook. Gen. Plant. ii. p. 821; A. Gr. Synop. Fl. N. Am. ii. p. 129.

Twenty-seven herbaceous species, with two or three exceptions in North-eastern Asia, confined to North America. Several of them are common in Southern Texas, New Mexico, and Arizona, and may be expected to extend into North Mexico. Not one species, we believe, has been found within the present boundary of Mexico.

1. **Phlox longifolia**, Nutt., var. **stansburyi**, A. Gr. Synop. Fl. N. Am. ii. p. 133.
Phlox speciosa, var. ? *stansburyi*, Torr. Bot. U. S. & Mex. Bound. Surv. p. 145.

BRITISH COLUMBIA southward.—NORTH MEXICO, Sierra San Luis (*Smith*).
BIOL. CENTR.-AMER., Bot. Vol. II., February 1882.

2. **Phlox nana**, Nutt.; A. Gr. Synop. Fl. N. Am. ii. p. 134.

Phlox triovulata, Thurber; Torr. Bot. U. S. & Mex. Bound. Surv. p. 145.

TEXAS; COLORADO; NEW MEXICO.—NORTH MEXICO, on the Rio Mimbres, within the old boundary (*Dr. Henry*).

2. COLLOMIA.

Collomia, Nutt. Gen. N. Am. Pl. i. p. 126; Benth. et Hook. Gen. Plant. ii. p. 822.

Ten herbaceous species, inhabiting Western North America, from British Columbia southward, one reappearing in the Andes of Chili, and one endemic in the same region. Two of the following have only been collected in the extreme north-west of our region, without the present boundary of Mexico.

1. **Collomia cavanillesiana**, Don, Gen. Syst. iv. p. 247; A. Gr. Synop. Fl. N. Am. ii. p. 136.

Phlox pinnata, Cav. Ic. Pl. t. 528. fig. 1.

Cantua glomeriflora, Juss. in Ann. Mus. iii. p. 119.

Gilia glomeriflora, Benth. in DC. Prodr. ix. p. 314.

TEXAS; NEW MEXICO; ARIZONA.—NORTH MEXICO, Chiricahui Mountains (*Rothrock*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 602); SOUTH MEXICO, Real del Monte (*Coulter*, 1344), near Regla, at 6000 feet (*Galeotti*, 1279). Hb. Kew.

2. **Collomia gracilis**, Dougl.; Benth. in Bot. Mag. sub t. 1622; DC. Prodr. ix. p. 308; A. Gr. Synop. Fl. N. Am. ii. p. 135.

Gilia gracilis, Hook. Bot. Mag. t. 2924.

BRITISH COLUMBIA southward.—NORTH MEXICO, Sonora (*ex Torrey*).—CHILI.

3. **Collomia longiflora**, A. Gr. Proc. Am. Acad. viii. p. 261; Synop. Fl. N. Am. ii. p. 136.

Gilia longiflora, Don, Gen. Syst. iv. p. 245; DC. Prodr. ix. p. 314; Torr. Bot. U.S. & Mex. Bound. Surv. p. 146.

Cantua longiflora, Torrey, in Sitgreave's Rep. t. 7.

COLORADO; TEXAS; ARIZONA.—NORTH MEXICO, Camp Bowie, south of the Gila (*Rothrock*), Chihuahua and Sonora (*ex Torrey*).

4. **Collomia thurberi**, A. Gr. in Proc. Am. Acad. viii. p. 261; Synop. Fl. N. Am. ii. p. 136.

ARIZONA.—NORTH MEXICO, Santa Rita copper-mines (*Thurber*).

3. GILIA.

Gilia, Ruiz et Pav. Prodr. Fl. Per. et Chil. p. 25, t. 4; Benth. et Hook. Gen. Plant. ii. p. 822; A. Gr. in Proc. Am. Acad. viii. p. 261.

Sixty-five herbaceous species, inhabiting North America and subtropical and temperate South America. The following only just enter our northern boundary.

1. **Gilia aurea**, Nutt. Journ. Acad. Philad. n. s. i. p. 155, t. 22; A. Gr. Synop. Fl. N. Am. ii. p. 138; Torr. in Bot. U.S. & Mex. Bound. Surv. p. 147.

CALIFORNIA; ARIZONA; NEW MEXICO.—NORTH MEXICO, Ojo de Vaca, Chihuahua (*Thurber*).

2. **Gilia gunnisoni**, Torr. & Gray, Pacif. Railr. Rep. ii. p. 129, t. 9; Torr. Bot. U.S. & Mex. Bound. Surv. p. 146; A. Gr. Synop. Fl. N. Am. ii. p. 144.

UTAH.—NORTH MEXICO, along the Rio Grande westward to Sonora (ex *Torrey*).

Dr. Gray cites South-east Utah only for this species.

3. **Gilia incisa**, Benth. in DC. Prodr. ix. p. 312; A. Gr. Synop. Fl. N. Am. ii. p. 149; Torr. Bot. U.S. & Mex. Bound. Surv. p. 146.

Gilia lindheimeriana, Scheele in Linnæa, xxi. p. 753.

TEXAS.—NORTH MEXICO, Chihuahua and Nuevo Leon (ex *Torrey*), Monterey (*Palmer*, 847). Hb. Kew.

4. **Gilia inconspicua**, Dougl.; Bot. Mag. t. 2883; A. Gr. Synop. Fl. N. Am. ii. p. 148; Torr. Bot. U.S. & Mex. Bound. Surv. p. 146.

Ipomopsis inconspicua, Smith, Exot. Fl. t. 14.

BRITISH COLUMBIA to CALIFORNIA and TEXAS.—NORTH MEXICO, banks of rivers, particularly from El Paso westward along the Gila (ex *Torrey*).

5. **Gilia rigidula**, Benth. in DC. Prodr. ix. p. 312; A. Gr. Synop. Fl. N. Am. ii. p. 149.

Gilia glandulosa, Scheele in Linnæa, xxi. p. 753.

TEXAS; NEW MEXICO.—NORTH MEXICO, Sonora (ex *Torrey*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 605). Hb. Kew.

Var. **acerosa**, A. Gr. in Proc. Am. Acad. viii. p. 280.

TEXAS; NEW MEXICO; ARIZONA.—NORTH MEXICO, Parras, Coahuila (*Palmer*, 843), Saltillo (*Palmer*, 842). Hb. Kew.

6. **Gilia setosissima**, A. Gr. Proc. Am. Acad. viii. p. 271; Synop. Fl. N. Am. ii. p. 142.

Navarretia schottii, Torrey, Bot. U.S. & Mex. Bound. Surv. p. 145.

UTAH; CALIFORNIA; ARIZONA.—NORTH MEXICO, Sonora (*Schott*).

4. POLEMONIUM.

Polemonium, Linn. Gen. Plant. n. 217; Benth. et Hook. Gen. Plant. ii. p. 823.

Herbs. Eight or nine species, inhabiting Europe, temperate Asia, North America, Mexico, and Chili.

1. **Polemonium grandiflorum**, Benth. in DC. Prodr. ix. p. 317.

SOUTH MEXICO, peak of Orizaba, 9000 to 12,000 feet (*Linden*, 325; *Galeotti*, 1446). Hb. Kew.

2. **Polemonium mexicanum**, Cervantes in Lag. Gen. et Sp. Nov. p. 10; DC. Prodr. ix. p. 317.

SOUTH MEXICO, Desierto Viejo (*Bourgeau*, 878). Hb. Kew.

Bourgeau's specimens seem to be the same as the numerous cultivated ones of the original *P. mexicanum*.

5. LÆSELIA.

Læselia, Linn. Gen. Plant. n. 767; Benth. et Hook. Gen. Plant. ii. p. 823.

Hoitzia, Juss. Gen. Plant. p. 136.

Herbs. Seven or eight species, inhabiting Mexico and Central America, one of them extending to Colombia; and two species have recently been discovered in California.

1. **Læselia amplexans**, Benth. in DC. Prodr. ix. p. 320.

Hoitzia amplexans, Hook. et Arn. Bot. Beech. Voy. p. 441.

SOUTH MEXICO, San Blas to Tepic (*Sinclair*), San Blas to Guadalajara (*Coulter*, 1203); NICARAGUA and COSTA RICA (*Ersted*)? Hb. Kew.

2. **Læselia cærulea**, Don, Gen. Syst. iv. p. 248; DC. Prodr. ix. p. 319.

Hoitzia cærulea, Cav. Ic. Pl. iv. t. 366.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 603), Zacatecas (*Coulter*, 1288); SOUTH MEXICO, Tehuacan, 5000 feet (*Galeotti*, 638), around Tacubaya (*Schaffner*), valley of Mexico (*Bourgeau*, 491; *Bilimek*, 293). Hb. Kew.

3. **Læselia ciliata**, Linn. Sp. Pl. p. 875; DC. Prodr. ix. p. 319; Lam. Ill. t. 527.

Hoitzia aristata, H. B. K. Nov. Gen. et Sp. iii. p. 164.

Læselia aristata, Don, Gen. Syst. iv. p. 248.

SOUTH MEXICO, Vera Cruz (*Houston*).

4. **Læselia coccinea**, Don, Gen. Syst. iv. p. 247; DC. Prodr. ix. p. 318; Regel's Gartenfl. t. 643.

Hoitzia coccinea, Cav. Ic. Pl. t. 365.

Hoitzia mexicana, Lam. Dict. iii. p. 134.

NORTH MEXICO, Sierra Madre (*Seemann*, 2109), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 604); SOUTH MEXICO, Zimapan (*Coulter*, 1328), valley of Mexico (*Bourgeau*, 1112), Oaxaca, 7000 feet (*Galeotti*, 1443), Chiapas (*Linden*, 299), Chapultepec (*Bilimek*, 324), and many other collectors without localities. Hb. Kew.

5. **Læselia glandulosa**, Don, Gen. Syst. iv. p. 248; DC. Prodr. ix. p. 319.

Hoitzia glandulosa, Cav. Ic. Pl. t. 367.

Læselia cervantesii, *conglomerata* et *nepetaefolia*, Don, Gen. Syst. iv. p. 248.

Hoitzia cervantesii et *conglomerata*, H. B. K. Nov. Gen. et Sp. iii. pp. 164 et 165.

Hoitzia elata, Hook. et Arn. Bot. Beech. Voy. p. 441.

Hoitzia spicata et *capitata*, Willd. in Rœm. et Schult. Syst. iv. p. 370.

Hoitzia nepetaefolia, Cham. et Schl. in Linnæa, vi. p. 385.

NORTH MEXICO, Chihuahua (*Parry*), Saltillo, Coahuila (*Gregg*), Nuevo Leon (*Edwards*),

Sierra Madre (*Seemann*, 2114), Zacatecas (*Coulter*, 1286), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 605½); SOUTH MEXICO, Vera Cruz (*Linden*, 621; *Galeotti*, 2978, 7052), region of Orizaba (*Bourgeau*, 3322), valley of Cordova (*Bourgeau*, 1822); GUATEMALA, Volcan de Fuego, 4800 feet (*Salvin & Godman*), near Coban, at 4400 feet (*Türckheim*, *Skinner*); NICARAGUA, Realejo (*Sinclair*); COSTA RICA, Candelaria (*Ersted*); PANAMA, Boquete Veraguas (*Seemann*, 1601).—COLOMBIA; VENEZUELA. Hb. Kew.

A reexamination of the materials would probably lead to the separation of some of the numerous forms referred to this species.

6. ***Læselia involucrata***, Don, Gen. Syst. iv. p. 248; DC. Prodr. ix. p. 319.

Hoitzia lupulina, Hook. et Arn. Bot. Beech. Voy. p. 441.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 702), Cerro de Pinal (*Seemann*, 1507); GUATEMALA (*Friedrichsthal*); NICARAGUA, Realejo (*Sinclair*); PANAMA (*Seemann*, 578). Hb. Kew.

7. ***Læselia rupestris***, Benth. in DC. Prodr. ix. p. 319.

SOUTH MEXICO, Cordillera of Oaxaca, at 7000 feet (*Galeotti*, 1448), Chiapas (*Ghiesbreght*, 709). Hb. Kew.

6. BONPLANDIA.

Bonplandia, Cav. in An. Hist. Nat. ii. (1800) p. 131, t. 20; Benth. et Hook. Gen. Plant. ii. p. 824.

An herbaceous or half-shrubby monotype.

1. ***Bonplandia geminiflora***, Cav. loc. cit. et Ic. Pl. t. 532.

Caldasia heterophylla, Willd. Hort. Berol. t. 71; DC. Prodr. ix. p. 320; Bot. Reg. t. 92.

NORTH MEXICO, Cerro de Pinal (*Seemann*, 1498); SOUTH MEXICO, Cuernavaca (*Bilimek*, 292, 306), ravines near Guadalajara, 3000 feet (*Galeotti*, 940), Tepic (*Barclay*). Hb. Kew.

7. COBÆA.

Cobæa, Cav. Ic. Pl. i. p. 15, tt. 16 et 17; Benth. et Hook. Gen. Plant. ii. p. 824; Hemsl. in 'The Garden,' xvii. (1880) p. 352.

Eight species of climbing shrubs or herbs, ranging from Mexico to Peru.

1. ***Cobæa gracilis***, Hemsley in 'The Garden,' xvii. p. 352.

Rosenbergia gracilis, Erst. in Vidensk. Meddel. 1856, p. 30.

COSTA RICA (*Ersted*, *Endres*?). Hb. Kew.

2. ***Cobæa macrostema***, Pavon, ex Don in Edin. Phil. Journ. x. p. 112; Bot. Mag. t. 3780; DC. Prodr. ix. p. 322, nec Benth. Bot. Voy. 'Sulphur,' p. 132.

Cobæa lutea, Don, loc. cit.

GUATEMALA, Zunil (*Hartweg*), Volcan de Fuego, 4800 feet (*Godman & Salvin*); SAN SALVADOR (*Bernoulli*, 25). Hb. Kew.

The Atacamas plant referred to this species by Bentham is a distinct species, which we have described in 'The Garden,' xvii. p. 352, under the name *C. campanulata*, Hemsley.

3. **Cobæa minor**, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 276; Walp. Rep. vi. p. 527.

SOUTH MEXICO, Orizaba (*Müller*, 1674; *Galeotti*). Hb. Kew.

4. **Cobæa scandens**, Cav. Ic. Pl. i. p. 15, tt. 16 et 17; Bot. Mag. t. 851; Flore des Serres, t. 1467.

MEXICO, San Gerónimo, valley of Mexico (*Bourgeau*, 557). Hb. Kew.

The Venezuelan and Colombian specimens referred in some herbaria to this species belong to *C. trianae*, Hemsley ('The Garden,' xvii. (1880) p. 353).

5. **Cobæa stipularis**, Benth. Pl. Hartw. p. 45; DC. Prodr. ix. p. 322; Bot. Reg. 1841, t. 25.

SOUTH MEXICO, San Cornelio (*Hartweg*), Zimapan (*Coulter*, 928). Hb. Kew.

Order XCII. HYDROPHYLLACEÆ.

Hydrophyllaceæ, Benth. et Hook. Gen. Plant. ii. p. 825.

Herbs, or rarely shrubs. About 150 species, referred to sixteen genera. The greater part are North-American, chiefly inhabiting the western side of the continent; a few occur in the Andes of South America, extending southward to Chili; one species is endemic in South Africa; two or three are widely dispersed in the warm regions of the Old World; and one has been found in the Sandwich Islands.

1. ELLISIA.

Ellisia, Linn. Gen. Plant. n. 244; Benth. et Hook. Gen. Plant. ii. p. 827.

Five herbaceous species, inhabiting North America.

1. **Ellisia chrysanthemifolia**, Benth. Trans. Linn. Soc. xvii. p. 274; Torr. Bot. U.S. & Mex. Bound. Surv. p. 143; A. Gr. Synop. Fl. N. Am. ii. p. 158.

CALIFORNIA; LOWER CALIFORNIA.—NORTH MEXICO, within the old boundary near Tucson (*Parry*).

2. PHACELIA.

Phacelia, Juss. Gen. Plant. p. 129; Benth. et Hook. Gen. Plant. ii. p. 827.

About fifty herbaceous species, inhabiting North America, chiefly the west, and a few the Andes of South America.

1. **Phacelia ciliata**, Benth. in Trans. Linn. Soc. xvii. p. 274; A. Gr. Synop. Fl. N. Am. ii. p. 161; Torr. Bot. U.S. & Mex. Bound. Surv. p. 145.

CALIFORNIA.—NORTH MEXICO, Sonora (*Smith*), Ojo de Vaca, Chihuahua (*Thurber*).

2. **Phacelia circinata**, Jacq. f. Eclog. i. p. 135, t. 91; DC. Prodr. ix. p. 298; A. Gr. Synop. Fl. N. Am. ii. p. 159.

BRITISH COLUMBIA to CALIFORNIA and NEW MEXICO.—MEXICO, Orizaba (*Schiede & Deppe*), San Felipe (*Andrieux*, 211).—PERU and CHILI to the Straits of Magellan. Hb. Kew.

3. **Phacelia congesta**, Hook. Bot. Mag. t. 3452; DC. Prodr. ix. p. 299; A. Gr. Synop. Fl. N. Am. ii. p. 160.

TEXAS.—NORTH MEXICO, east of Saltillo (*Palmer*, 850). Hb. Kew.

4. **Phacelia glandulosa**, Nutt. Pl. Gamb. p. 160; A. Gr. Synop. Fl. N. Am. ii. p. 160.

Phacelia popei, Torr. & Gray, Pacif. Railr. Rep. ii. p. 172, t. 10.

Eutoca glandulosa, Hook. Kew Journ. Bot. iii. p. 293.

TEXAS and COLORADO to ARIZONA.—MEXICO, Real del Monte (*Coulter*, 921). Hb. Kew.

5. **Phacelia infundibuliformis**, Torr. Bot. U.S. & Mex. Bound. Surv. p. 144; A. Gr. Synop. Fl. N. Am. ii. p. 166.

NEW MEXICO.—NORTH MEXICO, Santa Maria, Chihuahua (*Bigelow*).

6. **Phacelia integrifolia**, Torr. in Ann. Lyc. N. York, ii. p. 222, t. 3, et Bot. U.S. & Mex. Bound. Surv. p. 143; A. Gr. Synop. Fl. N. Am. ii. p. 160.

COLORADO; TEXAS; UTAH; ARIZONA.—NORTH MEXICO, Sonora (*Wright*), Chihuahua (*Thurber*).

7. **Phacelia micrantha**, Torr. Bot. U.S. & Mex. Bound. Surv. p. 144; A. Gr. Synop. Fl. N. Am. ii. p. 169.

UTAH; CALIFORNIA; ARIZONA; NEW MEXICO.—NORTH MEXICO, Sonora (*Parry*).

8. **Phacelia pimpinelloides**, A. Gr. in Proc. Am. Acad. x. p. 321.

Eutoca pimpinelloides, Spreng. Syst. i. p. 569.

Cosmanthus mexicanus, A. DC. Prodr. ix. p. 297.

Eutoca mexicana, Benth. in Trans. Linn. Soc. xvii. p. 277.

Eutoca andrieuxii, A. DC. Prodr. ix. p. 294.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 606); SOUTH MEXICO, Popocatepetl, at 10,000 feet (*Galeotti*, 4025), peak of Orizaba, 12,500 feet (*Galeotti*, 3079; *Linden*, 1401), summit of San Felipe (*Andrieux*, 217), valley of Mexico (*Bourgeau*, 493); GUATEMALA (*Godman & Salvin*). Hb. Kew.

3. WIGANDIA.

Wigandia, H. B. K. Nov. Gen. et Sp. iii. p. 126; Benth. et Hook. Gen. Plant. ii. p. 831.

Three or four robust herbaceous species, widely dispersed in the mountains of tropical America. They require revision.

1. **Wigandia caracasana**, H. B. K. Nov. Gen. et Sp. iii. p. 128; Bot. Mag. t. 4575?; Bot. Reg. t. 1966?

SOUTH MEXICO, Oaxaca (*Ghiesbreght*).—COLOMBIA; VENEZUELA. Hb. Kew.

2. **Wigandia kunthii**, Choisy in DC. Prodr. x. p. 184. (Tab. LVIII.)

Wigandia urens, H. B. K. Nov. Gen. et Sp. iii. p. 127, non Choisy.

SOUTH MEXICO, Huahuapan (*Andrieux*, 216), Pedregal (*Bilimek*, 252), Oaxaca, 6000 feet (*Galeotti*, 1436), valley of Mexico (*Bourgeau*, 128); GUATEMALA, Capetillo, Volcan de Fuego, 4600 feet (*Salvin*), without locality (*Skinner*). Hb. Kew.

Grisebach (Fl. Brit. W. Ind. p. 477) reduces *W. caracasana*, "Hook.," to this species, and retains the name *W. urens*, H. B. K., for it.

β. **macrophylla**, Choisy in DC. Prodr. x. p. 184; Cham. et Schl. in Linnæa, vi. p. 382 (species).

MEXICO (*Schiede & Deppe*).

3. **Wigandia scorpioides**, Choisy in DC. Prodr. x. p. 184; DC. Calques des Dess. Fl. Mex. 873.

SOUTH MEXICO, region of Orizaba (*Bourgeau*, 2478; *Müller*, 1364; *Botteri*, 883), Cordillera of Oaxaca, at 5000 feet (*Galeotti*, 1437); NICARAGUA, Realejo (*Sinclair*). Hb. Kew.

4. **Wigandia urens**, Choisy in DC. Prodr. x. p. 184?

Hydrolea urens, Ruiz et Pav. Fl. Peru. iii. t. 243?

SOUTH MEXICO, Leon (*Hartweg*). Hb. Kew.

4. NAMA.

Nama, Linn. Gen. Plant. n. 317; Benth. et Hook. Gen. Plant. ii. p. 831.

About twenty-two herbaceous and half-shrubby species, inhabiting Mexico and the neighbouring countries, two extending to South America.

The following synopsis of the Mexican species was kindly furnished by Dr. A. Gray.

All the species of the flora of North America, excepting the peculiar ones of § 2 and § 3 of my Synop. Fl. N. Am. ii. p. 175 (i. e. *N. lobbii*, *rothrockii*, and *parryi*), occur in Mexico, or near its northern line; and the genus mainly belongs to the Texano-Mexican region. Among the new species which have recently come to hand, and which are here indicated, are two with appendaged filaments, a character that at first sight appears to be quite anomalous. But in a considerable number of the species, including the original *N. jamaicense*, the adnate base of the filament has more or less free, thin margins, which are manifestly homologous with the so-called plicæ or appendages in the corolla of many Hydrophyllaceæ, especially in *Phacelia* and *Emmenanthe*; these are prolonged into a free and conspicuous lobe on each side of the filament in *N. schaffneri*, but only into a short tooth in *N. stenophyllum*. In *N. palmeri* the

conspicuously winged margins of the adnate portion of the filament taper upwards, with no vestige of a tooth.

In *Nama* there is no hypogynous disk; but the very base of the calyx is obscurely adnate to that of the ovary in *N. jamaicense*, *N. hispidum*, &c. It is decidedly so in *N. undulatum*, and so much so in *N. stenocarpum* that the ovary and capsule appear to be about one third inferior. The union is complete; but the base of the calyx may usually be torn away without much rupture. In this species, moreover, is often seen the anomaly of more or less united styles.

In characterizing the Mexican new species it will be both convenient and useful to give a synoptical arrangement of all of them now known.

§ 1. Filamenta inferne bidentata.

1. ***Nama schaffneri***, A. Gr., n. sp.

E radice annua ramosissimum, diffusum, molliter pubescens, foliis lingulato-spathulatis vel oblanceolatis basi subdecurrente sessilibus membranaceis flores breviter graciliterque pedunculatos superantibus, corolla (fere semipollicari) infundibuliformi sepalis sursum parum ampliatis duplo longiore, appendicibus staminum linearibus paullo brevioribus quam filamentum suum, capsula oblonga polysperma, seminibus ovalibus læviusculis, testa conformi diaphana.

NORTH MEXICO, in low sandy ground near Morales, San Luis Potosi (*Schaffner*, 194), the same region (*Parry & Palmer*, 609). Hb. Kew.

The singular appendages to the filament are continued downwards to the base of the adnate portion as a narrow linear border.

2. ***Nama stenophyllum***, A. Gr., n. sp.

Suffrutescens, hirsuto-hispidum; caule sat valido foliosissimo; foliis angusto-linearibus (subpollicaribus vix lineam latis) flores æquantibus vel superantibus; corolla fere hypocraterimorpha, limbo brevi sepalis sursum haud ampliatis paullo longiore; filamentis brevissime bidentatis; capsula inferne cum calyce longius adnata.

NORTH MEXICO, San Lorenzo de Laguno, Coahuila (*Palmer*, 861), San Luis Potosi (*Schaffner*, 77)? Hb. Kew.

Fruit not seen, and flowers scanty or in poor condition. In two forms—one very hirsute and hispid, with spreading white hairs; the other with more appressed, somewhat strigose, pubescence, firmer leaves, and more ligneous stems. Appears as if a denizen of subsaline soil. The appendages of the stamens are as in the foregoing species, except the termination, where the filament becomes free, with a short callous tooth on each side.

§ 2. Filamenta edentata, basi corollæ adnata, sæpe dilatata, interdum marginibus liberis apice haud excurrentibus plus minus alato-appendiculata.

* Suffrutescencia, sessilifolia, oligosperma, sepalis sursum attenuatis.

3. ***Nama palmeri***, A. Gr., n. sp.

Suffrutescens, cinereo-pubescens et subhirsutum, foliis subspathulato-lanceolatis vel sublinearibus basi angustata sessilibus concoloribus fere eveniis (plerumque sesquipollicaribus) flores glome-

ratos subsessiles longius superantibus; corolla infundibuliformi-campanulata (lineas 5 longa) sepala subulato-lineariter vix superante; filamentis basi adnata latiuscule alato-dilatatis; capsula brevi-oblonga subcoriacea calyce (semipollicari) multo brevior 12-16-sperma; seminibus subglobosis tuberculato-scribiculatis.

NORTH MEXICO, low mountains at Soledad, twenty-five miles south-west of Monclova, Coahuila (*Palmer*, 856). Hb. Kew.

N. lobbii, A. Gr., the related Californian species, of which immature fruit is now found in the Kew herbarium, appears to have only about eight seeds; these oblong, pendulous, half a line in length, and with a thickish, nearly smooth testa. The prolonged adnate portion of the filament has distinct, but very narrow, free edges. *N. demissum* may have almost as many seeds as *N. palmeri*; but it is an annual.

** Suffrutescentia, foliis petiolatis pinnativeniis, sepalis sursum latioribus, seminibus scribiculatis.

4. ***Nama hirsutum***, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 277 (reprint, p. 23); Walp. Rep. vi. p. 565.

Semina in loculis 5-7. Corolla $\frac{1}{2}$ poll. Folia fere concoloria.

SOUTH MEXICO, Cordillera of Oaxaca, at 7000 to 9000 feet (*Galeotti*, 4096, 7164). Hb. Kew.

5. ***Nama sericeum***, Willd. in Rœm. et Schult. Syst. vi. p. 189.

Nama longiflorum, Choisy, Hydrol. t. 2. f. 2; DC. Prodr. x. p. 183.

Semina sat numerosa. Corolla ultra semipollicaris. Folia subtus sericeo-incana.

MEXICO (*Humboldt & Bonpland*; *Coulter*, 914, 915). Hb. Kew.

*** Fruticulus parvifolius, parvi- et breviflorus, foliis breviter vel brevissime petiolatis marginibus mox revolutis, sepalis sursum latioribus.

6. ***Nama organifolium***, H. B. K. Nov. Gen. et Sp. iii. p. 130, t. 218.

Semina in loculis circa 10, oblonga, immatura lævia.

NORTH MEXICO, region of San Luis Potosi (*Schaffner*, 732; *Parry & Palmer*, 612). Hb. Kew.

Schaffner and Parry and Palmer have collected characteristic specimens of this species. The corolla is only two or three lines long, and (as in the figure and description) slightly surpassing the calyx; and the peduncles are very short. The stock or base is thick and woody; and even the slender branches become ligneous. Seemann's 2083, which was naturally referred to this species, seems rather to belong to *N. rupicolum*.

**** Herbæ perennes, basi interdum suffrutescentes, diffusæ, latifoliæ, seminibus parvis, maturis parum parceque scribiculatis.

† Folia manifeste petiolata, plerumque alterna, membranacea.

7. ***Nama rupicolum***, Pavon, Bonpl. ex Choisy; DC. Prodr. x. p. 183.

Albido-villosum; caulibus basi sat lignescentibus; foliis ovalibus rotundisve interdum obovato-oblongis venosis, petiolo gracili; corolla sepalis sursum plus minus dilatatis longiore.

NORTH MEXICO, region of San Luis Potosi (*Parry & Palmer*), Sierra Madre (*Seemann*,

2083), Monterey (*Eaton & Edwards*); SOUTH MEXICO, Cuernavaca (*Bourgeau*, 1263) Hb. Kew.

The original of this species I take to be "*N. rupicola*, Pavon," of which there are good and quite similar specimens in Boissier's herbarium and at the British Museum, formerly in Lambert's herbarium. As it is Pavon's name, and as the plant is not found among the plants of Bonpland in the herbarium at the Jardin des Plantes, I suppose that Choisy has made a mistake in ascribing the name to the latter. The species has to be taken in a rather wide sense, even probably to include Seemann's 2083. The original specimens are hoary villous, mostly round-leaved, with sepals little shorter than the corolla, and spatulate-dilated at the tip; the capsule mostly short and small, as described by Choisy. The specimens from Monterey of Edwards and Eaton have narrower leaves, much less dilated sepals, and an oblong capsule. And the following very marked form must be added:—

Var. rotundifolium, A. Gr.

Viride, pilis tenuibus interdum longis subviscosis villosum; pedunculis plerisque elongatis filiformibus; sepalis corolla (lineas 4 longa) dimidio brevioribus; capsula aut ovali aut oblonga.

NORTH MEXICO, near Monclova, Coahuila (*Palmer*, 983), near Monterey (*Palmer*, 984); SOUTH MEXICO, Cuernavaca (*Bilimek*, 392). Hb. Kew.

There are two forms. Palmer's 983 is remarkably green and large-leaved, probably from growing in moist and shady situations; 984 is villous, with very soft long hairs. Bilimek's 392 connects this with the genuine *N. rupicolum*.

†† Folia fere sessilia, opposita.

8. Nama serpylloides, A. Gr., n. sp.

Puberulum, effuse ramosissimum, gracile; foliis spathulatis vel obovatis basi attenuatis fere eveniis (lineas 3–5 longis); pedunculis filiformibus brevioribus; corolla (lineas 2–3 longa) quam calyx duplo longiore.

NORTH MEXICO, near Monclova, Coahuila (*Palmer*, 982). Hb. Kew.

The fine pubescence is seemingly somewhat viscid; and the long villous or hirsute hairs so common in related species are wholly wanting. The leaves appear to be uniformly opposite!

***** Herbæ annuæ, necnon radice indurascete diu persistentes.

† Folia lata, subito graciliter petiolata; sepala spathulata.

9. Nama latifolium, A. Gr. in Proc. Am. Acad. viii. p. 284.

SOUTH MEXICO, western Cordillera of Oaxaca at 8000 feet (*Galeotti*, 1068), valley of Mexico (*Bourgeau*, 610). Hb. Kew.

Var. hispidulum, A. Gr., forma hirsutior.

GUATEMALA, ridge above Calderas, 8300 feet (*Salvin*). Hb. Kew.

†† Folia basi attenuata, subsessilia vel vix petiolata, nec semiamplexicaulia nec secus caulem decurrentia; pedunculi sæpius brevissimi.

‡ Sepala sursum latiora.

10. **Nama dichotomum**, Choisy in DC. Prodr. x. p. 182; A. Gr. in Proc. Am. Acad. v. p. 338, viii. p. 283.

Hydrolea dichotoma, Ruiz et Pav. Fl. Peru. t. 244.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 610); SOUTH MEXICO, Vera Cruz to Orizaba (*Müller*, 1678), Zimapan (*Coulter*, 916), valley of Mexico (*Bourgeau*, 356, 610), region of Orizaba (*Bourgeau*, 3163); GUATEMALA, Atitlan (*Bernoulli*, 614).—ECUADOR; BOLIVIA. Hb. Kew.

Var. **angustifolium**, A. Gr. in Proc. Am. Acad. viii. p. 284; Synop. Fl. N. Am. ii. p. 175.

COLORADO; NEW MEXICO.—NORTH MEXICO (*Palmer*, 855), San Luis Potosi (*Schaffner*). Hb. Kew.

11. **Nama coulteri**, A. Gr. in Proc. Am. Acad. viii. p. 283.

NORTH MEXICO, Nazas valley, Bolson de Mapimi, Chihuahua (*Gregg*).

Founded on Coulter's 463 of the "Californian collection," but probably from the northern part of Mexico.

N. sandwicensis, A. Gr., is of this subdivision, and is related to the next.

‡‡ Sepala sursum haud ampliata.

12. **Nama hispidum**, A. Gr. in Proc. Am. Acad. v. p. 339; Synop. Fl. N. Am. ii. p. 174.

TEXAS to ARIZONA and CALIFORNIA.—NORTH MEXICO, San Lorenzo de Laguna (*Palmer*, 859, 860). Hb. Kew.

N. demissum, A. Gr., from Oregon to Arizona, belongs to this group.

††† Folia caulina sessilia, haud decurrentia, superiora basi sat lata plus minus semiamplexicaulia; sepala sursum plus minus ampliata; pedunculi sæpius brevissimi.

13. **Nama undulatum**, H. B. K. Nov. Gen. et Sp. iii. p. 130; A. Gr. Synop. Fl. N. Amer. ii. p. 174.

Nama echioides, Griseb. Symb. ad Fl. Argent. p. 277.

Capsula oblonga ima basi calyci coadunata; seminibus numerosissimis parvis ovalibus, testa tenui conformi diaphana.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 607, 608); SOUTH MEXICO, Cerro de los Baños, valley of Mexico (*Bourgeau*, 131).—CHILI; LA PLATA. Hb. Kew.

Var. ? **macranthum**, Choisy, Hydrol. p. 18, t. 2. fig. 1; DC. Prodr. x. p. 182.

Nama berlandieri, A. Gr. in Proc. Am. Acad. viii. p. 282, x. p. 330.

Forma notabilis laxa; floribus majoribus interdum longiuscule pedicellatis.

NORTH MEXICO, Tamaulipas near Reynosa (*Berlandier*, 2116, 699). Hb. Kew.

14. **Nama stenocarpum**, A. Gr. in Proc. Am. Acad. x. p. 331; Synop. Fl. N. Am. ii. p. 174.

Nama undulatum, A. Gr. in Proc. Am. Acad. viii. p. 282 (non H. B. K.).

Capsula cylindrica fere lineari; seminibus majoribus demum angulatis, testa crassa opaca reticulata; pedunculis fructiferis brevissimis rigidis vel nullis.

TEXAS to ARIZONA.—NORTH MEXICO, along the border to Sonora. Hb. Kew.

††† Folia caulina pleraque secus caulem alato-decurrentia; sepala sursum parum dilatata; semina subglobosa, testa crassiuscula favosa. Herbæ annuæ vel subperennantes.

‡ Procumbentes, latifoliæ, pedunculis brevibus vel brevissimis.

15. **Nama jamaicense**, Linn. Sp. Pl. p. 327; DC. Prodr. x. p. 182; A. Gr. Synop. Fl. N. Am. ii. p. 174.

TEXAS; FLORIDA.—MEXICO, Tepic (*Barclay*), Vera Cruz to Orizaba (*Müller*, 292; *Bourgeau*, 2566); GUATEMALA (*Bernoulli*; *Türckheim*).—And widely dispersed in the WEST INDIES. Hb. Hew.

‡‡ Assurgentes, diffusæ, pedunculis filiformibus folia sæpius excedentibus hinc inde furcatis.

16. **Nama biflorum**, Choisy in DC. Prodr. x. p. 183.

Gracile, villosulo-hirsutum; foliis oblongo-spathulatis inferne sensim attenuatis, venis inconspicuis adscendentibus; corolla quam calyx paullo longiore.

NORTH MEXICO (*Berlandier*, 780, 2126, and 2200, not "200"), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 702½); SOUTH MEXICO, valley of Mexico (*Bourgeau*, 607)? Hb. Kew.

17. **Nama subpetiolare**, A. Gr., n. sp.

Pube prorsus molli villosum; foliis obovatis ovatisve subito quasi in petiolum alatum sat longum contractis, secus caulem sæpe breviter decurrentibus, venis subtus prominulis patentibus; corolla (lineas 5 longa) quam calyx duplo longiore.

NORTH MEXICO, near Monterey, Nuevo Leon (*Palmer*, 985). Hb. Kew.

5. HYDROLEA.

Hydrolea, Linn. Gen. Plant. n. 318; Benth. et Hook. Gen. Plant. ii. p. 831.

Herbs or undershrubs. About fifteen species, widely dispersed in America, Tropical Africa, India, the Malayan Archipelago, and Tropical Australia.

1. **Hydrolea glabra**, Choisy in DC. Prodr. x. p. 181?

SOUTH MEXICO, Yucatan and Tabasco (*Johnson*, 52). Hb. Kew.

The type is recorded from "New Spain," which sometimes means one thing, sometimes another.

2. **Hydrolea spinosa**, Linn. Sp. Pl. p. 328; Aubl. Guian. i. t. 110; Bot. Reg. t. 566; DC. Prodr. x. p. 181.

SOUTH MEXICO, Sierra San Pedro Nolasco, &c. *Jurgensen*, 608); NICARAGUA, Chontales

(*Tate*, 126); PANAMA, Chagres (*Fendler*, 236), without locality (*Seemann*, *Sinclair*).—Common in tropical and subtropical SOUTH AMERICA and the WEST INDIES. Hb. Kew.

Order XCIII. BORAGINEÆ.

Boragineæ, Benth. et Hook. Gen. Plant. ii. p. 832.

Herbs, shrubs, or trees. Sixty-eight genera, comprising about 1200 species, widely dispersed.

1. CORDIA.

Cordia, Linn. Gen. Plant. n. 256; Benth. et Hook. Gen. Plant. ii. p. 838.

From 180 to 200 arboreous and shrubby species, generally distributed in warm countries, but most numerous in America.

1. *Cordia alba*, Rœm. et Schult. Syst. iv. p. 466.

Varronia calyptрата, A. DC. Prodr. ix. p. 469.

Cordia dentata, Vahl, Ecl. iii. p. 5; H. B. K. Nov. Gen. et Sp. iii. p. 70.

SOUTH MEXICO, Tehuantepec (*Andrieux*, 198, 207; *Hartweg*), near Vera Cruz, at 1000 feet (*Galeotti*, 1323; *Linden*, 284), Oaxaca (*Ghiesbreght*); GUATEMALA (*Skinner*); HONDURAS, Gulf of Fonseca (*Sinclair*); NICARAGUA, neighbourhood of Granada (*Lévy*).—COLOMBIA; VENEZUELA; and CUBA to TRINIDAD. Hb. Kew.

2. *Cordia ambigua*, Cham. et Schl. in Linnæa, v. p. 115; DC. Prodr. ix. p. 497.

SOUTH MEXICO, Mirador (*Linden*, 144), Jalapa, at 4000 feet (*Galeotti*, 7079), region of Orizaba (*Bourgeau*, 2625). Hb. Kew.

3. *Cordia boissieri*, A. DC. Prodr. ix. p. 478; A. Gr. Synop. Fl. N. Am. ii. p. 180.

TEXAS; NEW MEXICO.—NORTH MEXICO, Monterey (*Eaton & Edwards*, 49; *Berlandier*), San Luis Potosi to Tampico (*Palmer*, 1126); SOUTH MEXICO, Zimapan (*Coulter*, 1067). Hb. Kew.

4. *Cordia brevispicata*, Mart. et Gal. in Bull. Acad. Brux. xi. 2, p. 331; Walp. Rep. vi. p. 553.

SOUTH MEXICO, Tehuacan de las Granadas, 5200 feet (*Galeotti*, 7192). Hb. Kew.

5. *Cordia cana*, Mart. et Gal. in Bull. Acad. Brux. xi. 2, p. 331 (reprint, p. 15); Walp. Rep. vi. p. 555.

SOUTH MEXICO, Pacific coast, Oaxaca (*Galeotti*, 7140).

6. *Cordia collococca*, Linn. Sp. Pl. p. 274; Griseb. Fl. Brit. W. Ind. p. 478; Bull. Acad. Brux. xi. 2 (reprint, p. 16).

SOUTH MEXICO, Sola, Oaxaca, near Guadalajara, etc. (*Galeotti*, 1610, 1611).—COLOMBIA; WEST INDIES. Hb. Kew.

7. ***Cordia crenulata***, A. DC. Prodr. ix. p. 492.
MEXICO (*Herb. Pavon*).
8. ***Cordia crispiflora***, A. DC. Prodr. ix. p. 476; Calques des Dess. Fl. Mex. p. 875.
MEXICO.
9. ***Cordia dasycephala***, H. B. K. Nov. Gen. et Sp. iii. p. 76; DC. Prodr. ix. p. 497; Bull. Acad. Brux. xi. 2 (reprint, p. 14).
SOUTH MEXICO, Jalapa, 4000 feet (*Galeotti*, 7071).—WEST INDIES and GUIANA to VENEZUELA.
10. ***Cordia diversifolia***, Pavon; DC. Prodr. ix. p. 474.
MEXICO?—PERU?
11. ***Cordia dodecandra***, A. DC. Prodr. ix. p. 478; Calques des Dess. Fl. Mex. p. 874.
SOUTH MEXICO, Alvarado (*Moçino & Sessé*); Yucatan (*Johnson*). Hb. Kew.
12. ***Cordia elæagnoides***, DC. Prodr. ix. p. 474.
SOUTH MEXICO, Chinitan, between Tehuantepec and Boca del Monte (*Andrieux*, 197), without locality (*Ghiesbreght*). Hb. Kew.
13. ***Cordia ferruginea***, Rœm. et Schult. Syst. iv. p. 468; DC. Prodr. ix. p. 488.
SOUTH MEXICO, region of Orizaba (*Bourgeau*, 2325, 2420; *Müller*, 146, 821), near Jalapa, 3000 feet (*Galeotti*, 7076, 7149), Tabasco (*Linden*, 1617).—COLOMBIA. Hb. Kew.
14. ***Cordia foliosa***, Mart. et Gal. in Bull. Acad. Brux. xi. 2, p. 330 (reprint, p. 14); Walp. Rep. vi. p. 554.
SOUTH MEXICO, woods of Zacuapan (*Galeotti*, 7094). Hb. Kew.
15. ***Cordia gerascanthoides***, H. B. K. Nov. Gen. et Sp. iii. p. 69; DC. Prodr. ix. p. 472; Griseb. Fl. Brit. W. Ind. p. 478?
MEXICO (*Parkinson*); SAN SALVADOR, Acajutla (*S. Hayes*, 456).—CUBA; JAMAICA. Hb. Kew.
16. ***Cordia gerascanthus***, Jacq. Amer. p. 43, t. 175. fig. 16; DC. Prodr. ix. p. 472.
SOUTH MEXICO, Sierra San Pedro Nolasco, etc. (*Jurgensen*, 962), Acapulco (*Sinclair*); GUATEMALA (*Friedrichsthal*); PANAMA, Paraiso (*S. Hayes*), near the city of Panama (*Seemann*, 452). Hb. Kew.
17. ***Cordia globosa***, H. B. K. Nov. Gen. et Sp. iii. p. 76; Griseb. Fl. Brit. W. Ind. p. 481; A. Gr. Synop. Fl. N. Am. ii. p. 180.
Keys of FLORIDA.—PANAMA (ex *Grisebach*).—WEST INDIES.

18. ***Cordia greggii***, Torr. Bot. U.S. & Mex. Bound. Surv. p. 135.
NORTH MEXICO, Bolson de Mapimi (*Gregg*), San Lorenzo de Laguna, Coahuila (*Palmer*). Hb. Kew.
19. ***Cordia hermanniæfolia***, Cham. in Linnæa, iv. p. 482 ; DC. Prodr. ix. p. 494.
SOUTH MEXICO, Hacienda de la Laguna (*Schiede*).—BRAZIL.
20. ***Cordia hartwissiana***, Regel, Ind. Sem. Hort. Petrop. 1858, p. 39.
SOUTH MEXICO, near Narango el Carrizo (*Karwinski*).
“Berries similar to olives, sweet and edible. Trompillo of the natives.”
21. ***Cordia hispida***, Benth. Bot. Voy. ‘Sulphur,’ p. 139.
HONDURAS, Gulf of Fonseca (*Sinclair*). Hb. Kew.
22. ***Cordia interrupta***, DC. Prodr. ix. p. 491.
NICARAGUA, Greytown (*Tate*, 42) ; PANAMA, near the city of Panama (*Seemann*, 330 ;
S. Hayes, 72).—GUIANA. Hb. Kew.
23. ***Cordia laxiflora***, H. B. K. Nov. Gen. et Sp. iii. p. 72 ; DC. Prodr. ix. p. 489 ;
Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 14).
SOUTH MEXICO, Mirador, 3000 feet (*Galeotti*, 7076).—COLOMBIA.
24. ***Cordia linearis***, A. DC. Prodr. ix. p. 493.
MEXICO.
25. ***Cordia macrocephala***, H. B. K. Nov. Gen. et Sp. iii. p. 77 ; DC. Prodr. ix.
p. 497.
NORTH MEXICO, Sonora Alta (*Coulter*, 1068) ; SOUTH MEXICO, Aguas Calientes
(*Hartweg*), near Vera Cruz (*Galeotti*, 7107).—PERU. Hb. Kew.
26. ***Cordia microcephala***, Willd. in Rœm. et Schult. Syst. iv. p. 801 ; Benth.
Bot. Voy. ‘Sulphur,’ p. 139.
HONDURAS, Gulf of Fonseca (*Sinclair*).—VENEZUELA. Hb. Kew.
Mr. Bentham doubtfully refers Sinclair’s plant to Willdenow’s species.
27. ***Cordia oaxacana***, DC. Prodr. ix. p. 497.
SOUTH MEXICO, near Tololapa, Oaxaca (*Andrieux*, 203). Hb. Kew.
28. ***Cordia parvifolia***, A. DC. Prodr. ix. p. 498.
MEXICO.
29. ***Cordia peruviana* β. *mexicana***, DC. Prodr. ix. p. 491 ; Benth. Bot. Voy.
‘Sulphur,’ p. 139.
Cordia obliqua, H. B. K. Nov. Gen. et Sp. iii. p. 74.
SOUTH MEXICO, Campeachy (*Humboldt & Bonpland*) ; GUATEMALA (*Friedrichsthal*) ;
PANAMA (*Sinclair* ; *Fendler*, 130). Hb. Kew.

29. **Cordia podocephala**, Torr. Bot. U.S. & Mex. Bound. Surv. p. 135; A. Gr. Synop. Fl. N. Am. ii. p. 180.

TEXAS; NEW MEXICO.—NORTH MEXICO, Monterey (*Eaton & Edwards*). Hb. Kew.

30. **Cordia rotata**, Moç. in DC. Prodr. ix. p. 483; Calques des Dess. Fl. Mex. p. 880. MEXICO.

31. **Cordia rotundifolia**, Ruiz et Pav. Fl. Peruv. ii. p. 24, t. 148. *Varronia rotundifolia*, A. DC. Prodr. ix. p. 469.

PANAMA (*Cuming*).—COLOMBIA to PERU and in the GALAPAGOS. Hb. Kew.

32. **Cordia serratifolia**, H. B. K. Nov. Gen. et Sp. iii. p. 76; DC. Prodr. ix. p. 495. *Cordia parvifolia*, Ort. Dec. vii. p. 85.

SOUTH MEXICO, Plan del Rio (*Schiede*), Campeachy (*Humboldt & Bonpland*).

33. **Cordia tenuifolia**, Bertol. Misc. Bot. fasc. xxi. p. 13, t. 1. GUATEMALA, Esquintla (*Velasquez*).

34. **Cordia tinifolia**, Willd. in Rœm. et Schult. Syst. Veg. iv. p. 800; DC. Prodr. ix. p. 472.

Cordia gerascanthus, H. B. K. Nov. Gen. et Sp. iii. p. 69 (non Jacq.).

SOUTH MEXICO, Acapulco (*Humboldt & Bonpland*).

35. **Cordia ulmifolia**, Juss. in Cours Bot. Cult. ed. 1, ii. p. 148; DC. Prodr. ix. p. 494; Griseb. Fl. Brit. W. Ind. p. 480.

PANAMA, near the city of Panama (*S. Hayes*, 559), Isle de Taboga (*Seemann*).—WEST INDIES and southward to PERU and BRAZIL. Hb. Kew.

2. BOURRERIA.

Bourreria, P. Br. Hist. Jam. p. 168, t. 15; Benth. et Hook. Gen. Plant. ii. p. 840.

Beurreria, Jacq. Stirp. Amer. p. 44.

About eighteen shrubby and arboreous species, inhabiting Mexico, Central America, the West Indies, and Colombia.

1. **Bourreria andrieuxii**, Hemsley.

Ehretia andrieuxii, DC. Prodr. ix. p. 510.

Crematomia andrieuxii, Miers, Contrib. Bot. ii. p. 254.

SOUTH MEXICO, Puebla (*Andrieux*, 200). Hb. Kew.

2. **Bourreria formosa**, Hemsley. (Tab. LIX.)

Ehretia formosa et β . *oaxacana*, DC. Prodr. ix. p. 510.

Crematomia formosa, Miers, Contrib. Bot. ii. p. 251.

SOUTH MEXICO, Sierra San Pedro Nolasco etc. (*Jurgensen*, 710), Tehuantepec (*Andrieux*, 201); GUATEMALA, Ciudad Vieja, 5400 feet (*Salvin*). Hb. Kew.

EXPLANATION OF TAB. LIX.

Fig. 1, a corolla laid open; 2, a calyx laid open, showing the ovary: a little enlarged. In the upper right-hand corner is a semi-double flower.

3. **Bourreria grandiflora**, Bertol. Fl. Guat. p. 10.*Ehretia guatemalensis*, DC. Prodr. ix. p. 507.*Crematonia guatemalensis*, Miers, Contrib. Bot. ii. p. 245.GUATEMALA, Esquintla (*Velasquez*).Bertoloni's description agrees very well with *B. formosa*.4. **Bourreria huanita**, Hemsley.*Crematonia*? *huanita*, Miers, Contrib. Bot. ii. p. 255.*Morelosia huanita*, Llav. et Lex. Nov. Veg. Descr. i. p. 1.SOUTH MEXICO, Valladolid, Michoacan (*Lexarza*).5. **Bourreria revoluta**, H. B. K. Nov. Gen. et Sp. iii. p. 67.*Ehretia revoluta*, DC. Prodr. ix. p. 507.SOUTH MEXICO, near Regla, at 6250 feet (*Humboldt & Bonpland*).6. **Bourreria spathulata**, Hemsley.*Crematonia spathulata*, Miers, Contrib. Bot. ii. p. 253.

MEXICO (Hb. Pavon).

3. EHRETIA.

Ehretia, Linn. Gen. Plant. n. 257; Benth. et Hook. Gen. Plant. ii. p. 840.

Shrubs and trees. About fifty species, inhabiting the warm regions of both hemispheres, but most numerous in the eastern.

1. **Ehretia ciliata**, Miers, Contrib. Bot. ii. p. 229.TEXAS.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 591½); Monterey, Nuevo Leon (*Palmer*, 871). Hb. Kew.Hardly different from *E. elliptica*.2. **Ehretia elliptica**, DC. Prodr. ix. p. 503; Miers, Contrib. Bot. p. 228, t. 85; A. Gr. Synop. Fl. N. Amer. p. 181.*Ehretia exasperata*, Miers, loc. cit. p. 230.TEXAS.—NORTH MEXICO, Matamoros (*Berlandier*, 2369), Monterey (*Eaton & Edwards*, 70), Santa Rosa, Chihuahua (*Bigelow*). Hb. Kew.Eaton and Edwards's specimen has much smaller leaves, but does not seem to differ otherwise. *E. scabra*, Kth. et Bouché, may belong to this species.3. **Ehretia latifolia**, DC. Prodr. ix. p. 503; Miers, Contrib. Bot. ii. p. 229.SOUTH MEXICO, Cordillera of Oaxaca, at 5500 feet (*Galeotti*, 3099), region of Orizaba (*Botteri*, 1022; *Bourgeau*). Hb. Kew.4. **Ehretia longifolia**, Miers, Contrib. Bot. ii. p. 228.*Ehretia tinifolia*, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 16).SOUTH MEXICO, between Tehuacan and Oaxaca, 3500 feet (*Galeotti*, 7194).—JAMAICA.

5. **Ehretia scabra**, Kth. et Bouché, Ind. Sem. Hort. Berol. 1847, coll. p. 12; Walp. Ann. i. p. 524.

MEXICO?

6. **Ehretia tinifolia**, Linn.; Griseb. Fl. Brit. W. Ind. p. 481.

SOUTH MEXICO, Yucatan (ex *Grisebach*).—WEST INDIES.

4. COLDENIA.

Coldenia, Linn. Gen. Plant. n. 173; Benth. et Hook. Gen. Plant. ii. p. 841.

Diffuse herbs. Ten species are known, one of which is widely dispersed in the warm regions of the Old World; the rest are Western-American, both north and south, including the Galapagos.

1. **Coldenia canescens**, DC. Prodr. ix. p. 559; A. Gr. Synop. Fl. N. Amer. ii. p. 181.

Stegnocarpus canescens, Torr. in Pacif. Railr. Rep. ii. p. 169, t. 7.

TEXAS to ARIZONA.—NORTH MEXICO, Monterey (*Eaton & Edwards*, 47), Monclova, Coahuila (*Palmer*, 874), Sierra Madre, Coahuila (*Palmer*, 864), mountains of San Miguelita, San Luis Potosi (*Schaffner*, 631). Hb. Kew.

2. **Coldenia greggii**, A. Gr. Synop. Fl. N. Am. ii. p. 182; Proc. Am. Acad. x. p. 48.

Ptilocalyx greggi, Torr. Pacif. Railr. Rep. ii. t. 8.

TEXAS; NEW MEXICO.—NORTH MEXICO, without locality (*Gregg*), San Lorenzo de Laguna (*Palmer*, 865). Hb. Kew.

3. **Coldenia hispidissima**, A. Gr. in Proc. Am. Acad. v. p. 340; Synop. Fl. N. Am. ii. p. 182.

Eddya hispidissima, Torr. Pacif. Railr. Rep. ii. t. 9.

SOUTH UTAH to ARIZONA and Western TEXAS.—NORTH MEXICO, Monclova, Coahuila (*Palmer*, 898). Hb. Kew.

5. RHABDIA.

Rhabdia, Mart. Nov. Gen. et Sp. ii. p. 136; Benth. et Hook. Gen. Plant. ii. p. 842.

A shrubby monotype.

1. **Rhabdia lycioides**, Mart. Nov. Gen. et Sp. ii. p. 136, t. 195; Miers, Contrib. Bot. ii. p. 222, cum spp. 2 et 3, t. 84; Mart. Fl. Bras. xix. t. 9; Hook. Ic. Pl. t. 823.

SOUTH MEXICO, Cordillera of Oaxaca, at 2500 feet (*Galeotti*, 1774).—BRAZIL; Tropical AFRICA; Tropical ASIA. Hb. Kew.

6. TOURNEFORTIA.

Tournefortia, Linn. Gen. Plant. n. 192; Benth. et Hook. Gen. Plant. ii. p. 843.

Trees and shrubs. About 100 species, generally diffused in warm countries. The

Mexican species have been unduly multiplied, especially by Martens and Galeotti, several of their species being apparently referable to others previously described.

1. **Tournefortia acutiflora**, Mart. et Gal. in Bull. Acad. Brux. xi. 2, p. 333; Walp. Rep. vi. p. 556.

SOUTH MEXICO, Cordillera of Oaxaca, 6000 feet (*Galeotti*, 1257). Hb. Kew.

2. **Tournefortia asperrima**, Mart. et Gal. in Bull. Acad. Brux. xi. 2, p. 333; Walp. Rep. vi. p. 556.

SOUTH MEXICO, San Blas, Jalisco (*Galeotti*, 1275).

3. **Tournefortia bicolor**, Swartz, Fl. Ind. Occ. i. p. 344; Griseb. Fl. Brit. W. Ind. p. 483.

Stenostomum (?) *dichotomum*, DC. Prodr. iv. p. 461.

SOUTH MEXICO, Sierra San Pedro Nolasco etc. (*Jurgensen*, 101), region of Orizaba (*Botteri*, 1005, 1055; *Bourgeau*), Teapa (*Linden*, 256); COSTA RICA (*Endres*); PANAMA, Chagres (*Fendler*, 232).—Common in the WEST INDIES and northern part of SOUTH AMERICA. Hb. Kew.

4. **Tournefortia billbergiana**, Beurling in Kong. Vet. Handl. 1854, p. 139.

PANAMA, Portobello (*Billberg*).

5. **Tournefortia calycina**, Benth. Bot. Voy. 'Sulphur,' p. 139.

SOUTH MEXICO, Acapulco (*Sinclair*). Hb. Kew.

6. **Tournefortia candida**, Walp. Rep. vi. p. 556.

Messerschmidia candida, Mart. et Gal. in Bull. Acad. Brux. xi. 2, p. 334.

SOUTH MEXICO, Cordillera of Oaxaca, 3000 feet (*Galeotti*, 1283 bis). Hb. Kew.

7. **Tournefortia capitata**, Mart. et Gal. in Bull. Acad. Brux. xi. 2, p. 332; Walp. Rep. vi. p. 555.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 613); SOUTH MEXICO, Sola, south of Oaxaca, at 4800 feet (*Galeotti*, 1260), Zacualco (*Bourgeau*, 1414). Hb. Kew.

Seemann (Bot. Voy. 'Herald,' p. 329) reduces this to *T. calycina*, associating with them a plant he collected in the Cerro de Pinal, which appears to differ from both.

8. **Tournefortia chrysantha**, Walp. Rep. vi. p. 556.

Messerschmidia chrysantha, Mart. et Gal. in Bull. Acad. Brux. xi. 2, p. 334.

SOUTH MEXICO, woods of Mirador and Zacuapan, at 3000 feet (*Galeotti*, 1266, 7035), Mirador (*Linden*, 270), Tampico (*Berlandier*, 777). Hb. Kew.

9. **Tournefortia densiflora**, Mart. et Gal. in Bull. Acad. Brux. xi. 2, p. 333; Walp. Rep. vi. p. 556.

SOUTH MEXICO, Guadalajara, 3000 feet (*Galeotti*, 1274). Hb. Kew.

10. **Tournefortia elliptica**, Mart. et Gal. in Bull. Acad. Brux. xi. 2, p. 332; Walp. Rep. vi. p. 555.

SOUTH MEXICO, dunes of Vera Cruz (*Galeotti*, 1265).

11. **Tournefortia ferruginea**, Lam.; DC. Prodr. ix. p. 521; Griseb. Fl. Brit. W. Ind. p. 484.

MEXICO (ex *Grisebach*).—WEST INDIES to BRAZIL.

12. **Tournefortia hartwegiana**, Steud.; DC. Prodr. ix. p. 515.

Tournefortia undulata, Benth. Pl. Hartw. p. 20 (non Ruiz et Pav.).

NORTH MEXICO, Sierra Madre (*Seemann*, 2087); SOUTH MEXICO, Bolaños (*Hartweg*), without locality (*Beechey*). Hb. Kew.

13. **Tournefortia hernandesii**, Dunal in DC. Prodr. ix. p. 529.

MEXICO.

14. **Tournefortia hirsutissima**, Linn. Sp. Pl. p. 201; DC. Prodr. ix. p. 517; Griseb. Fl. Brit. W. Ind. p. 483.

A common plant in MEXICO and CENTRAL AMERICA, as well as in the WEST INDIES and the northern part of SOUTH AMERICA. Hb. Kew.

15. **Tournefortia laurifolia**, Vent. Choix, t. 2; DC. Prodr. ix. p. 522; Griseb. Fl. Brit. W. Ind. p. 484.

PANAMA (ex *Grisebach*).—CUBA to TRINIDAD, GUIANA, and BRAZIL. Hb. Kew.

16. **Tournefortia mexicana**, Vatke, Ind. Sem. Hort. Berol. 1876, App. p. 1.

MEXICO.

17. **Tournefortia mutabilis**, Vent. Choix, t. 3; DC. Prodr. ix. p. 515.

MEXICO.

18. **Tournefortia petiolaris**, DC. Prodr. ix. p. 520.

MEXICO.

19. **Tournefortia schiedeana**, G. Don, Gen. Syst. iv. p. 368; DC. Prodr. ix. p. 530.

SOUTH MEXICO, around Jalapa (*Schiede*).

20. **Tournefortia trichocalycina**, DC. Prodr. ix. p. 517.

SOUTH MEXICO, Tampico (*Berlandier*, 2141), Oaxaca (*Andrieux*, 204). Hb. Kew.

21. **Tournefortia velutina**, H. B. K. Nov. Gen. et Sp. iii. p. 79, t. 201; DC. Prodr. ix. p. 524.

SOUTH MEXICO, Acapulco (*Humboldt & Bonpland*; *Barclay*), San Blas to Tepic (*Coulter*, 1070), between Tehuacan and Oaxaca, 3000 feet (*Galeotti*, 1283); GUATEMALA, Acasaguastlan (*Bernoulli*, 976). Hb. Kew.

7. HELIOTROPIUM.

Heliotropium, Linn. Gen. Plant. n. 179; Benth. et Hook. Gen. Plant. ii. p. 843.

Herbs, under-shrubs, rarely quite shrubby. Nearly 150 species have been described; and there are probably above 100 distinct ones. They are widely dispersed in tropical and subtropical countries.

1. ***Heliotropium americanum***, Mill. Dict. n. 11; DC. Prodr. ix. p. 549.

MEXICO, Vera Cruz.

2. ***Heliotropium angustifolium***, Torr. Bot. U.S. & Mex. Bound. Surv. p. 137; A. Gr. Synop. Fl. N. Am. ii. p. 184.

TEXAS.—NORTH MEXICO, near Monterey (*Eaton & Edwards*; *Palmer*, 878); Caracol Mountains, twenty-five miles south-east of Monclova (*Palmer*, 879, 880). Hb. Kew.

3. ***Heliotropium campechianum***, H. B. K. Nov. Gen. et Sp. iii. p. 86; DC. Prodr. ix. p. 545.

SOUTH MEXICO, Campeachy (*Humboldt & Bonpland*).

4. ***Heliotropium confertifolium***, Torr.; A. Gr. Synop. Fl. N. Am. ii. p. 184.

Heliotropium limbatum et *H. limbatum confertifolium*, Torr. Bot. U.S. & Mex. Bound. Surv. p. 138, non *H. limbatum*, Benth.

TEXAS.—NORTH MEXICO, Monterey (*Eaton & Edwards*), Murin (*Thurber*), Soledad, twenty-five miles south-west of Monclova (*Palmer*, 890). Hb. Kew.

5. ***Heliotropium convolvulaceum***, A. Gr. in Mem. Amer. Acad. vi. p. 403; Synop. Fl. N. Am. ii. p. 183.

Euploca convolvulacea, Nutt. in Trans. Am. Phil. Soc. ser. 2, v. p. 189; Hook. Ic. Pl. p. 651; Torr. in Marcy's Rep. t. 15.

NEBRASKA to West TEXAS and in South-east CALIFORNIA.—NORTH MEXICO, Chihuahua (*Thurber*).

6. ***Heliotropium coriaceum***, Lehm. in Act. Nov. Nat. Cur. xiv. 2, p. 810; DC. Prodr. ix. p. 549.

MEXICO.

7. ***Heliotropium corymbosum***, Ruiz et Pav. Fl. Peru. ii. p. 2, t. 107. fig. *a*; DC. Prodr. ix. p. 538; Bot. Mag. t. 1609.

GUATEMALA (*Bernoulli*, 124); CENTRAL AMERICA, without locality (*Barclay*).—COLOMBIA to PERU, GUIANA, and BRAZIL. Hb. Kew.

8. ***Heliotropium curassavicum***, Linn. Sp. Pl. p. 188; DC. Prodr. ix. p. 538; A. Gr. Synop. Fl. N. Am. ii. p. 185; Bot. Mag. t. 2669.

OREGON and VIRGINIA southward.—MEXICO, Leon (*Hartweg*), San Luis Potosi (*Schaffner*), Vera Cruz (*Galeotti*, 1262), Yotla (*Andrieux*, 206), valley of Mexico (*Bourgeau*, 130), Cordillera of Oaxaca, 5000 feet (*Galeotti*, 1258).—WEST INDIES and southward to

PATAGONIA; also common, chiefly in maritime and saline regions, in AUSTRALIA, SOUTH AFRICA, and the PACIFIC ISLANDS. Hb. Kew.

9. **Heliotropium filiforme**, H. B. K. Nov. Gen. et Sp. iii. p. 86, t. 204; Griseb. Fl. Brit. W. Ind. p. 486.

MEXICO (ex *Grisebach*).—Southward to BRAZIL and in JAMAICA.

10. **Heliotropium fruticosum**, Linn. Sp. Pl. p. 187; DC. Prodr. ix. p. 542; Griseb. Fl. Brit. W. Ind. p. 486.

SOUTH MEXICO, Oaxaca (*Andrieux*, 205); GUATEMALA (*Skinner*, *Bernoulli*).—Throughout the WEST INDIES and the northern part of SOUTH AMERICA. Hb. Kew.

11. **Heliotropium glabriusculum**, A. Gr. in Proc. Am. Acad. x. p. 50; Synop. Fl. N. Am. ii. p. 186.

Heliophytum glabriusculum, Torr. Bot. U.S. & Mex. Bound. Surv. p. 139.

TEXAS.—NORTH MEXICO, mountains west of Saltillo, Coahuila (*Palmer*, 883). Hb. Kew.

12. **Heliotropium greggii**, Torr. Bot. U.S. & Mex. Bound. Surv. p. 137; A. Gr. Synop. Fl. N. Am. ii. p. 184.

TEXAS; NEW MEXICO.—NORTH MEXICO, near Chihuahua (*Thurber*), near Santa Rosalia (*Gregg*), San Lorenzo de Laguna, Coahuila (*Palmer*, 888). Hb. Kew.

13. **Heliotropium indicum**, Linn. Sp. Pl. p. 187; Bot. Mag. t. 1837; Griseb. Fl. Brit. W. Ind. p. 485; A. Gr. Synop. Fl. N. Am. ii. p. 186.

A very widely dispersed plant in tropical and subtropical countries, including MEXICO and CENTRAL AMERICA; but Dr. Gray states that it was introduced into America from the Old World, whilst Grisebach treats it as indigenous. Hb. Kew.

14. **Heliotropium inundatum**, Swartz, Fl. Ind. Occ. i. p. 343; A. Gr. Synop. Fl. N. Am. ii. p. 185.

Heliotropium procumbens, canescens et cinereum, H. B. K. Nov. Gen. et Sp. iii. pp. 88 et 89, t. 206.

TEXAS to CALIFORNIA.—NORTH MEXICO, near Monterey (*Gregg*); SOUTH MEXICO, Acapulco (*Beechey*), Vera Cruz to Orizaba (*Müller*, 98), valley of Cordova (*Bourgeau*, 2071), Yucatan (*Johnson*); GUATEMALA (*Bernoulli*, 590); PANAMA (*Seemann*, 567).—Southward to URUGUAY, and from CUBA to TRINIDAD. Hb. Kew.

15. **Heliotropium limbatum**, Benth. Pl. Hartw. p. 20; DC. Prodr. ix. p. 543.

SOUTH MEXICO, Aguas Calientes (*Hartweg*, 154), Vera Cruz to Orizaba (*Müller*, 1539). Hb. Kew.

H. rupestre, Mart. et Gal., is probably this species.

16. **Heliotropium macrostachyum**, Hemsley.

Heliophytum macrostachyum, DC. Prodr. ix. p. 556.

SOUTH MEXICO, near Tehuantepec, Oaxaca (*Andrieux*, 198).

17. **Heliotropium oaxacanum**, DC. Prodr. ix. p. 543.

SOUTH MEXICO, between Tehuantepec and the Pacific, Oaxaca (*Andrieux*).

18. **Heliotropium oblongifolium**, Mart. et Gal. in Bull. Acad. Brux. xi. 2, p. 336; Walp. Rep. vi. p. 556.

SOUTH MEXICO, Mexitlan &c., near Real del Monte, 5000 feet (*Galeotti*, 1272). Hb. Kew.

Probably the same as the next.

19. **Heliotropium parviflorum**, Linn. Mant. p. 201; A. Gr. Synop. Fl. N. Am. ii. p. 186.

Heliohytum parviflorum, DC. Prodr. ix. p. 553.

FLORIDA; TEXAS.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 617), Monterey (*Eaton & Edwards*); SOUTH MEXICO, Zimapan (*Coulter*, 1064), Yucatan (*Johnson*).—WEST INDIES and tropical SOUTH AMERICA. Hb. Kew.

This should, perhaps, include both *H. oblongifolium* and *H. rugosum*, Mart. et Gal.

20. **Heliotropium phyllostachyum**, Torr. Bot. U.S. & Mex. Bound. Surv. p. 137.

ARIZONA.—NORTH MEXICO, near Monterey (*Eaton & Edwards*), San Fernando, Coahuila (*Berlandier*).

21. **Heliotropium rigidulum**, DC. Prodr. ix. p. 540.

NORTH MEXICO, Monterey (*Eaton & Edwards*), around Matamoros (*Berlandier*, 234). Hb. Kew.

22. **Heliotropium rupestre**, Mart. et Gal. in Bull. Acad. Brux. xi. 2, p. 335; Walp. Rep. vi. p. 557.

SOUTH MEXICO, Santa Maria, near Morelia, Michoacan, 6500 feet (*Galeotti*, 1282). Hb. Kew.

23. **Heliotropium rugosum**, Mart. et Gal. in Bull. Acad. Brux. xi. 2, p. 336; Walp. Rep. vi. p. 557.

SOUTH MEXICO, cactiferous plains of Ejutla, south of Oaxaca, 5000 feet (*Galeotti*, 1271). Hb. Kew.

24. **Heliotropium striatum**, H. B. K. Nov. Gen. et Sp. iii. p. 87; DC. Prodr. ix. p. 545?

GUATEMALA (*Bernoulli*, 784). Hb. Kew.

The typical plant was collected in Venezuela.

8. HARPAGONELLA.

Harpagonella, A. Gr. in Proc. Am. Acad. xi. p. 88; Benth. et Hook. Gen. Plant. ii. p. 846.

An annual herbaceous monotype.

1. **Harpagonella palmeri**, A. Gr. in Proc. Am. Acad. xi. p. 88; Synop. Fl. N. Am. ii. p. 186.

GUADELUPE ISLAND, off Lower California.—NORTH MEXICO, within the old boundary near Tucson (*Greene*). Hb. Kew.

9. OMPHALODES.

Omphalodes, Mœnch. Meth. p. 419; Benth. et Hook. Gen. Plant. ii. p. 847.

About twelve herbaceous species, inhabiting Europe, North Africa, Western and Central Asia and Japan, and Mexico.

1. **Omphalodes aliena**, A. Gr. MSS. in hb. Kew.

Foliis cordiformibus, inflorescentia laxo-racemosa ebracteata.

Herba annua, 6-8 poll. alta, longe strigoso-pilosa, caulibus erectis vel adscendentibus, gracillimis, basi tantum foliosis. *Folia* tenuia, longe petiolata, cordiformia, brevissime abrupteque acuminata, lamina maxima 15 lineas diametro, petiolo gracili usque ad 3 poll. longo. *Flores* cœrulei, 4-5 lineas diametro, laxe pseudo-racemosi, ebracteati, pedicellis filiformibus usque ad 6 lineas longis; calycis segmenta lanceolato-oblonga, obtusa, extus densissime longeque albo-strigosa; corolla subrotata, squamis crassiusculis papillois instructa. *Nuculae*, ut videtur, dimorphæ; inferiores circumalatae, hispidulae, pateriformes, ala crenata, incrassata, retroflexa; superiores circumalatae, subplanæ, glabrae, ala crenata, plana, tenui, subscariosa.

NORTH MEXICO, Monterey, Nuevo Leon (*Palmer*, 873). Hb. Kew.

We think there can be no doubt that the nucules of this species are dimorphic, the wing in a few of the lower ones being thickened, hispid, and turned back, and in the rest thin, glabrous, and flat.

2. **Omphalodes cardiophylla**, A. Gr. MSS. in hb. Kew.

Foliis cordiformibus, floribus omnibus axillaribus.

Herba annua, 3-4 poll. alta, hispidulo-pilosa, ramis gracillimis, undique foliosis. *Folia* tenuia, radicalia longe petiolata, omnia cordiformia, gradatim acuminata, lamina maxima 1 poll. longa, radicalium petiolis gracilibus usque ad 3 poll. longis, caulinarum petiolis 4-12 lineas longis. *Flores* 3-4 lineas diametro, axillares, solitarii, pedicellis quam folia brevioribus; calycis segmenta ovato-oblonga, obtusa, extus strigillosa; corolla breviter tubulosa, squamis crassiusculis papillois instructa. *Nuculae* pateriformes, circumalatae, maturæ puberulae; ala vix incrassata, retroflexa, dentata, dentibus angustis longiusculis acutis.

NORTH MEXICO, mountains near Saltillo (*Palmer*, 894). Hb. Kew.

10. ECHINOSPERMUM.

Echinospermum, Swartz in Lehm. Asperif. p. 113; Benth. et Hook. Gen. Plant. ii. p. 850.

Herbs. About fifty species, widely dispersed in the temperate regions of the northern hemisphere, and a few inhabiting South Africa and Australia.

1. **Echinospermum mexicanum**, Hemsley.

Cynoglossum mexicanum, Cham. et Schl. in Linnæa, v. p. 114; DC. Prodr. x. p. 156.

SOUTH MEXICO, Macultepec (*Schiede*), peak of Orizaba, 10,000 feet (*Galeotti*, 1269; BIOL. CENTR.-AMER., Bot. Vol. II., February 1882. 3 c

Müller, 1514; *Linden*, 269), Real del Monte (*Coulter*, 1056), Desierto Viejo (*Bourgeau*, 881). Hb. Kew.

There are specimens from Colombia and Peru in Kew herbarium that may be the same species.

11. ERITRICHIMUM.

Eritrichium, Schrad. Comm. Asperif. p. 16; Benth. et Hook. Gen. Plant. ii. p. 850.

Herbs. About seventy species in the mountains of Europe, montane and Northern Asia, North America, especially on the western side, in the Andes and extratropical South America, and a few in the Mediterranean region, and one in Australia.

1. ***Eritrichium angustifolium***, Torr. in Pacif. Railr. Rep. v. p. 363; Bot. U.S. & Mex. Bound. Surv. p. 141; A. Gr. Synop. Fl. N. Am. ii. p. 194.

ARIZONA; CALIFORNIA; LOWER CALIFORNIA.—NORTH MEXICO on the Gila (*Thurber*).

2. ***Eritrichium crassisepalum***, Torr. & Gray, Pacif. Railr. Rep. ii. p. 171; Torr. Bot. U.S. & Mex. Bound. Surv. p. 141; A. Gr. Synop. Fl. N. Am. ii. p. 195.

SASKATCHEWAN to NEBRASKA and TEXAS.—NORTH MEXICO, along the Rio Grande and westward to Guadalupe Pass, Sonora (ex *Torrey*).

3. ***Eritrichium hispidum***, Buckley in Proc. Acad. Philad. 1861, p. 462; A. Gr. Synop. Fl. N. Am. ii. p. 195.

West TEXAS to NEW MEXICO.—NORTH MEXICO, without locality (*Gregg*), east of Saltillo, at 10,000 feet (*Palmer*, 896), mountains of San Rafael, San Luis Potosi (*Schaffner*, 731), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 623). Hb. Kew.

4. ***Eritrichium jamesii***, Torr. in Marcy's Rep. p. 294, et Bot. U.S. & Mex. Bound. Surv. p. 140.

WYOMING to ARIZONA, NEW MEXICO and TEXAS.—NORTH MEXICO, San Luis, Sonora (*Smith*).

5. ***Eritrichium micranthum***, Torr. Bot. U.S. & Mex. Bound. Surv. p. 141; A. Gr. Synop. Fl. N. Am. ii. p. 193.

UTAH; ARIZONA; CALIFORNIA; TEXAS.—Along the Rio Grande (*Thurber*).

6. ***Eritrichium pusillum***, Torr. & Gray in Pacif. Railr. Rep. ii. p. 171; Torr. Bot. U.S. & Mex. Bound. Surv. p. 141.

NEW MEXICO.—NORTH MEXICO, Santa Maria, Chihuahua (*Parry*).

7. ***Eritrichium***, sp. ?.

NORTH MEXICO, Sierra Madre, Coahuila (*Palmer*, 895). Hb. Kew.

8. ***Eritrichium***, sp. ?

NORTH MEXICO, Monterey, Nuevo Leon (*Palmer*, 902). Hb. Kew.

12. AMSINCKIA.

Amsinckia, Lehm. Del. Sem. Hort. Hamb. 1831; Benth. et Hook. Gen. Plant. ii. p. 851.
Benthamia, Lindl. Nat. Syst. ed. 1, p. 241.

About six or seven herbaceous species in North-west America and Chili.

1. ***Amsinckia intermedia***, Fisch. et Mey. Ind. Sem. Hort. Petrop. 1835, p. 26;
 Torr. Bot. U.S. & Mex. Bound. Surv. p. 140; A. Gr. Synop. Fl. N. Am. ii. p. 198.

BRITISH COLUMBIA to CALIFORNIA.—NORTH MEXICO, Sonora (*Parry*).

2. ***Amsinckia lycopsoides***, Lehm. Del. Sem. Hort. Hamb. 1831, p. 7; Torr.
 Bot. U.S. & Mex. Bound. Surv. p. 140; A. Gr. Synop. Fl. N. Am. ii. p. 198.

OREGON to CALIFORNIA.—NORTH MEXICO, between Tucson and the Gila (*Parry*).

3. ***Amsinckia mexicana***, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 23).
 SOUTH MEXICO, oak forests near Morelia, Michoacan, at 8000 feet (*Galeotti*, 7207).
 Hb. Kew.

13. ECHIDIOCARYA.

Echidiocarya, A. Gr. in Benth. et Hook. Gen. Plant. ii. p. 854.

Two herbaceous species, the second in California.

1. ***Echidiocarya arizonica***, A. Gr. Synop. Fl. N. Am. ii. p. 199.

ARIZONA.—NORTH MEXICO, within the old boundary, near Tucson (*Greene*).

14. ANTIPHYTUM.

Antiphytum, DC. Prodr. x. p. 121, pro parte; Benth. et Hook. Gen. Plant. ii. p. 859; A. Gr. in
 Proc. Am. Acad. x. p. 54, et Synop. Fl. N. Am. ii. p. 199.

About five herbaceous and half-shrubby species in the Mexican region, South Brazil,
 and Buenos Ayres. *A. mexicanum*, DC., is a doubtful plant.

1. ***Antiphytum floribundum***, A. Gr. in Proc. Am. Acad. x. p. 55; Synop. Fl.
 N. Am. ii. p. 199.

Eritrichium floribundum, Torr. Bot. U.S. & Mex. Bound. Surv. p. 140.

TEXAS.—NORTH MEXICO, mountains of San Miguelita, San Luis Potosi (*Schaffner*, 730).
 Hb. Kew.

2. ***Antiphytum heliotropoides***, A. DC. Prodr. x. p. 122; A. Gr. Synop. Fl. N.
 Am. ii. p. 199.

Eritrichium heliotropoides, Torr. Bot. U.S. & Mex. Bound. Surv. p. 140.

NORTH MEXICO, Palmilla to Tula (*Berlandier*, 2217), Saltillo (*Gregg*); SOUTH MEXICO
 Zimapan (*Coulter*, 1055). Hb. Kew.

[*Pectocarya*, DC., a genus of three or four species inhabiting western America, from
 Chili to Colombia and California to Arizona and Utah, may be expected to be represented
 within the limits of our flora.]

15. MACROMERIA.

Macromeria, Don in Edinb. N. Phil. Journ. 1832, p. 239; Benth. et Hook. Gen. Plant. ii. p. 859.

An exclusively American genus of about eight herbaceous species, ranging from Mexico to Peru.

1. **Macromeria discolor**, Benth. Pl. Hartw. p. 49; DC. Prodr. x. p. 69.

SOUTH MEXICO, summit of San Felipe (*Andrieux*, 208), Vera Cruz to Orizaba (*Müller*, 1358), Sierra San Pedro Nolasco &c. (*Jurgensen*, 485), Cordillera of Oaxaca, 8000 to 9000 feet (*Galeotti*, 1472). Hb. Kew.

2. **Macromeria exserta**, Don in Edinb. N. Phil. Journ. 1832, p. 239; Gen. Syst. iv. p. 326; DC. Prodr. x. p. 68; Bot. Reg. 1847, t. 26.

SOUTH MEXICO, between Tuzpan and Anganguio (*Hartweg*, 371), San Felipe (*Andrieux*, 210), Oaxaca (*Ghiesbreght*), Sierra San Pedro Nolasco &c. (*Jurgensen*, 667). Hb. Kew.

3. **Macromeria longiflora**, Don in Edinb. N. Phil. Journ. 1832, p. 239; Gen. Syst. iv. p. 326; DC. Prodr. x. p. 68.

Macromeria hispida, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 23).

SOUTH MEXICO, Morelia, 8000 feet (*Galeotti*, 1917; *Hartweg*, 372). Hb. Kew.

4. **Macromeria viridiflora**, DC. Prodr. x. p. 68; Calques des Dess. Fl. Mex. 904.

MEXICO.

16. ONOSMODIUM.

Onosmodium, Michx. Fl. Bor.-Am. i. p. 132; Benth. et Hook. Gen. Plant. ii. p. 859.

About six herbaceous species, inhabiting North America.

1. **Onosmodium strigosum**, Don, Gen. Syst. iv. p. 317; DC. Prodr. x. p. 69.

Onosma trinervia, Lehm. Asperif. ii. p. 378, t. 9.

Onosma strigosa, H. B. K. Nov. Gen. et Sp. iii. p. 93.

SOUTH MEXICO, near Pazcuaro, 6000 to 7000 feet (*Humboldt & Bonpland*), Morelia, 8000 feet (*Galeotti*, 7202). Hb. Kew.

2. **Onosmodium**, sp. ?

SOUTH MEXICO, Oaxaca (*Ghiesbreght*). Hb. Kew.

17. LITHOSPERMUM.

Lithospermum, Linn. Gen. Plant. n. 181; Benth. et Hook. Gen. Plant. ii. p. 860.

Herbs, half-shrubs, or low shrubs. About forty species, generally dispersed in the extratropical regions of the northern hemisphere; and a few are indigenous in South-west America and in South Africa; and one of the northern species is now a common introduced weed in many places in the southern hemisphere.

1. **Lithospermum angustifolium**, Michx. Fl. Bor.-Am. i. p. 130; A. Gr. Synop. Fl. N. Am. ii. p. 205.

Lithospermum longiflorum, Spreng. Syst. i. p. 554; Hook. Fl. Bor.-Am. t. 165.

Lithospermum mandanense, Spreng. loc. cit.; Hook. loc. cit. t. 166.

Pentalophus longiflorus et *mandanensis*, A. DC. Prodr. x. pp. 86 et 87.

ILLINOIS to WISCONSIN and DAKOTA, southward to TEXAS and westward to UTAH and ARIZONA.—NORTH MEXICO, Ojo de Vaca, Chihuahua (*Thurber*).

2. **Lithospermum canescens**, Lehm. Asperif. ii. p. 305; DC. Prodr. x. p. 78; Torr. Bot. U.S. & Mex. Bound. Surv. p. 139; A. Gr. Synop. Fl. N. Am. ii. p. 204.

CANADA and SASKATCHEWAN southward to NEW MEXICO and ARIZONA.—NORTH MEXICO, San Luis, Chihuahua (*Scott*).

3. **Lithospermum discolor**, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 21); DC. Prodr. x. p. 79.

SOUTH MEXICO, Cordillera of Oaxaca, 6000 to 7000 feet (*Galeotti*, 1261), Tepic (*Barclay*). Hb. Kew.

4. **Lithospermum distichum**, Ort. Dec. p. 8; DC. Prodr. x. p. 77; Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 21).

SOUTH MEXICO, peak of Orizaba, 11,000 to 12,000 feet (*Galeotti*, 1270; *Linden*, 268).—CUBA. Hb. Kew.

5. **Lithospermum linifolium**, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 22); DC. Prodr. x. p. 84.

SOUTH MEXICO, Tehuacan, 5000 feet (*Galeotti*, 1284). Hb. Kew.

6. **Lithospermum matamorensis**, DC. Prodr. x. p. 76; A. Gr. Synop. Fl. N. Am. ii. p. 203.

TEXAS.—NORTH MEXICO, around Matamoros (*Berlandier*, 2311), near Monterey (*Eaton & Edwards*). Hb. Kew.

7. **Lithospermum spathulatum**, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 21); DC. Prodr. x. p. 78.

SOUTH MEXICO, Cordillera of Oaxaca, at 9000 feet (*Galeotti*, 1259), San Felipe (*Andrieux*, 209), Sierra San Pedro Nolasco &c. (*Jurgensen*, 814, 822), Chiapas (*Ghiesbreght*). Hb. Kew.

8. **Lithospermum strictum**, Lehm. Asperif. p. 303; DC. Prodr. x. p. 78; Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 22).

SOUTH MEXICO, Nevada de Toluca, 9500 feet (*Galeotti*, 1277, 1278), Pedregal (*Bourgeau*, 129 bis), Real del Monte to Zimapan (*Coulter*, 1048). Hb. Kew.

Order XCIV. CONVOLVULACEÆ.

Convolvulaceæ, Benth. et Hook. Gen. Plant. ii. p. 865.

Herbs or shrubs, often twining, rarely arboreous. About 800 species, referred to thirty-two genera. The Order is represented in nearly all countries and regions, but most numerous in warm countries.

1. MARIPA.

Maripa, Aubl. Pl. Guian. i. p. 230; Benth. et Hook. Gen. Plant. ii. p. 869.

Tall climbing, or rarely erect shrubs. About ten species, restricted to Tropical America.

1. *Maripa densiflora*, Benth. in Hook. Lond. Journ. Bot. v. p. 351.

PANAMA, Bujio station (*S. Hayes*, 140).—GUIANA; BRAZIL. Hb. Kew.

2. *Maripa nicaraguensis*, Hemsley, n. sp.

Erecta?, foliis basi leviter cordatis, floribus amplis in paniculas parvas densas terminales dispositis, ovario glaberrimo.

Frutex erectus?, ramulis crassiusculis, cito glabrescentibus, internodiis brevibus. *Folia* petiolata, coriacea, glabra, late ovata, 3–4 poll. longa, basi leviter cordata, apice abrupte acuminata, integerrima, venis lateralibus primariis utrinque 8–10 subtus prominulis; petiolus graciliusculus, circiter semipollicaris. *Flores* rosei?, 1½–2 pöll. longi, in paniculas parvas densas terminales dispositi, panicarum ramulis pedicellisque primum ferrugineo-puberulis; bracteæ minutæ, squamæformes; calycis segmenta subæqualia, 2 exteriora ovata, fere glabra, 3 interiora suborbicularia, dorso medio puberula, margine plus minus ciliolata; corolla infundibularis, infra medium valde constricta, brevissime 5-lobata, margine undulata, extus supra medium minute strigilloso-puberula, infra medium parce minute lepidota; stamina inclusa, filamentis basi dilatatis barbatis; ovarium glaberrimum, stylo stamina æquante. *Fructus* deest.

NICARAGUA, Chontales (*Tate*, 418). Hb. Kew.

3. *Maripa panamensis*, Hemsley, n. sp.

M. scandentis affinis, differt paniculis latioribus, floribus grandioribus lilacinis, calycibus pulverulentis nec hirsutis, etc.

Frutex alte scandens, ramis crassiusculis, glabris. *Folia* petiolata, coriacea, glaberrima, nitida, ovata vel elliptica, vel superiora oblonga, maxima visa 7–8 poll. longa, basi leviter cuneata vel interdum fere rotundata, apice acuminata, obtusiuscula, venis lateralibus primariis utrinque 8–10 subtus prominulis; petiolus crassiusculus, usque ad pollicaris. *Flores* pallide lilacini (*Hayesio*), 15–18 lineas longi, in paniculas amplas laxas terminales dispositi, pedicellis cymosis, pulverulentis; bracteæ obsoletæ; calycis segmenta subæqualia, suborbicularia, pulverulenta, minute ciliolata; corolla campanulato-infundibularis, deorsum gradatim attenuata, obsolete 5-lobata, margine undulata, extus supra medium densissime sericeo-villosa, infra medium glabra; stamina inclusa, filamentis basi dilatatis barbatis; ovarium parcellissime hirsutum, stylo stamina æquante. *Fructus* a nobis ignotus.

PANAMA, Chagres (*Fendler*, 255). Hb. Kew.

2. IPOMCEA.

Ipomœa, Linn. Gen. Plant. n. 216, *ad species plures Convolvuli extensa*; Benth. et Hook. Gen. Plant. ii. p. 870.

Herbs or shrubs or very rarely arboreous. Between 300 and 400 species, chiefly inhabiting the warmer regions of both hemispheres, rarer in temperate regions, both north and south; quite absent from Europe, and only one in Asiatic Russia.

1. ***Ipomœa acuminata***, Rœm. et Schult. Syst. iv. p. 228; Meissn. in Fl. Bras. vii. p. 226, t. 78.

Ipomœa mutabilis, Ker, Bot. Reg. t. 39.

Pharbitis acuminata, Choisy in DC. Prodr. ix. p. 312.

GUATEMALA (*Friederichsthal*).—WEST INDIES to BRAZIL. Hb. Kew.

2. ***Ipomœa affinis***, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 263; Walp. Rep. vi. p. 535.

SOUTH MEXICO, Sola, south of Oaxaca, and in the valley of the Rio Grande de Mexitlan, 4500 to 5000 feet (*Galeotti*, 1377, 1385). Hb. Kew.

3. ***Ipomœa alatipes***, Hook. Bot. Mag. t. 5330.

Ipomœa pterodes, Seem. Bot. Voy. 'Herald,' p. 171, non Choisy.

PANAMA (*Seemann*, 176).—VENEZUELA. Hb. Kew.

4. ***Ipomœa ampliata***, Choisy in DC. Prodr. ix. p. 361.

SOUTH MEXICO, Campeachy.

5. ***Ipomœa apiculata***, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 262; Walp. Rep. vi. p. 534.

SOUTH MEXICO, dunes of Vera Cruz (*Galeotti*, 1381).

6. ***Ipomœa arborescens***, Don, Gen. Syst. iv. p. 267; DC. Prodr. ix. p. 358.

Convolvulus arborescens, Willd. Enum. Pl. i. p. 204; H. B. K. Nov. Gen. et Sp. iii. p. 94.

SOUTH MEXICO, between Acaguisotla and Chilpancingo, at 3000 feet (*Humboldt & Bonpland*).

Probably a variety of *I. murucoides*.

7. ***Ipomœa aristulata***, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 263; Walp. Rep. vi. p. 535.

SOUTH MEXICO, near Morelia, Michoacan, 5500 feet (*Galeotti*, 1383).

8. ***Ipomœa asarifolia***, Rœm. et Schult. Syst. iv. p. 251; Meissn. in Fl. Bras. vii. p. 256; Griseb. Fl. Brit. W. Ind. p. 471.

Ipomœa urbica, Choisy in DC. Prodr. ix. p. 349.

PANAMA (*Seemann*).—WEST INDIES to BRAZIL and PERU; also Western Tropical AFRICA. Hb. Kew.

9. ***Ipomœa batatas***, Lam. Dict. vi. p. 14 (excl. syn. *Feuillei*); Descourt. Fl. Ant. viii. p. 70, t. 545; Meissn. in Fl. Bras. vii. p. 282; Griseb. Fl. Brit. W. Ind. p. 468.

Convolvulus esculentus, Salisb. Prodr. p. 123.

Batatas edulis, Choisy in DC. Prodr. ix. p. 338.

The sweet potato is almost universally cultivated in hot countries; and it is also common in a wild state; but the origin of it is uncertain. It is supposed, however, that the Tropical-American *I. fastigiata* may be the parent.

10. ***Ipomœa bombycina***, Benth. et Hook. Gen. Plant. ii. p. 873.

Batatas bombycina, Choisy in DC. Prodr. ix. p. 340.

Bombycospermum mexicanum, Presl, Reliq. Hænk. ii. t. 71.

MEXICO, on the western side (*Hænke*).

This may be a young plant of *I. carnososa*.

11. ***Ipomœa bona-nox***, Linn. Sp. Pl. p. 228; Cav. Ic. Pl. t. 300; Bot. Mag. t. 752; Meissn. in Fl. Bras. vii. p. 215; A. Gr. Synop. Fl. N. Am. ii. p. 209.

Calonyction speciosum, Choisy in DC. Prodr. ix. p. 345, excl. β . *muricatum*.

Ipomœa petiolaris, Don, Gen. Syst. iv. p. 275.

FLORIDA (indigenous?).—MEXICO, at the foot of San Felipe (*Andrieux*, 213), Orizaba (*Botteri*, 559), valleys of Mexico and Cordova (*Bourgeau*, 1302, 1732); PANAMA, Isle of Taboga (*Sinclair*).—Widely diffused in the TROPICS. Hb. Kew.

12. ***Ipomœa brachypoda***, Benth. Bot. Voy. 'Sulphur,' p. 135.

SOUTH MEXICO, Acapulco (*Sinclair*), valley of Cordova (*Bourgeau*, 1737); PANAMA (*Seemann*, 488, 489; *Sinclair*). Hb. Kew.

13. ***Ipomœa bracteata***, Cav. Ic. Pl. v. p. 51, t. 447.

Ipomœa spicata, H. B. K. Nov. Gen. et Sp. iii. p. 112.

Exogonium spicatum, Choisy in DC. Prodr. ix. p. 347.

Exogonium bracteatum, Don, Gen. Syst. iv. p. 264.

Exogonium olivæ, Barcena, Viaje a la Caverna de Cacahuamilpa, p. 28, cum ic. color.

SOUTH MEXICO, Cuernavaca (*Bilimek*, 88; *Bourgeau*, 1246), Mazatlan (*Coulter*, 1338), without localities (*Sinclair*, *Beechey*, and others). Hb. Kew.

14. ***Ipomœa brevipes***, Moç. et Sessé in DC. Prodr. ix. p. 349.

MEXICO (*Moçino*).

15. ***Ipomœa capillacea***, Don, Gen. Syst. iv. p. 267.

Ipomœa muricata, Cav. Ic. Pl. v. p. 52, t. 478, non Jacq. Hort. Schœnb. iii. t. 323.

Ipomœa armata, Rœm. et Schult, Syst. iv. p. 214.

Leptocallis quinata, Don, Gen. Syst. iv. p. 260.

Convolvulus capillaceus, H. B. K. Nov. Gen. et Sp. iii. p. 97.

Quamoclit pedata, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 271; Walp. Rep. vi. p. 529?'

ARIZONA; NEW MEXICO.—NORTH MEXICO, Sonora (*Thurber*), region of San Luis Potosi, 6000 to 7000 feet (*Parry & Palmer*, 626); SOUTH MEXICO, Aguas Calientes (*Hartweg*),

Cordillera of Vera Cruz, 3500 feet (*Galeotti*, 1353), plain of Oaxaca, at 5000 feet (*Galeotti*, 1368), Zimapan (*Coulter*, 1036), Vera Cruz to Orizaba (*Müller*, 1605), Santa Fé (*Bourgeau*, 363), Tacubaya (*Schaffner*); GUATEMALA, Camino del Zapote (*Bernoulli*, 331).—COLOMBIA; VENEZUELA. Hb. Kew.

In this case we have not adopted the oldest specific name under the genus, because Røemer and Schultes's name is quite inappropriate, and may be designated a *nomen falsum*.

16. ***Ipomœa carnosâ***, R. Br. Prodr. Fl. Nov. Holl. p. 485; Benth. Fl. Aust. iv. p. 420.

Ipomœa acetosæfolia, Røem. et Schult. Syst. iv. p. 246; Descourt. Fl. Antill. ii. t. 145; Meissn. in Fl. Bras. vii. p. 255; A. Gr. Synop. Fl. N. Am. ii. p. 211.

Batatas littoralis et *acetosæfolia*, Choisy in DC. Prodr. ix. pp. 337 et 338, excl. synonym. *I. longifolia*, Benth.

Convolvulus stoloniferus, Cyr. Pl. Rar. p. 14, t. 5.

SOUTH MEXICO, Vera Cruz to Orizaba (*Müller*, 185); NICARAGUA, Greytown (*Tate*); PANAMA, Chagres (*Fendler*, 240).—Widely diffused on TROPICAL and SUBTROPICAL SHORES. Hb. Kew.

17. ***Ipomœa cathartica***, Poir. Dict. Suppl. iv. p. 633; Meissn. in Fl. Bras. vii. p. 225; Griseb. Fl. Brit. W. Ind. p. 473; A. Gr. Synop. Fl. N. Am. ii. p. 210.

Convolvulus pudibundus, Lindl. Bot. Reg. t. 999.

Ipomœa pudibunda, Don, Gen. Syst. iv. p. 276.

FLORIDA (perhaps introduced).—MEXICO (ex *Grisebach*).—BAHAMAS; JAMAICA; ST. VINCENT; BRAZIL.

18. ***Ipomœa chenopodifolia***, Hemsley.

Calonyction chenopodifolium, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 269; Walp. Rep. vi. p. 531.

SOUTH MEXICO, oak-woods of Juquila, Oaxaca, at 7000 feet (*Galeotti*, 1375).

19. ***Ipomœa cissoides***, Griseb. Fl. Brit. W. Ind. p. 473; Meissn. in Fl. Bras. vii. p. 229.

Batatas cissoides, Choisy in DC. Prodr. ix. p. 339.

SOUTH MEXICO, Tepic (*Barclay*).—WEST INDIES to BRAZIL. Hb. Kew.

20. ***Ipomœa coccinea***, Linn.; Bot. Mag. t. 221; Andr. Bot. Rep. t. 499; A. Gr. Synop. Fl. N. Am. ii. p. 209.

Ipomœa luteola, Jacq. Ic. Pl. Rar. t. 35.

Ipomœa dubia, Røem. et Schult. Syst. iv. p. 216.

Quamoclit coccinea, Choisy in DC. Prodr. ix. p. 335.

NEW MEXICO; ARIZONA.—NORTH MEXICO, Sonora (*Thurber*); SOUTH MEXICO, valley of Cordova (*Bourgeau*, 1727).—TROPICAL AMERICA, ASIA, and AFRICA. Hb. Kew.

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21. ***Ipomœa commutata***, Roem. et Schult. Syst. iv. p. 228; A. Gr. Synop. Fl. N. Am. ii. p. 213.

SOUTH CAROLINA to TEXAS.—NORTH MEXICO, Chihuahua (*Potts*). Hb. Kew.

22. ***Ipomœa corralinensis***, Choisy in DC. Prodr. ix. p. 361.

Convolvulus sulphureus, Llav. et Lex.

Ipomœa sulphurea, Don, Gen. Syst. iv. p. 268, non alior.

SOUTH MEXICO, San José del Corral (*La Llave*).

23. ***Ipomœa costellata***, Torr. Bot. U.S. & Mex. Bound. Surv. p. 149; A. Gr. Synop. Fl. N. Am. ii. p. 214.

NEW MEXICO; ARIZONA.—MEXICO (ex *A. Gray*).

24. ***Ipomœa dealbata***, Hemsley.

Pharbitis dealbata, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 272; Walp. Rep. vi. p. 530.

SOUTH MEXICO, Cordillera of Vera Cruz, 3500 feet (*Galeotti*, 1352), region of Orizaba (*Botteri*, 556; *Bourgeau*, 2814), valley of Cordova (*Bourgeau*, 2212). Hb. Kew.

25. ***Ipomœa delphinifolia***, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 265; Walp. Rep. vi. p. 535.

SOUTH MEXICO, Cordillera of Vera Cruz, 5000 feet (*Galeotti*, 1366), Zacoalco (*Bourgeau*, 726). Hb. Kew.

26. ***Ipomœa deppeana***, Don, Gen. Syst. iv. p. 276; DC. Prodr. ix. p. 390.

MEXICO.

27. ***Ipomœa digitata***, Linn. Sp. Pl. p. 228; Meissn. in Fl. Bras. vii. p. 278; Griseb. Fl. Brit. W. Ind. p. 469.

Ipomœa mauritiana, Jacq. Hort. Schœnb. t. 200.

Ipomœa paniculata, R. Br.; Bot. Reg. t. 62.

Batatas paniculata, Choisy in DC. Prodr. ix. p. 339.

Ipomœa insignis, Andr. Bot. Rep. t. 636; Bot. Reg. t. 75; Bot. Mag. t. 1790.

PANAMA (ex *Grisebach*).—Generally dispersed in the TROPICS, chiefly on the sea-shore. Hb. Kew.

28. ***Ipomœa dubia***, Hemsley.

Calonyction dubium, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 268; Walp. Rep. vi. p. 531.

SOUTH MEXICO, forests of Misteca Alta and Yavesia, Oaxaca, at 7000 feet (*Galeotti*, 1362).

29. ***Ipomœa elongata***, Choisy in DC. Prodr. ix. p. 355.

SOUTH MEXICO, Oaxaca (*Andrieux*, 212). Hb. Kew.

30. ***Ipomœa emetica***, Choisy in DC. Prodr. ix. p. 376.

MEXICO (*Moçino & Sessé*).

31. ***Ipomœa fastigiata***, Sweet; Griseb. Fl. Brit. W. Ind. p. 468; Meissn. in Fl. Bras. vii. p. 267.

MEXICO (ex *Grisebach*).—WEST INDIES to BRAZIL.

32. ***Ipomœa fistulosa***, Mart.; DC. Prodr. ix. p. 349; Meissn. in Fl. Bras. vii. p. 239, t. 81.

GUATEMALA (*Friedrichsthal*); PANAMA, near Anton (*Seemann*, 177).—Southward to PERU and BRAZIL. Hb. Kew.

33. ***Ipomœa funis***, Cham. et Schl. in Linnæa, v. p. 118.

SOUTH MEXICO, near Jalapa and San Andres (*Schiede & Deppe*).

Choisy (DC. Prodr. ix. p. 336) doubtfully refers this to *Quamoclit vitifolia* (*Ipomœa peduncularis*); but the authors contrast its flowers with those of *I. coccinea*, a very different species. It may be the same as *I. llaveana*.

34. ***Ipomœa glabra***, Choisy in DC. Prodr. ix. p. 362; Meissn. in Fl. Bras. vii. p. 287, t. 104.

NICARAGUA, Chontales (*Tate*).—VENEZUELA to PERU, and TRINIDAD and GUIANA to BRAZIL. Hb. Kew.

[*Pharbitis grandiflora*, Beurling in Kong. Vet. Handl. 1854, p. 139, from Portobello, Panama, is probably a species of *Ipomœa*.]

35. ***Ipomœa hartwegi***, Benth. Pl. Hartw. p. 15.

NORTH MEXICO, Zacatecas (*Coulter*, 1022); SOUTH MEXICO, Aguas Calientes (*Hartweg*). Hb. Kew.

36. ***Ipomœa hederacea***, Jacq. Ic. Pl. Rar. t. 36; Bot. Reg. t. 85; Meissn. in Fl. Bras. vii. p. 228, sed non *Convolvulus hederaceus*, Linn. Sp. Pl. ed. 2, p. 219, saltem quoad figg. Hort. Elth.; A. Gr. Synop. Fl. N. Am. ii. p. 210.

PENNSYLVANIA to FLORIDA and LOUISIANA.—MEXICO; CENTRAL AMERICA.—TROPICAL AMERICA and the WEST INDIES; and now widely dispersed in other countries. Hb. Kew.

This is generally united with *I. nil*, which Dr. Gray regards as a distinct Old-World species.

37. ***Ipomœa hederifolia***, Linn. Sp. Pl. p. 229; Meissn. in Fl. Bras. vii. p. 218, t. 76. fig. 1.

Quamoclit russelliaeflora, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 271; Walp. Rep. vi. p. 529?

Ipomœa coccinea, Linn., var. *hederifolia*, A. Gr. Synop. Fl. N. Am. ii. p. 209.

Ipomœa sanguinea, Vahl; Bot. Reg. t. 9; Bot. Mag. t. 1769.

Ipomœa hastigera, H. B. K. Nov. Gen. et Sp. iii. p. 111.

Quamoclit hastigera, Don, Gen. Syst. iv. p. 259.

Quamoclit hederifolia, Choisy in DC. Prodr. ix. p. 336, excl. syn. *Ipomœa peduncularis*, Bertol.

Ipomœa humboldtiana, Rœm. et Schult. Syst. iv. p. 789.

TEXAS to ARIZONA.—NORTH MEXICO, region of San Luis Potosi (*Parry & Palmer*,

625); SOUTH MEXICO, Mirador (*Linden*, 303; *Galeotti*, 1354), Oaxaca (*Ghiesbreght*); GUATEMALA (*Friedrichsthal*); PANAMA (*Seemann*, 486).—And nearly all over Tropical AMERICA. Hb. Kew.

38. ***Ipomœa heterophylla***, Ort. Dec. p. 9; Jacq. Fragm. t. 42. fig. 4.

Pharbitis heterophylla, Choisy in DC. Prodr. ix. p. 344.

Batatas heterophylla et *willdenowii*, Don, Gen. Syst. iv. p. 261.

Ipomœa willdenowii, Rœm. et Schult, Syst. iv. p. 211.

MEXICO (*Coulter*, 1041). Hb. Kew.

39. ***Ipomœa hirta***, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 264; Walp. Rep. vi. p. 534.

SOUTH MEXICO, Sola, south of Oaxaca, at 5000 feet (*Galeotti*, 1374), Orizaba (*Botteri*, 560), Pedregal (*Bourgeau*, 795). Hb. Kew.

40. ***Ipomœa hirtiflora***, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 267; Walp. Rep. vi. p. 533.

SOUTH MEXICO, Chinantla, 2000 feet (*Galeotti*, 1398).

41. ***Ipomœa jalapa***, Pursh, Fl. Am. Sept. i. p. 146; Bot. Reg. tt. 342 et 621; A. Gr. Synop. Fl. N. Am. ii. p. 211.

Ipomœa purshii, Don, Gen. Syst., ex A. Gr.

Convolvulus jalapa, Linn.; Bot. Mag. t. 1572.

Batatas jalapa, Choisy in DC. Prodr. ix. p. 338.

SOUTH CAROLINA to FLORIDA.—MEXICO, Zimapan (*Coulter*), Cordova (*Finck*).—WEST INDIES. Hb. Kew.

42. ***Ipomœa jamaicensis***, Don, Gen. Syst. iv. p. 278; DC. Prodr. ix. p. 384; Griseb. Fl. Brit. W. Ind. p. 473; Meissn. in Fl. Bras. vii. p. 225.

Pharbitis tomentosa, Choisy in DC. Prodr. ix. p. 342.

MEXICO (ex *Meissner*); PANAMA (ex *Grisebach*).—JAMAICA; BRAZIL.

43. ***Ipomœa karwinskiana***, Regel, Ind. Sem. Hort. Petrop. 1857, p. 46.

MEXICO (*Karwinski*).

44. ***Ipomœa latifolia***, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 266; Walp. Rep. vi. p. 534.

SOUTH MEXICO, near Cordova, at 2000 feet (*Galeotti*, 1401).

45. ***Ipomœa learii***, Paxt. Mag. Bot. vi. p. 267, cum ic. col.; Meissn. in Fl. Bras. vii. p. 224.

Pharbitis learii, Lindl. Bot. Reg. 1841, t. 56; Bot. Mag. t. 3928.

MEXICO (ex *Meissner*).—BRAZIL. Hb. Kew.

46. ***Ipomœa leptotoma***, Torr. Bot. U.S. & Mex. Bound. Surv. p. 150; A. Gr. Synop. Fl. N. Am. ii. p. 214.

ARIZONA.—NORTH MEXICO, Sonora (*Thurber*).

47. ***Ipomœa* ? (*Pharbitis*) *lilacina***, Schl. in Linnæa, xx. p. 31.
MEXICO (*Ehrenberg*).
48. ***Ipomœa* ? (*Pharbitis*) *lindenii***, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 272; Walp. Rep. vi. p. 530.
SOUTH MEXICO, Tabasco? (*Linden*, 296). Hb. Kew.
49. ***Ipomœa lindenii***, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 264; Walp. Rep. vi. p. 535.
SOUTH MEXICO, Cordillera of Vera Cruz, 3500 feet (*Galeotti*, 1360), Mirador (*Linden*, 301). Hb. Kew.
50. ***Ipomœa lindheimeri***, A. Gr. Synop. Fl. N. Am. ii. p. 210.
Ipomœa heterophylla, Torr. Bot. U.S. & Mex. Bound. Surv. p. 149, non Ortega.
TEXAS; NEW MEXICO.—NORTH MEXICO, Soledad, twenty-five miles south-west of Monclova (*Palmer*, 906). Hb. Kew.
51. ***Ipomœa llaveana***, Meissn. in Fl. Bras. vii. p. 219.
Morenoa grandiflora, Llav. et Lex. Nov. Gen. i. p. 17.
Quamoclit grandiflora, Don, Gen. Syst. iv. p. 259.
Calboa globosa, Lindl. in Journ. Hort. Soc. v. p. 83, cum ic. xylogr., nec *Morenoa globosa*, Llav. et Lex.
SOUTH MEXICO, Cordillera of Oaxaca, at 2500 feet (*Galeotti*, 1358), region of Orizaba (*Bourgeau*, 2985), without locality (*Parkinson*). Hb. Kew.
Lindley confused this with *I. peduncularis*; and Meissner was unable to distinguish it from that species; but it is perfectly distinct. See observations under *I. peduncularis*.
52. ***Ipomœa longepedunculata***, Hemsley.
Pharbitis longepedunculata, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 271.
SOUTH MEXICO, near Ixmiquilpan, 6000 to 7000 feet (*Galeotti*, 1387).
53. ***Ipomœa longicuspis***, Meissn. in Fl. Bras. vii. p. 227.
Pharbitis speciosa, Choisy in DC. Prodr. ix. p. 343.
Pharbitis cuspidata, Don, Gen. Syst. iv. p. 263.
MEXICO (ex *Choisy*).—WEST INDIES to PERU and BRAZIL.
54. ***Ipomœa longifolia***, Benth. Pl. Hartw. p. 16; A. Gr. Synop. Fl. N. Am. ii. p. 211; Bot. Reg. 1840, t. 21.
Ipomœa shumardi, Torr. in Marcy's Rep. p. 191.
ARIZONA.—NORTH MEXICO, Zacatecas (*Coulter*, 1021), Sonora (*Thurber*); SOUTH MEXICO, Aguas Calientes (*Hartweg*). Hb. Kew.
55. ***Ipomœa* (§ *Quamoclit*) *lutea***, Hemsley, Diag. Pl. Nov. pars altera, p. 34. (Tab. LX.)
Glabra, foliis longissime petiolatis late cordatis acuminatis apiculatis margine undulatis remote et

obscure denticulatis, pedunculis quam folia longioribus 3-9-floris, sepalis late rotundatis emarginatis dorso longe cornutis, corolla lutea curvata tubo fauce constricto, limbo angusto.

Herba volubilis, glabra (heterophylla?), ramis gracilibus. *Folia* glabra vel interdum leviter puberula, longe petiolata, late cordata, acuminata, apiculata, margine undulata, remote et obsolete denticulata, circiter 3 poll. diametro; petiolus circiter 6 poll. longus. *Pedunculi* 3-9-flori, foliis longiores. *Flores* lutei, pedicellati, pedicellis nudis; sepala late rotundata, emarginata, dorso longe cornuta; corolla leviter curvata, 1½-2 poll. longa, fauce tubi leviter constricta; limbus angustus, 5-dentatus, recurvus; stamina stylusque longe exserta. *Capsula* matura a nobis non visa.

GUATEMALA, without locality (*Salvin & Godman*). Hb. Kew.

Allied to *I. hederifolia*, but differing in its yellow flowers, undivided leaves, &c.

EXPLANATION OF TAB. LX.

Fig. 1, a flower laid open; 2, a sepal: enlarged.

56. ***Ipomœa maireti***, Choisy in DC. Prodr. ix. p. 374.

SOUTH MEXICO, Mirador (*Linden*, 1115), Sierra San Pedro Nolasco (*Jurgensen*, 551). Hb. Kew.

57. ***Ipomœa martinicensis***, Mey. Prim. Fl. Esseq. p. 98; Griseb. Fl. Brit. W. Ind. p. 471.

Aniseia martinicensis, Choisy in DC. Prodr. ix. p. 430.

Convolvulus martinicensis, Jacq. Amer. t. 17.

GUATEMALA (*Friedrichsthal*); PANAMA, Chagres (*Fendler*, 237).—WEST INDIES and GUIANA to BRAZIL. Hb. Kew.

58. ***Ipomœa mestitlanica***, Choisy in DC. Prodr. ix. p. 389.

Ipomœa batatoides, Benth. Pl. Hartw. p. 46; Bot. Reg. 1841, t. 36, non Choisy.

SOUTH MEXICO, Mestitlan (*Hartweg*). Hb. Kew.

59. ***Ipomœa mexicana***, A. Gr. Synop. Fl. N. Am. ii. p. 210.

Convolvulus hederaceus, Linn. Sp. Pl. p. 219, pro parte.

Ipomœa nil, var. *diversifolia*, Choisy in DC. Prodr. ix. p. 343.

Pharbitis diversifolia, Lindl. Bot. Reg. t. 1988.

NEW MEXICO; ARIZONA.—NORTH MEXICO (ex *A. Gray*).

60. ***Ipomœa microsepala***, Benth. Bot. Voy. 'Sulphur,' p. 136.

SOUTH MEXICO, Vera Cruz (*Hahn*), Acapulco (*Sinclair*). Hb. Kew.

61. ***Ipomœa morelii***, Duchass. et Walp. in Linnæa, xxiii. p. 752; Walp. Ann. iii. p. 109.

PANAMA.

62. ***Ipomœa murucoides***, Rœm. et Schult. Syst. iv. p. 246; DC. Prodr. ix. p. 358. (Tab. LXI.)

Convolvulus macranthus, H. B. K. Nov. Gen. et Sp. iii. p. 95.

Ipomœa macrantha, Don, Gen. Syst. iv. p. 267.

NORTH MEXICO, Sierra Madre (*Seemann*, 2088), Zacatecas (*Coulter*, 1023); SOUTH

MEXICO, Guadalupe (*Bilimek*, 273; *Bourgeau*, 53), Sierra San Pedro Nolasco &c. (*Jurgensen*, 291); GUATEMALA, Volcan de Fuego, at 5000 feet (*Godman & Salvin*). Hb. Kew.

EXPLANATION OF TAB. LXI.

Fig. 1, a pistil, enlarged; 2, a leaf, natural size, from Seemann's Sierra-Madre specimen.

63. ***Ipomœa?* *nutans***, Choisy in DC. Prodr. ix. p. 368; Calques des Dess. Fl. Mex. 860.

MEXICO (*Moçino & Sessé*).

64. ***Ipomœa?* (*Argyreia?*) *oblonga***, Benth. Bot. Voy. 'Sulphur,' p. 133.

SOUTH MEXICO, Tepic (*Sinclair*). Hb. Kew.

65. ***Ipomœa pandurata***, Mey. Prim. Fl. Esseq. p. 100, quoad nomen tantum; Ker, Bot. Reg. t. 588; A. Gr. Synop. Fl. N. Am. ii. p. 211.

Convolvulus panduratus, Linn.; Bot. Mag. t. 1939.

Convolvulus candicans, Solander in Bot. Mag. t. 1603.

CANADA TO FLORIDA and TEXAS.—MEXICO?

There are several Mexican specimens in the Kew herbarium referred to this species, though perhaps erroneously.

66. ***Ipomœa pauciflora***, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 266; Walp. Rep. vi. p. 532.

SOUTH MEXICO, Chapulco and neighbourhood of Oaxaca, at 5000 feet (*Galeotti*, 1403). Hb. Kew.

67. ***Ipomœa pedatisecta***, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 265; Walp. Rep. vi. p. 535.

SOUTH MEXICO, coast of the Pacific (*Galeotti*, 1370). Hb. Kew.

68. ***Ipomœa pedicellaris***, Benth. Bot. Voy. 'Sulphur,' p. 135.

SOUTH MEXICO, Acapulco (*Sinclair*); GUATEMALA (*Friedrichsthal*); HONDURAS, Gulf of Fonseca (*Sinclair*). Hb. Kew.

69. ***Ipomœa peduncularis***, Bertol. Fl. Guat. p. 8, t. 2.

Ipomœa globosa, Meissn. in Fl. Bras. vii. p. 219.

Morenoa globosa, Llav. et Lex. Nov. Gen. i. p. 5, non Lindl. in Journ. Hort. Soc. v. p. 83, cum icone.

Calboa vitifolia, Cav. Ic. Pl. t. 476.

Macrostema vitifolia, Pers. Ench. i. p. 185.

Convolvulus neei, Spreng. Syst. i. p. 593.

Quamoclit globosa et *vitifolia*, Don, Gen. Syst. iv. p. 259.

Ipomœa hartwegi, Meissn. in Fl. Bras. vii. p. 220, non Benth.

SOUTH MEXICO, San Blas to Tepic (*Coulter*, 1040), Teapa (*Linden*, 208), without locality (*Hahn*); GUATEMALA, Barranca, near the Pacific (*Hartweg*), Dueñas, 5000 feet

(*Godman & Salvin*), without locality (*Skinner*); PANAMA, Boquete, Veraguas (*Seemann*, 1164). Hb. Kew.

Meissner (Fl. Bras. vii. p. 219) was not at all clear as to the limits of this species and *I. llaveana*, and suggested that they might be the same, besides making a third (*I. hartwegii*) of the true *I. peduncularis*. He was perhaps misled by Lindley's figure in Journ. Hort. Soc. v. p. 83, which represents *I. llaveana*. At all events the two species are very distinct. *I. peduncularis* has smaller flowers than the other, the tube of the corolla being relatively short and straight, and the lobes of the limbs of the corolla relatively long and narrow. The stamens, too, are much more exerted than those of *I. llaveana*.

70. ***Ipomœa pentaphylla***, Jacq. Collect. ii. p. 297, et Ic. Pl. Rar. ii. t. 319; Griseb. Fl. Brit. W. Ind. p. 467.

Batatas pentaphylla, Choisy in DC. Prodr. ix. p. 339.

Generally dispersed in the TROPICS. Hb. Kew.

71. ***Ipomœa perryana***, Duchass. et Walp. in Linnæa, xxiii. p. 751; Walp. Ann. iii. p. 107.

PANAMA.

72. ***Ipomœa pes-capræ***, Sweet, Hort. Suburb. Londin. (1818) p. 35; Roth, Nov. Pl. Sp. (1821) p. 100; Choisy in DC. Prodr. ix. p. 349, excl. syn. *I. carnosa*, R. Br.; A. Gr. Synop. Fl. N. Am. ii. p. 211.

Convolvulus pes-capræ, Linn. Sp. Pl. p. 226.

Ipomœa maritima, R. Br. Prodr. Fl. Nov. Holl. p. 486; Bot. Reg. t. 319.

Ipomœa biloba, Forsk. Fl. Ægypt. p. 44.

Generally dispersed on the sea-shores of the TROPICS. Hb. Kew.

73. ***Ipomœa portobellensis***, Beurling in Kong. Vet. Handl. 1854, p. 139.

PANAMA, Portobello (*Billberg*).

74. ***Ipomœa?* (*Calonyction proximum***, Mart. et Gall. in Bull. Acad. Brux. xii. 2, p. 268; Walp. Rep. vi. p. 531).

SOUTH MEXICO, Yavezia, Oaxaca (*Galeotti*, 1378).

75. ***Ipomœa pterodes***, Choisy in DC. Prodr. ix. p. 361; Griseb. Fl. Brit. W. Ind. p. 467.

PANAMA (ex *Grisebach*).—VENEZUELA; GUIANA; TRINIDAD.

76. ***Ipomœa pubescens***, Lam. Ill. n. 2123; Meissn. in Fl. Bras. vii. p. 224.

Pharbitis pubescens, Choisy in DC. Prodr. ix. p. 344.

MEXICO (*Karwinski*).—PERU; BRAZIL?

77. ***Ipomœa puncticulata***, Benth. Bot. Voy. 'Sulphur,' p. 136.

MEXICO (*Sinclair*).

78. ***Ipomœa purga***, Hayne, *Arzn. Gew.* xii. tt. 33 et 34; DC. *Prodr.* ix. p. 374; Meissn. in *Fl. Bras.* vii. p. 221.

Ipomœa schiedeana, Zucc. in *Flora*, 1831, p. 801, non Ham.

Exogonium purga, Benth. *Pl. Hartw.* p. 46; *Bot. Reg.* 1847, t. 49; Benth. & Trim. *Med. Bot.* t. 186.

Exogonium dumosum, Benth. loc. cit.

Convolvulus purga, Wenderoth in *Pharm. Centralb.* i. p. 457.

Ipomœa jalapa, Schiede et Deppe in Don, *Gen. Syst.* iv. p. 271, non Pursh.

SOUTH MEXICO, Orizaba (*Botteri*, 561), Cordillera of Vera Cruz (*Galeotti*, 1355), valley of Cordova (*Bourgeau*, 1730), San Cornelio and Zacualtipan (*Hartweg*). Hb. Kew.

79. ***Ipomœa purpurea***, Lam. *Ill. n.* 2129; Meissn. in *Fl. Bras.* vii. p. 223; A. Gr. *Synop. Fl. N. Am.* ii. p. 210.

Convolvulus purpureus, Linn.; *Bot. Mag.* tt. 113, 1005, 1682.

Pharbitis hispida, Choisy in DC. *Prodr.* ix. p. 341.

TEXAS to CALIFORNIA.—MEXICO, Zaçoalco (*Bourgeau*, 727), Oaxaca (*Galeotti*, 1377), Orizaba (*Botteri*, 565), Guadalupe (*Bourgeau*, 794).—COLOMBIA; VENEZUELA; WEST INDIES; and naturalized in many other countries. Hb. Kew.

80. ***Ipomœa quamoclit***, Linn. *Sp. Pl.* p. 227; *Bot. Mag.* t. 244; Meissn. in *Fl. Bras.* vii. p. 217; A. Gr. *Synop. Fl. N. Am.* ii. p. 209.

Quamoclit vulgaris, Choisy in DC. *Prodr.* ix. p. 336.

Generally dispersed in TROPICAL and SUBTROPICAL regions, including MEXICO and CENTRAL AMERICA. Hb. Kew.

81. ***Ipomœa quinquefolia***, Griseb. *Fl. Brit. W. Ind.* p. 468; Meissn. in *Fl. Bras.* vii. p. 289.

Batatas quinquefolia, Choisy in DC. *Prodr.* ix. p. 339.

Convolvulus ampelopsifolius, Cham. et Schl. in *Linnæa*, v. p. 118?

GUATEMALA, San Antonio (*Hartweg*); NICARAGUA, Realejo (*Sinclair*); PANAMA (*Seemann*).—Southward to PERU and BOLIVIA, and in the WEST INDIES. Hb. Kew.

82. ***Ipomœa rubro-cærulea***, Hook. *Bot. Mag.* t. 3297; DC. *Prodr.* ix. p. 375.

Ipomœa hookeri, Don, *Gen. Syst.* iv. p. 274.

SOUTH MEXICO, Guanajuato (*Richardson*), Cuernavaca (*Bourgeau*, 1405). Hb. Kew.

83. ***Ipomœa schiedeana***, Ham., ex Lindl. *Bot. Reg.* 1838, *Misc.* p. 19; DC. *Prodr.* ix. p. 375, non Zucc.

MEXICO, introduced into European gardens (*Schiede*).

84. ***Ipomœa serotina***, Rœm. et Schult. *Syst.* iv. p. 215.

Quamoclit serotina, Don, *Gen. Syst.* iv. p. 259.

Convolvulus serotinus, DC. *Hort. Monsp.* p. 97.

Pharbitis? serotina, Choisy in DC. *Prodr.* ix. p. 341.

MEXICO (*Alaman*, *Berlandier*).

85. ***Ipomœa serpyllifolia***, Don, *Gen. Syst.* iv. p. 267; DC. *Prodr.* ix. p. 351.

Convolvulus serpyllifolius, H. B. K. *Nov. Gen. et Sp.* iii. p. 95.

SOUTH MEXICO, near Moran and Regla, at 7500 feet (*Humboldt & Bonpland*).

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86. ***Ipomœa setifera***, Poir. Enc. vi. p. 17; DC. Prodr. ix. p. 359.
Calystegia setifera, Meissn. in Fl. Bras. vii. p. 316.
 GUATEMALA (*Friedrichsthal*); NICARAGUA, Greytown (*Tate*); PANAMA, Chagres (*Fendler*, 243).—WEST INDIES; GUIANA to North BRAZIL. Hb. Kew.
87. ***Ipomœa sidæfolia***, Choisy in DC. Prodr. ix. p. 372; Meissn. in Fl. Bras. vii. p. 267; Griseb. Fl. Brit. W. Ind. p. 468.
 SOUTH MEXICO, valley of Cordova (*Bourgeau*, 1734), region of Orizaba (*Botteri*, 557), Sierra San Pedro Nolasco &c. (*Jurgensen*, 612); PANAMA (*Seemann*).—WEST INDIES and north part of SOUTH AMERICA. Hb. Kew.
88. ***Ipomœa simulans***, Hanbury in Journ. Linn. Soc. xi. p. 281, t. 2.
 SOUTH MEXICO, Sierra Gorda, Guanajuato (*Finck*), near Oaxaca, at 8000 feet (*Galeotti*, 1369). Hb. Kew.
89. ***Ipomœa sinuata***, Ort. vii. p. 84; DC. Prodr. ix. p. 362; A. Gr. Synop. Fl. N. Am. ii. p. 212.
Convolvulus dissectus, Linn.; Jacq. Obs. iv. t. 28, et Hort. Vindob. t. 159.
 GEORGIA to TEXAS.—NORTH MEXICO, Monterey (*Eaton & Edwards*, 55; *Berlandier*); SOUTH MEXICO, Gonacatepec (*Andrieux*, 215); GUATEMALA (*Friedrichsthal*).—WEST INDIES; GUIANA; BRAZIL. Hb. Kew.
90. ***Ipomœa stans***, Cav. Ic. Pl. iii. p. 26, t. 250; DC. Prodr. ix. p. 355.
Convolvulus stans, H. B. K. Nov. Gen. et Sp. iii. p. 96.
 NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 627); SOUTH MEXICO, Lagos (*Hartweg*), near Guadalupe (*Bourgeau*, 496), Zimapan (*Coulter*, 1038), Oaxaca (*Ghiesbreght*). Hb. Kew.
91. ***Ipomœa stipulacea***, Jacq. Hort. Schœnb. ii. p. 39, t. 129; Meissn. in Fl. Bras. vii. p. 288.
 MEXICO (*Schiede*).—TROPICAL SOUTH AMERICA; POLYNESIA; INDIA.
92. ***Ipomœa suaveolens***, Hemsley.
Convolvulus suaveolens, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 261; Walp. Rep. vi. p. 541.
 SOUTH MEXICO, Oaxaca, 4500 feet (*Galeotti*, 1376). Hb. Kew.
93. ***Ipomœa suffulta***, Don, Gen. Syst. iv. p. 276; DC. Prodr. ix. p. 378.
Convolvulus suffultus, H. B. K. Nov. Gen. et Sp. iii. p. 102, t. 211.
 SOUTH MEXICO, Volcan de Jorullo (*Humboldt & Bonpland*).
94. ***Ipomœa superba***, Don, Gen. Syst. iv. p. 275; DC. Prodr. ix. p. 372.
Convolvulus superbus, H. B. K. Nov. Gen. et Sp. iii. p. 103.
 SOUTH MEXICO, Volcan de Jorullo (*Humboldt & Bonpland*).
95. ***Ipomœa ternifolia***, Cav. Ic. Pl. v. p. 52, t. 478. fig. 1; DC. Prodr. ix. p. 353.
Leptocallis ternata, Don, Gen. Syst. iv. p. 260.
 SOUTH MEXICO, Acapulco.

96. ***Ipomœa thurberi***, A. Gr. Synop. Fl. N. Am. ii. p. 212.
ARIZONA.—NORTH MEXICO, Santa Cruz, Sonora (*Thurber*).
97. ***Ipomœa trifida***, Don, Gen. Syst. iv. p. 280; DC. Prodr. ix. p. 383.
Convolvulus trifidus, H. B. K. Nov. Gen. et Sp. iii. p. 107.
NICARAGUA, Realejo (*Sinclair*).—PERU. Hb. Kew.
98. ***Ipomœa triloba***, Linn. Sp. Fl. p. 229; DC. Prodr. ix. p. 383; A. Gr. Synop. Fl. N. Am. ii. p. 213; Meissn. in Fl. Bras. vii. p. 277.
Ipomœa eustachiana, Jacq. Obs. t. 36.
Quamoclit triloba, Don, Gen. Syst. iv. p. 259.
FLORIDA, "perhaps introduced," *A. Gray*.—SOUTH MEXICO, Acapulco (*Sinclair*), near Vera Cruz (*Schiede*). Hb. Kew.
99. ***Ipomœa tuberosa***, Linn. Sp. Pl. p. 227; Griseb. Fl. Brit. W. Ind. p. 467.
Operculina tuberosa, Meissn. in Fl. Bras. vii. p. 213.
SOUTH MEXICO, Sierra San Pedro Nolasco (*Jurgensen*, 862); PANAMA, Chagres (*Fendler*, 245).—WEST INDIES; TROPICAL SOUTH AMERICA; TROPICAL ASIA and AFRICA. Hb. Kew.
100. ***Ipomœa?* (*Quamoclit tubulosa*)**, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 270; Walp. Rep. vi. p. 529).
SOUTH MEXICO, Uruapan, Michoacan, at 4000 feet (*Galeotti*, 1393).
101. ***Ipomœa tyrianthina***, Lindl. Bot. Reg. 1838, Misc. n. 162; DC. Prodr. ix. p. 375.
Pharbitis tyrianthina, Hook. Bot. Mag. t. 4024.
MEXICO, cultivated in European gardens. Hb. Kew.
102. ***Ipomœa umbellata***, Mey. Prim. Fl. Esseq. p. 99, non Linn.; Meissn. in Fl. Bras. vii. p. 263.
Convolvulus densiflorus, Hook. et Arn. Bot. Beech. Voy. p. 303.
SOUTH MEXICO, Vera Cruz to Orizaba (*Müller*), San Blas to Tepic (*Coulter*, 1026); GUATEMALA (*Friedrichsthal*); NICARAGUA, Realejo (*Sinclair*); PANAMA, Chagres (*Fendler*, 241).—Common in tropical SOUTH AMERICA and the WEST INDIES. Hb. Kew.
103. ***Ipomœa variabilis***, Choisy in DC. Prodr. ix. p. 383.
Convolvulus variabilis, Cham. et Schl. in Linnæa, v. p. 116.
SOUTH MEXICO, Hacienda de la Laguna (*Schiede & Deppe*), Cordillera of Vera Cruz, 3500 feet (*Galeotti*, 1351). Hb. Kew.
104. ***Ipomœa?* (*Calonyction venustum*)**, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 269; Walp. Rep. vi. p. 531).
SOUTH MEXICO, Tabasco? (*Linden*, 206).
105. ***Ipomœa versicolor***, Meissn. in Fl. Bras. vii. p. 220.
Mina lobata, Llav. et Lex. Nov. Veg. i. p. 3; Bot. Reg. 1842, t. 24.
Quamoclit mina, Don, Gen. Syst. iv. p. 259.

SOUTH MEXICO, Orizaba, cultivated (*Botteri*, 954), without locality (*Parkinson*).
Hb. Kew.

106. *Ipomœa*? (*Batatas wallii*, Morren in Ann. Bot. de Gand, ii. p. 285, cum ic.; Walp. Rep. vi. p. 530).

GUATEMALA.

107. *Ipomœa wrightii*, A. Gr. Synop. Fl. N. Am. ii. p. 213.

TEXAS.—NORTH MEXICO?, Yaqui River (*Palmer*).

[*Calystegia soldanella*, R. Br., and *C. sepium*, R. Br., are two very widely dispersed members of this order that may be expected to occur in Mexico.]

3. JACQUEMONTIA.

Jacquemontia, Choisy, Conv. Or. p. 94, et in DC. Prodr. ix. p. 396.

About thirty-six herbaceous and half-shrubby species, one common in Tropical Africa, and the rest restricted to Tropical and Subtropical America.

1. *Jacquemontia hirsuta*, Choisy, Conv. Rar. p. 141, et in DC. Prodr. ix. p. 397; Meissn. in Fl. Bras. vii. p. 298.

Jacquemontia azurea, Choisy, Conv. Rar. p. 140, et in DC. Prodr. ix. p. 397.

Convolvulus apocynoides, Schl. et Cham. in Linnæa, v. p. 117.

Convolvulus sphaerostigma, Cav. Ic. Pl. v. p. 54, t. 481.

SOUTH MEXICO, Hacienda de la Laguna (*Schiede & Deppe*), Mirador (*Linden*, 1117); PANAMA, Empire station (*S. Hayes*, 433), near the city of Panama (*Seemann*, 487).—TO PERU, GUIANA, and BRAZIL. Hb. Kew.

2. *Jacquemontia lactescens*, Seem. Bot. Voy. 'Herald,' p. 171.

PANAMA, near the city of Panama (*Seemann*, 490), Empire station (*S. Hayes*, 512), without locality (*Cuming*, 1158). Hb. Kew.

3. *Jacquemontia nummularia*, Choisy, Conv. Rar. p. 139, et in DC. Prodr. ix. p. 397.

CENTRAL AMERICA (*Barclay*).—PERU. Hb. Kew.

4. *Jacquemontia parviflora*, Choisy, Conv. Rar. p. 143, et in DC. Prodr. ix. p. 398; Meissn. in Fl. Bras. vii. p. 297.

γ. *oaxacana*, Meissn. loc. cit.

Convolvulus caruleus, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 259; Walp. Rep. vi. p. 540.

SOUTH MEXICO, fields near Zacuapan and Mirador (*Galeotti*, 1359).

This species also occurs in Ecuador and Brazil under different forms.

5. *Jacquemontia pycnocephala*, Benth. Bot. Voy. 'Sulphur,' p. 137; Walp. Rep. vi. p. 536.

SOUTH MEXICO, Acapulco (*Sinclair*). Hb. Kew.

6. **Jacquemontia violacea**, Choisy, Conv. Rar. p. 139, et in DC. Prodr. ix. p. 397; Meissn. in Fl. Bras. vii. p. 296 (varietates).

Convolvulus polyanthus, Cham. et Schl. in Linnæa, v. p. 117.

Convolvulus pentanthos, Jac. Ic. Rar. ii. t. 316; Bot. Mag. t. 2151; Bot. Reg. t. 439.

FLORIDA.—SOUTH MEXICO, Cordillera of Vera Cruz, 3500 feet (*Galeotti*, 1350); GUATEMALA (*Friedrichsthal*).—Southward to PERU and BRAZIL, and in the WEST INDIES. Hb. Kew.

4. CONVOLVULUS.

Convolvulus, Linn. Gen. Plant. n. 215; Benth. et Hook. Gen. Plant. ii. p. 874.

Herbs or shrubs. Nearly 150 species, generally dispersed in temperate and subtropical regions, rarer within the tropics.

[*C. arvensis*, Linn., a European species, is naturalized in various countries, including Mexico.]

1. **Convolvulus attenuatus**, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 261; Walp. Rep. vi. p. 541.

SOUTH MEXICO, ravines of Talea, north-east of Oaxaca, at 3500 feet (*Galeotti*, 1399).

2. **Convolvulus cladotrichus**, Mart. in Linnæa, xxiv. p. 173; Walp. Rep. vi. p. 744.

MEXICO, Miquiquana (*Karwinski*).

3. **Convolvulus incanus**, Vahl, Symb. iii. p. 23; Meissn. in Fl. Bras. vii. p. 311; A. Gr. Synop. Fl. N. Am. ii. p. 216.

Convolvulus bonariensis et *C. dissectus*, Cav. Ic. Pl. v. t. 480.

Convolvulus equitans, Benth. Pl. Hartw. p. 16.

Convolvulus glaucifolius, Choisy in DC. ix. p. 412, non Spreng., ex A. Gr.

ARKANSAS and COLORADO to TEXAS and ARIZONA.—NORTH MEXICO, Monterey (*Eaton & Edwards*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 629); SOUTH MEXICO, valley of Mexico (*Bourgeau*, 133), Leon (*Hartweg*).—And in extra-tropical SOUTH AMERICA, according to A. Gray. Hb. Kew.

4. **Convolvulus lapathifolius**, Schl. in Linnæa, xix. p. 736.

MEXICO (*Leibold*).

5. **Convolvulus luteus**, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 260; Walp. Rep. vi. p. 540.

SOUTH MEXICO, dunes of Vera Cruz (*Galeotti*, 1379).

6. **Convolvulus micranthus**, Rœm. et Schult. Syst. iv. p. 276; DC. Prodr. ix. p. 414.

Convolvulus polycarpus, H. B. K. Nov. Gen. et Sp. iii. p. 98.

MEXICO, near Regla and Omitlan, at 6600 feet (*Humboldt & Bonpland*).—WEST INDIES; BRAZIL?

7. **Convolvulus mollissimus**, Bertol. Misc. Bot. fasc. xx. p. 11, t. 3.

GUATEMALA, Volcan de Agua (*Velasquez*).

8. **Convolvulus minutiflorus**, Mart. et Gal. (*munitiflorus*) in Bull. Acad. Brux. xii. 2, p. 262; Walp. Rep. vi. p. 541.

SOUTH MEXICO, Sola, at 5000 feet (*Galeotti*, 1372).

9. **Convolvulus nodiflorus**, Desr. Enc. iii. p. 557; DC. Prodr. ix. p. 414; Meissn. in Fl. Bras. vii. p. 310.

MEXICO (*Karwinski*); GUATEMALA (*Friedrichsthal*, *Skinner*).—VENEZUELA; ECUADOR. Hb. Kew.

β. **deglabratus**, Choisy in DC. Prodr. ix. p. 414.

MEXICO, Tampico (*Berlandier*). Hb. Kew.

10. **Convolvulus palustris**, Cav. Ic. Pl. vi. p. 80, t. 600. fig. 2; DC. Prodr. ix. p. 404.

SOUTH MEXICO, near Acapulco.

11. **Convolvulus? tenuifolius**, Mart. et Gall. in Bull. Acad. Brux. xii. 2, p. 260; Walp. Rep. vi. p. 540.

SOUTH MEXICO, Sola, south of Oaxaca, 5000 feet (*Galeotti*, 1373).

5. EVOLVULUS.

Evolvulus, Linn. Gen. Plant. n. 385; Benth. et Hook. Gen. Plant. ii. p. 875.

Herbs or shrubs. About seventy species, generally dispersed in warm regions, some of the species having a very wide range.

1. **Evolvulus acapulcensis**, Willd.; Rœm. et Schult. Syst. vi. p. 199; DC. Prodr. ix. p. 449.

SOUTH MEXICO, around Acapulco (*Humboldt*).

2. **Evolvulus albiflorus**, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 259; Walp. Rep. vi. p. 543.

SOUTH MEXICO, valley of Mexxitlan, north of the city of Mexico, and in the neighbourhood of Zimapan, 4000 to 5000 feet (*Galeotti*, 1386, 1388).

3. **Evolvulus alsinoides**, Linn. Sp. Pl. p. 392; DC. Prodr. ix. p. 447; A. Gr. Synop. Fl. N. Am. ii. p. 218.

Evolvulus linifolius, Linn. Sp. Pl. loc. cit.; DC. Prodr. ix. p. 449.

Evolvulus linooides, Moric. Pl. Nouv. d'Am. t. 83.

Evolvulus microphyllus et *E. pilosissimus*, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 257; Walp. Rep. vi. p. 542.

Common in nearly all TROPICAL and SUBTROPICAL regions.

Most authors distinguish *linifolius* from *alsinoides*; but we cannot draw the line between them, as the forms are innumerable.

4. **Evolvulus argenteus**, Pursh, Fl. Am. Sept. i. p. 187, non R. Br.; A. Gr. Synop. Fl. N. Am. ii. p. 219.

NEBRASKA to TEXAS and ARIZONA.—NORTH MEXICO, Chihuahua (*Gregg*). Hb. Kew.

5. **Evolvulus argyreus**, Choisy, Conv. Rar. p. 153, et in DC. Prodr. ix. p. 447? MEXICO (*Beechey*). Hb. Kew.

Perhaps a distinct species. The type is from Ecuador.

6. **Evolvulus arizonicus**, A. Gr. Synop. Fl. N. Am. ii. p. 218.

Evolvulus holosericeus, var. *obtusatus*, Torr. in Bot. U.S. & Mex. Bound. Surv. p. 150, pro parte, nec Choisy, et excl. syn.

NEW MEXICO; ARIZONA.—NORTH MEXICO, Monterey (*Edwards*), Cerralbo (*Gregg*), Chihuahua (*Potts*). Hb. Kew.

7. **Evolvulus discolor**, Benth. Pl. Hartw. p. 6; A. Gr. Synop. Fl. N. Am. ii. p. 219.

Evolvulus holosericeus, β . *obtusatus*, Choisy in DC. Prodr. ix. p. 444.

SOUTH MEXICO, Aguas Calientes (*Hartweg*). Hb. Kew.

8. **Evolvulus holosericeus**, H. B. K. Nov. Gen. et Sp. iii. p. 116; Choisy in DC. Prodr. ix. p. 444, excl. β . *obtusatus*; Meissn. in Fl. Bras. vii. p. 352.

MEXICO (*Schiede*).—COLOMBIA to BOLIVIA and BRAZIL.

9. **Evolvulus mucronatus**, Swartz; Griseb. Fl. Brit. W. Ind. p. 475; A. Gr. Synop. Fl. N. Am. ii. p. 218.

Evolvulus glabriusculus, Choisy in DC. Prodr. ix. p. 448.

FLORIDA.—MEXICO, valley of Cordova (*Bourgeau*, 2286), Acapulco (*Sinclair*).—Southward to PERU and BRAZIL and in the WEST INDIES. Hb. Kew.

10. **Evolvulus nummularius**, Linn.; Griseb. Fl. Brit. W. Ind. p. 475; Meissn. in Fl. Bras. vii. p. 349.

Evolvulus veronicæfolius, H. B. K. Nov. Gen. et Sp. iii. p. 117, t. 215.

SOUTH MEXICO, Yucatan and Tabasco (*Johnson*); GUATEMALA (*Friedrichsthal*); PANAMA (*S. Hayes*, 648; *Seemann*, 577).—Southward to PERU and BRAZIL and in the WEST INDIES. Hb. Kew.

11. **Evolvulus sericeus**, Swartz; Griseb. Fl. Brit. W. Ind. p. 475; A. Gr. Synop. ii. p. 218.

FLORIDA to LOUISIANA, TEXAS and ARIZONA.—NORTH MEXICO, Chihuahua (*Potts*), Monterey (*Eaton & Edwards*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 628½).—Tropical SOUTH AMERICA and the WEST INDIES. Hb. Kew.

12. **Evolvulus villosus**, Ruiz et Pav. Fl. Peruv. iii. p. 30, t. 253. fig. *b*; Meissn. in Fl. Bras. vii. p. 344.

SOUTH MEXICO, without locality (*Karwinski*; *Schiede & Deppe*); GUATEMALA, Llano de

San Juan de Dios (*Bernoulli*, 181).—To PERU and BRAZIL and in the WEST INDIES. Hb. Kew.

6. BREWERIA.

Breweria, R. Br. Prodr. Fl. Nov. Holl. p. 487; Benth. et Hook. Gen. Plant. ii. p. 876.

A genus of about twenty-five herbaceous and shrubby species, inhabiting the warmer regions of both hemispheres, and extending into North America and Australia.

1. *Breweria mexicana*, Hemsley, n. sp.

Erecta, foliis lanceolato-oblongis, floribus paucis aggregatis longiuscule graciliterque pedicellatis, sepalis inæqualibus, filamentis barbatis, ovario villosa, styli ramis gracillimis inæquilongis.

Herba vel *frutex* erectus, undique plus minusve fulvo-pubescens, ramulis graciliusculis, obscure angulatis. *Folia* petiolata, crassiuscula, mollia, lanceolato-oblonga, 2–2½ poll. longa, acuta, basi obtusa vel rotundata; petiolus gracilis, 3–4 lineas longus. *Flores* parvi (8–9 lineas longi), pauci, fasciculati vel subcorymbosi, pedicellis fere filiformibus, usque ad 8 lineas longis; sepala valde inæqualia, 3 exteriora majora, ovata, obtusa, usque ad 6 lineas longa, demum glabrescentia, sicca venosaque, 2 interiora subscariosa, alterum sæpissime orbiculari-caudatum, alterum orbiculare; corolla extus parce hirsuta; stamina inclusa, medio corollæ inserta, filamentis infra medium dilatatis, barbatis, antheris latis; ovarium villosum, 2-loculare, 4-ovulatum; stylus filiformis, inæqualiter bifidus, ramulis gracillimis, stigmatibus capitatis. *Fructus* dcest.

SOUTH MEXICO, Sierra San Pedro Nolasco &c. (*Jurgensen*, 623). Hb. Kew.

2. *Breweria ovalifolia*, A. Gr. Synop. Fl. N. Am. ii. p. 217.

Evolvulus? *ovalifolius*, Torr. Bot. U.S. & Mex. Bound. Surv. p. 150.

NORTH MEXICO, on the Rio Grande, below San Carlos (*Parry*).

3. *Breweria*, sp. ?

NORTH MEXICO, between San Luis Potosi and Tampico (*Palmer*, 1035).

7. DICHONDRA.

Dichondra, Forst. Char. Gener. p. 39, t. 20; Benth. et Hook. Gen. Plant. ii. p. 879.

Four or five species of small prostrate herbs, generally dispersed in warm countries.

1. *Dichondra argentea*, Humb. et Bonpl., ex Willd. Enum. Pl. Hort. Berol. p. 297, et Hort. Berol. t. 81; Meissn. in Fl. Bras. vii. p. 359; A. Gr. Synop. Fl. N. Am. ii. p. 208.

TEXAS to ARIZONA.—NORTH MEXICO, Chihuahua (*Thurber*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 624); SOUTH MEXICO, valley of Mexico (*Bourgeau*, 134; *Schaffner*, 2; *Bilimek*, 248), Real del Monte (*Coulter*, 1013).—WESTERN SOUTH AMERICA. Hb. Kew.

2. *Dichondra repens*, Forst. Char. Gener. p. 40, t. 20; DC. Prodr. ix. p. 451; Sm. Ic. ined. t. 8; A. Gr. Synop. Fl. N. Am. ii. p. 208.

Dichondra macrocalyx, Meissn. in Fl. Bras. vii. p. 357.

Dichondra sericea, Swartz, Ic. Ind. Occ. t. 10; Griseb. Fl. Brit. W. Ind. p. 476.

This plant is very widely diffused in Temperate and Tropical AMERICA, Tropical ASIA, SOUTH AFRICA, AUSTRALIA and NEW ZEALAND, and PACIFIC ISLANDS. Hb. Kew.

8. CRESSA.

Cressa, Linn. Gen. Plant. n. 313; Benth. et Hook. Gen. Plant. ii. p. 881.

One half-shrubby species.

1. ***Cressa cretica***, Linn. Sp. Pl. p. 325; DC. Prodr. ix. p. 440; Lam. Ill. t. 183; Sibth. Fl. Græc. t. 256; A. Gr. Synop. Fl. N. Am. ii. p. 219.

Another plant having a very wide range of distribution, chiefly in sandy, maritime, and saline districts of the warmer regions of both hemispheres, including the South of Europe. Hb. Kew.

9. CUSCUTA.

Cuscuta, Linn. Gen. Plant. n. 170; Benth. et Hook. Gen. Plant. ii. p. 881.

A genus of herbaceous, leafless, climbing parasites, inhabiting most temperate and warm regions. About eighty species are known.

1. ***Cuscuta americana***, Linn. Sp. Pl. p. 180, pro parte; Choisy, Cusc. p. 186, t. 4. fig. 4; Engelm. in Trans. St. Louis Acad. i. p. 482; A. Gr. Synop. Fl. N. Am. ii. p. 223.

Cuscuta congesta et *C. globulosa*, Benth. Bot. Voy. 'Sulphur,' p. 138.

NORTH MEXICO, Mazatlan (*Gregg*); SOUTH MEXICO, Acapulco (*Sinclair*); GUATEMALA, Mazatenango (*Bernoulli*, 59).—COLOMBIA; VENEZUELA; GUIANA; BRAZIL; WEST INDIES. Hb. Kew.

2. ***Cuscuta appplanata***, Engelm. in Trans. St. Louis Acad. i. p. 479, et in A. Gr. Synop. Fl. N. Am. ii. p. 223.

ARIZONA.—NORTH MEXICO, south of the Gila (*Wright*).

3. ***Cuscuta arvensis***, Beyrich; Engelm. in Trans. St. Louis Acad. i. p. 494, et in A. Gr. Synop. Fl. N. Am. ii. p. 220.

NEW YORK to TEXAS, ILLINOIS and MISSOURI, CALIFORNIA and OREGON.—MEXICO, Parras (*Gregg*), San Luis Potosi (*Berlandier*).—SOUTH AMERICA.

4. ***Cuscuta corymbosa***, Ruiz et Pavon; Engelm. in Trans. St. Louis Acad. i. p. 483.

Cuscuta inclusa, Choisy, Cusc. t. 2. fig. 2, et in DC. Prodr. ix. p. 455.

Cuscuta laxiflora, Benth. Bot. Voy. 'Sulphur,' p. 138.

Cuscuta stylosa, Choisy in DC. Prodr. ix. p. 459.

SOUTH MEXICO, Toluca (*Berlandier*; *Andrieux*, 214), Comitán (*Linden*, 291), Orizaba (*Botteri*, 949), Acapulco (*Hinds*).—Throughout northern SOUTH AMERICA. Hb. Kew.

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5. **Cuscuta decora**, Choisy; Engelm. in Trans. St. Louis Acad. i. p. 501, et in A. Gr. Synop. Fl. N. Am. ii. p. 221.

Cuscuta pulcherrima, Scheele in Linnæa, xxi. p. 750.

Cuscuta indecora, Choisy, Cusc. p. 182, t. 3. fig. 3, et in DC. Prodr. ix. p. 457.

ILLINOIS and TEXAS to ARIZONA and CALIFORNIA.—NORTH MEXICO, Sonora (*Wright*); SOUTH MEXICO, Los Baños (*Bourgeau*, 972).—Southward to CHILI and BRAZIL and in the WEST INDIES. Hb. Kew.

6. **Cuscuta gracillima**, Engelm. in Trans. St. Louis Acad. i. p. 488.

Cuscuta fetida, Hook. et Arn. Bot. Beech. Voy. p. 304, non H. B. K.

SOUTH MEXICO, Santiago Estata, Oaxaca (*Liebmann*), Tepic (*Beechey*). Hb. Kew.

7. **Cuscuta gronovii**, Willd.; Rœm. et Schult. Syst. vi. p. 205; Engelm. in Trans. St. Louis Acad. i. p. 507, et in A. Gr. Synop. Fl. N. Am. ii. p. 221.

Cuscuta vulgivaga, Engelm. in Am. Journ. Sc. xliii. p. 338, t. 6. figg. 12–16.

CANADA to IOWA, and south to FLORIDA and TEXAS.—MEXICO, Cordova (*Finck*)? Hb. Kew.

8. **Cuscuta jalapensis**, Schl. in Linnæa, viii. p. 515; Engelm. in Trans. St. Louis Acad. i. p. 478.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 631); SOUTH MEXICO, Jalapa (*Linden*, 308; *Schiede*), near the city of Mexico (*Graham*), Oaxaca (*Galeotti*, 4413). Hb. Kew.

9. **Cuscuta mitræformis**, Engelm. in Hemsl. Diag. Pl. Nov. pars tertia, p. 54.

Caulibus crassis, floribus grandiusculis (3 lineas longis latisque) breviter pedicellatis vel subsessilibus glomeratis, calycis lobis orbicularibus inæqualibus 2 exterioribus carinatis vel interdum fere alatis quam corolla campanulata paullo longioribus, corollæ lobis late ovatis rotundatis demum reflexis vel patulis, filamentis subulatis, antheris oblongis æquilongis quam corolla brevioribus, squamis latissimis rotundatis fimbriatis quam corollæ tubus longioribus incurvis gynæcium tegentibus, stylis late conicis quam ovarium brevioribus, capsula maxime acuta exserta stylis acutis induratis coronata.

NORTH MEXICO, between San Luis Potosi and Tampico (*Palmer*). Hb. Kew.

10. **Cuscuta salina**, Engelm. in Watson's Bot. Calif. i. p. 536, et in A. Gr. Synop. Fl. N. Am. ii. p. 220.

CALIFORNIA to UTAH and ARIZONA.—NORTH MEXICO, Gila valley (*Rothrock*).

Not recorded from within the present boundary of North Mexico.

11. **Cuscuta squamata**, Engelm. in Trans. St. Louis Acad. i. p. 510, et in A. Gr. Synop. Fl. N. Am. ii. p. 222.

NEW MEXICO; TEXAS.—NORTH MEXICO?, valley of the Rio Grande, from El Paso down to Presidio del Norte (ex *Engelmann*).

12. **Cuscuta tinctoria**, Mart.; Engelm. in Trans. St. Louis Acad. i. p. 480.

NORTH MEXICO, San Luis Potosi (*Gregg*); SOUTH MEXICO, Oaxaca (*Karwinski*), Tlalpuxahua (*Graham*). Hb. Kew.

[*Cuscuta trichostyla*, Engelm. in Trans. St. Louis Acad. i. p. 495, "Panama, *Tweedie*," should doubtless be Parana, *Tweedie*.]

13. **Cuscuta umbellata**, H. B. K. Nov. Gen. et Sp. iii. p. 121; Engelm. in Trans. St. Louis Acad. i. p. 487, et in A. Gr. Synop. Fl. N. Am. ii. p. 223.

COLORADO to TEXAS and ARIZONA.—NORTH MEXICO, Chihuahua (*Potts*), between Saltillo and Camargo (*Gregg*); SOUTH MEXICO, between Queretaro and Salamanca (*Humboldt & Bonpland*).—WEST INDIES. Hb. Kew.

Order XCV. SOLANACEÆ.

Solanaceæ, Benth. et Hook. Gen. Plant. ii. p. 882.

Herbs or shrubs, rarely arboreous, generally dispersed in warm and temperate regions. The Order contains sixty-six genera, embracing about 1250 species, according to Bentham and Hooker's calculation, and upwards of 1800 species according to Dunal and Miers.

1. LYCOPERSICUM.

Lycopersicum, Mill. Dict., ex Benth. et Hook. Gen. Plant. ii. p. 888.

Three or four herbaceous species indigenous in Tropical America, commonly cultivated and now naturalized in many other parts of the world.

1. **Lycopersicum esculentum**, Mill. Dict. n. 2; Dunal in DC. Prodr. xiii. 1, p. 26; A. Gr. Synop. Fl. N. Am. ii. p. 226.

Common in MEXICO and CENTRAL AMERICA, as well as in other parts of TROPICAL AMERICA and the WEST INDIES; but it is difficult to determine where it is really indigenous and where it is only naturalized. Hb. Kew.

2. SOLANUM.

Solanum, Linn. Gen. Plant. n. 251; Benth. et Hook. Gen. Plant. ii. p. 889.

Herbs, shrubs, or small trees, chiefly inhabiting tropical and subtropical regions, and especially numerous in America; a few occur in temperate regions, both north and south. Upwards of 900 species have been described; but a thorough revision would doubtless result in a considerable reduction of the number.

The unnamed species of *Solanum* in Kew herbarium from Mexico and Central America are numerous, and include doubtless some undescribed ones, as well as most of those enumerated below.

1. **Solanum aculeatissimum**, Jacq. Coll. i. p. 100, et Ic. Rar. t. 41; DC. Prodr. xiii. 1, p. 244; A. Gr. Synop. Fl. N. Am. ii. p. 230; Sendt. in Fl. Bras. x. p. 59; Griseb. Fl. Brit. W. Ind. p. 442.

Solanum myriacanthum, Dun. Sol. p. 218, t. 19.

CAROLINA to FLORIDA and TEXAS.—MEXICO, near Jalapa (*Schiede & Deppe*).—Widely dispersed in TROPICAL AMERICA and the WEST INDIES; also in the OLD WORLD? Hb. Kew.

2. **Solanum aculeolatum**, Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 15); DC. Prodr. xiii. 1, p. 317; Linnæa, xix. p. 301.

SOUTH MEXICO, Oaxaca (*Galeotti*, 1170; *Leibold*).

3. **Solanum aligerum**, Schl. in Linnæa, xix. p. 301; DC. Prodr. xiii. 1, p. 98. SOUTH MEXICO, Anganguio (*Schiede*).

4. **Solanum amazonium**, Ker, Bot. Reg. t. 71; DC. Prodr. xiii. 1, p. 335.

Solanum obtusifolium, Schl. in Linnæa, v. p. 113, et xix. pp. 283 et 285, nec Dun.

Solanum veræ-crucis, Steud. Nomencl. Bot.

Nycterium amazonium, Sims, Bot. Mag. t. 1801.

SOUTH MEXICO, near Vera Cruz and between Santa Fé and Plan del Rio (*Schiede & Deppe*; *Galeotti*, 1160; *Linden*, 243). Hb. Kew.

5. **Solanum amictum**, Moric.; DC. Prodr. xiii. 1, p. 263.

SOUTH MEXICO, Cordillera of Guichilaca (*Berlandier*), Mirador (*Linden*, 237). Hb. Kew.

6. **Solanum anacanthum**, Dun. in DC. Prodr. xiii. 1, p. 183.

SOUTH MEXICO, around the city of Mexico.

7. **Solanum andrieuxii**, Dun. in DC. Prodr. xiii. 1, p. 165.

NORTH MEXICO?, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Pulmer*, 662), without locality (*Andrieux*, 195). Hb. Kew.

8. **Solanum angurium**, Dun. in DC. Prodr. xiii. 1, p. 375.

Solanum angustifolium, Mill. Dict. n. 15, nec Lam.

SOUTH MEXICO, Vera Cruz (*Houston*).

9. **Solanum anoplocladum**, Dun. in DC. Prodr. xiii. 1, p. 346.

MEXICO.

10. **Solanum appendiculatum**, Dun. in DC. Prodr. xiii. 1, p. 39; H. B. K. Nov. Gen. et Sp. iii. p. 19; Linnæa, xix. p. 274.

SOUTH MEXICO, near la Puente de la Madre de Dios, at 6000 feet (*Humboldt & Bonpland*), region of Orizaba (*Bourgeau*), Chiapas (*Ghiesbreght*).—COLOMBIA; VENEZUELA. Hb. Kew.

11. **Solanum asperum**, Vahl, Ecl. ii. p. 17; DC. Prodr. xiii. 1, p. 107; Griseb. Fl. Brit. W. Ind. p. 438; Dun. Solan. t. 7.

NICARAGUA, Chontales (*Seemann*, 79; *Tate*, 185); COSTA RICA (*Endres*)?—WEST INDIES; GUIANA; BRAZIL. Hb. Kew.

12. **Solanum auriculatum**, Ait. Hort. Kew. i. p. 246; DC. Prodr. xiii. 1, p. 115; Sendt. in Fl. Bras. x. p. 40.

MEXICO, Mazatlan (*Seemann*, 1505); GUATEMALA, Volcan de Fuego, 5000 feet (*Salvin*).—TROPICAL SOUTH AMERICA, and now widely dispersed in the tropics of the OLD WORLD. Hb. Kew.

13. **Solanum axilliflorum**, Dun. in DC. Prodr. xiii. 1, p. 371.
Solanum scandens, Mill. Dict. n. 19.

SOUTH MEXICO, Vera Cruz (*Houston*).

14. **Solanum bahamense**, Linn.; DC. Prodr. xiii. 1, p. 185; Dill. Hort. Elth. t. 271; Griseb. Fl. Brit. W. Ind. p. 440.

MEXICO.—WEST INDIES.

15. **Solanum besseri**, Weinm. in DC. Prodr. xiii. 1, p. 48?; Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 10).

SOUTH MEXICO, eastern Cordillera of Oaxaca, at 5000 to 7000 feet (*Galeotti*, 1152, 1229).

16. **Solanum brachystachys**, Dun. in DC. Prodr. xiii. 1, p. 128.
Solanum venosum, Sendt. in Fl. Bras. x. p. 27, in nota.

Solanum lucidum, Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 9).

SOUTH MEXICO, Chalco (*Andrieux*, 186), Cordillera of Oaxaca, 2500 feet (*Galeotti*, 1164). Hb. Kew.

17. **Solanum bulbo-castanum**, Dun. in DC. Prodr. xiii. 1, p. 43.
MEXICO (*Moçino & Sessé*).

18. **Solanum caavurana**, Vell. Fl. Flum. ii. t. 112; DC. Prodr. xiii. 1, p. 147; Fl. Bras. x. p. 20.

SOUTH MEXICO, region of Orizaba (*Bourgeau*, 2405), Jalapa (*Coulter*, 1238; *Linden*, 234; *Galeotti*, 1155).—BRAZIL. Hb. Kew.

Some or all of the Mexican specimens here referred to this species may belong to *S. diphyllum*.

19. **Solanum callicarpæfolium**, Kth. et Bouché; DC. Prodr. xiii. 1, p. 107; Griseb. Fl. Brit. W. Ind. p. 438.

SOUTH MEXICO, region of Orizaba (*Bourgeau*, 2409), Mirador (*Linden*, 238); NICARAGUA, Chontales (*Tate*); PANAMA (*Seemann*, 166).—WEST INDIES; GUIANA. Hb. Kew.

20. **Solanum calycinum**, Moç. et Sessé in DC. Prodr. xiii. 1, p. 354.
MEXICO (*Moçino & Sessé*).
21. **Solanum campechiense**, Linn.; DC. Prodr. xiii. 1, p. 312.
SOUTH MEXICO, Campechy (*Houston*).
This is reduced to *S. fuscatum* by Grisebach, Fl. Brit. W. Ind. p. 442.
22. **Solanum campylocladum**, Dun. in DC. Prodr. xiii. 1, p. 173.
MEXICO.—COLOMBIA.
23. **Solanum candidum**, Lindl. Bot. Reg. 1839, Misc. p. 73; DC. Prodr. xiii. 1, p. 247.
MEXICO, cultivated in England by Mr. Barker.
24. **Solanum cardiophyllum**, Lindl. in Journ. Hort. Soc. iii. pp. 70 et 71, cum ic. xylogr.; DC. Prodr. xiii. 1, p. 678.
MEXICO, at an elevation of 8000 to 9000 feet (*Uhde*).
25. **Solanum cervantesii**, Lag. Nov. Gen. et Sp. p. 10; DC. Prodr. xiii. 1, p. 103.
Solanum pubigerum, Dun. Sol. p. 160, t. 6.
NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 638);
SOUTH MEXICO, Real del Monte (*Hartweg*), Desierto Viejo (*Bourgeau*, 1256), Vera Cruz to Orizaba (*Müller*, 1675), around Toluca (*Andrieux*, 184), Chiapas (*Ghiesbreght*).
Hb. Kew.
26. **Solanum chenopodioides**, Lam.; DC. Prodr. xiii. 1, p. 55; Sendt. in Fl. Bras. x. p. 16.
MEXICO?—Southward to CHILI. Hb. Kew.
27. **Solanum chloropetalon**, Schl. in Linnæa, xix. pp. 291–295; DC. Prodr. xiii. 1, p. 247.
SOUTH MEXICO, near Jalapa (*Schiede & Deppe*).
28. **Solanum chrysacanthum**, Dun. in DC. Prodr. xiii. 1, p. 330.
SOUTH MEXICO, Yotla (*Andrieux*, 191). Hb. Kew.
29. **Solanum chrysotrichum**, Schl. in Linnæa, xix. p. 304; DC. Prodr. xiii. 1, p. 276.
SOUTH MEXICO, near Las Trojes (*Schiede*).
30. **Solanum ciliolatum**, Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 12); DC. Prodr. xiii. 1, p. 164.
SOUTH MEXICO, Sierra de Capulalpan and Llano Verde, eastern Cordillera of Oaxaca, 6000 to 7500 feet (*Galeotti*, 1230).

31. **Solanum clathratum**, Sendt. in Fl. Bras. x. p. 35; DC. Prodr. xiii. 1, p. 120.
SOUTH MEXICO, Cordillera of Mexico (*Galeotti*).—BRAZIL.
32. **Solanum cornutum**, Lam.; DC. Prodr. xiii. 1, p. 328; Ann. Mus. Par. iii. t. 9; Jacq. Eclog. t. 104.
NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 635); SOUTH MEXICO, Zimapan (*Coulter*, 1250), around Vera Cruz and Mexico (*Berlandier*). Hb. Kew.
33. **Solanum cortex-virens**, Dun. in DC. Prodr. xiii. 1, p. 372.
SOUTH MEXICO, Campeachy.
34. **Solanum delilei**, Dun. in DC. Prodr. xiii. 1, p. 81.
MEXICO.
35. **Solanum demissum**, Lindl. in Journ. Hort. Soc. Lond. iii. pp. 69 et 70, cum ic. xylogr.; DC. Prodr. xiii. 1, p. 678.
MEXICO, at 8000 to 9000 feet (*Uhde*).
36. **Solanum densiflorum**, Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 13); DC. Prodr. xiii. 1, p. 113.
SOUTH MEXICO, Zimapan, at 5000 feet (*Galeotti*, 1222).
37. **Solanum diphyllum**, Linn. Sp. Pl. p. 264; DC. Prodr. xiii. 1, p. 144.
MEXICO, Tampico (*Berlandier*). Only cultivated specimens in Kew herbarium.
38. **Solanum divaricatum**, Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 8); DC. Prodr. xiii. 1, p. 73.
SOUTH MEXICO, Cordillera of Oaxaca, at 7000 feet (*Galeotti*, 1163).
39. **Solanum diversifolium**, Schl. in Linnæa, xix. p. 297; DC. Prodr. xiii. 1, p. 262.
SOUTH MEXICO, Mirador (*Linden*, 247), San Blas to Tepic (*Coulter*, 1245), near Papantla (*Schiede*). Hb. Kew.
40. **Solanum elæagnifolium**, Cav. Ic. Pl. iii. p. 22, t. 243; DC. Prodr. xiii. 1, p. 290 (varietates); A. Gr. Synop. Fl. N. Am. ii. p. 230.
Solanum leprosum, Ort. Dec. ix. p. 115; Dun. Sol. t. 12.
Solanum hindsianum, Benth. Bot. Voy. 'Sulphur,' p. 39.
Solanum texense, Engelm. & Gray, Pl. Lindh. i. p. 45.
Solanum ræmerianum, Scheele in Linnæa, xxi. p. 767.
KANSAS to TEXAS, ARIZONA, and LOWER CALIFORNIA.—NORTH MEXICO, Monterey (*Eaton & Edwards*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 636), Zacatecas (*Coulter*, 1246, 1247, 1248); SOUTH MEXICO, Vera Cruz to Orizaba (*Müller*, 182), Leon (*Hartweg*).—CHILI; BUENOS AYRES. Hb. Kew.

41. **Solanum ensifolium**, Dun. in DC. Prodr. xiii. 1, p. 186.

MEXICO.

42. **Solanum fendleri**, Van Heurck's et Müll. in Heurck Obs. Bot. fasc. ii. p. 130.
PANAMA, near Chagres (*Fendler*, 254).

43. **Solanum flavescens**, β . **albescens**, Dun. in DC. xiii. 1, p. 254.
SOUTH MEXICO, Oaxaca (*Andrieux*, 192). Hb. Kew.

44. **Solanum foetidum**, Ruiz et Pav. Fl. Peruv. ii. p. 39; DC. Prodr. xiii. 1, p. 147.

NICARAGUA, Chontales (*Tate*, 262), without locality (*Lévy*).—Southward to PERU, and eastward to GUIANA. Hb. Kew.

45. **Solanum fontanesianum**, Dun. in DC. Prodr. xiii. 1, p. 329; Bot. Reg. t. 177.

MEXICO?

46. **Solanum galeottii**, Dun. in DC. Prodr. xiii. 1, p. 82.
Solanum appendiculatum, H. B. K.? Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 7).
SOUTH MEXICO, Ario, Michoacan, 4000 feet (*Galeotti*, 1184). Hb. Kew.

47. **Solanum geminiflorum**, Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 14); DC. Prodr. xiii. 1, p. 157.

SOUTH MEXICO, Chinantla, Cordillera of Oaxaca, at 5000 feet (*Galeotti*, 1242).

48. **Solanum glabrum**, Dun. in DC. Prodr. xiii. 1, p. 102.
Solanum bombense, Jacq.; H. B. K. Nov. Gen. et Sp. iii. p. 29.

SOUTH MEXICO, near Moran, Regla, and Omitlan (*Humboldt & Bonpland*).

49. **Solanum glaucescens**, Zucc. Abhandl. Münch. Akad. Wissensch. 1837, p. 325; Sendt. in Fl. Bras. x. p. 109, t. 14; DC. Prodr. xiii. 1, p. 233.

MEXICO (*Karwinski*).—BRAZIL.

There is some doubt respecting this species being a native of Mexico.

50. **Solanum glutinosum**, Dun. in DC. Prodr. xiii. 1, p. 342; Sendt. in Fl. Bras. x. p. 79.

Solanum nicotianæfolium, Lag. Nov. Gen. et Sp. p. 10.

MEXICO. Cultivated specimens only in Kew herbarium.

51. **Solanum granuloso-leprosum**, Dun. in DC. Prodr. xiii. 1, p. 115.
Solanum auriculatum, β . *pulverulentum*, Sendt. in Fl. Bras. x. p. 115.

SOUTH MEXICO, near Jalapa (*Schiede*)!—BRAZIL.

52. **Solanum hartwegi**, Benth. Pl. Hartw. p. 68; DC. Prodr. xiii. 1, p. 263.
Solanum floccosum, Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 13).
Solanum schiedeanaum, Schl. in Linnæa, xix. p. 295.

SOUTH MEXICO, Hacienda del Carmen (*Hartweg*), Sierra San Pedro Nolasco &c. (*Jurgensen*, 693), near Jalapa and Mirador, 3000 to 4000 feet (*Galeotti*, 1153). Hb. Kew.

53. **Solanum havanense**, Jacq. Amer. p. 49, t. 35; DC. Prodr. xiii. 1, p. 159; Griseb. Fl. Brit. W. Ind. p. 438.

MEXICO (ex *Grisebach*).—Southward to PERU and in the WEST INDIES.

54. **Solanum hernandesii**, Moç. et Sessé in DC. Prodr. xiii. 1, p. 266.

NORTH MEXICO, Zacatecas (*Hartweg*), without locality (*Moçino & Sessé*). Hb. Kew.

55. **Solanum heteroclitum**, Sendt. in Flora, 1846, p. 193; DC. Prodr. xiii. 1, p. 680.

GUATEMALA (*Friedrichsthal*).

56. **Solanum heterodoxum**, DC., ex Dun. Sol. p. 235, t. 25; DC. Prodr. xiii. 1, p. 331; A. Gr. Synop. Fl. N. Am. ii. p. 231.

TEXAS; NEW MEXICO.—NORTH MEXICO, Matamoros (*Berlandier*, 2352), Chihuahua (*Potts*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 634½); SOUTH MEXICO, near Zelaya &c. (*Humboldt & Bonpland*). Hb. Kew.

57. **Solanum hispidum**, Pers. Ench. i. p. 228; DC. Prodr. xiii. 1, p. 275.

SOUTH MEXICO, Orizaba (*Botteri*, 854), Sierra San Pedro Nolasco &c. (*Jurgensen*, 440). —PERU. Hb. Kew.

58. **Solanum hookerianum**, Spreng. Tent. Suppl. p. 9; DC. Prodr. xiii. 1, p. 159.

Solanum coriaceum, Hook. Bot. Mag. t. 2708.

MEXICO. Cultivated specimens only in Kew herbarium.

59. **Solanum houstoni**, Dun. Sol. p. 243, et in DC. Prodr. xiii. 1, p. 218.

SOUTH MEXICO, Vera Cruz (*Houston*).

60. **Solanum humboldtii**, Dun. in DC. Prodr. xiii. 1, p. 216.

Solanum scabrum, H. B. K. Nov. Gen. et Sp. iii. p. 41 (auct. Dun.), nec Vahl.

NICARAGUA, Realejo (*Sinclair*).—VENEZUELA. Hb. Kew.

61. **Solanum hybridum**, Jacq. Hort. Vindob. ii. t. 113; DC. Prodr. xiii. 1, p. 298.

SOUTH MEXICO, Vera Cruz (*Houston*).

62. **Solanum hygrophilum**, Schl. in Linnæa, viii. p. 254; DC. Prodr. xiii. 2, p. 150.

SOUTH MEXICO, Jalapa (*Schiede*).

63. **Solanum inclusum**, Griseb. Fl. Brit. W. Ind. p. 441.

MEXICO (ex *Grisebach*).—WEST INDIES to GUIANA.

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64. **Solanum inops**, Dun. in DC. Prodr. xiii. 1, p. 55.
MEXICO, Tampico (*Berlandier*).
65. **Solanum jamesii**, Torr. in Ann. Lyc. N. York, ii. p. 227; A. Gr. Synop. Fl. N. Am. ii. p. 227.
COLORADO to NEW MEXICO and ARIZONA.—MEXICO (ex *A. Gray*).
66. **Solanum juripeba**, Rich. in Act. Soc. Hist. Nat. Par. p. 107; DC. Prodr. xiii. 1, p. 214; Griseb. Fl. Brit. W. Ind. p. 440.
PANAMA (ex *Grisebach*).—VENEZUELA to GUIANA and BRAZIL, and in TRINIDAD.
67. **Solanum lamberti**, Dun. in DC. Prodr. xiii. 1, p. 268.
MEXICO.
68. **Solanum lanceæfolium**, Jacq. Coll. ii. p. 286; Ic. Rar. ii. t. 329; DC. Prodr. xiii. 1, p. 221; Sendt. in Fl. Bras. x. p. 108.
SOUTH MEXICO, Papantla (*Schiede*); GUATEMALA (*Friedrichsthal*).—VENEZUELA to BRAZIL, and in TRINIDAD.
69. **Solanum lanceolatum**, Cav. Ic. Pl. iii. p. 23, t. 245; DC. Prodr. xiii. 1, p. 343, et β . *sinuatum*, Dun. loc. cit.
SOUTH MEXICO, Yotla (*Andrieaux*, 187). Hb. Kew.
70. **Solanum lentum**, Cav. Ic. Pl. t. 308; DC. Prodr. xiii. 1, p. 172; Griseb. Fl. Brit. W. Ind. p. 439.
MEXICO (ex *Grisebach*).—COLOMBIA; VENEZUELA; TRINIDAD.
71. **Solanum leptanthum**, Moç. et Sessé in DC. Prodr. xiii. 1, p. 72.
MEXICO (*Moçino & Sessé*).
72. **Solanum leycesterianum**, Savi; DC. Prodr. xiii. 1, p. 367.
MEXICO.
73. **Solanum luridum**, Pav.; DC. Prodr. xiii. 1, p. 113.
MEXICO.
74. **Solanum macrantherum**, Dun. Syn. p. 16, et in DC. Prodr. xiii. 1, p. 87.
SOUTH MEXICO, San Bartolo (*Andrieux*, 185), neighbourhood of Morelia, 6500 feet (*Galeotti*, 1183), Cuernavaca (*Humboldt & Bonpland*), region of Orizaba (*Bourgeau*, 3054), Maravatie (*Hartweg*). Hb. Kew.
75. **Solanum macrophyllum**, Dun. Sol. p. 199, t. 17, et in DC. Prodr. xiii. 1, p. 347.
Solanum oporinum, Willd. Enum. Pl. Hort. Berol. p. 238.
Solanum cymosum, Orteg. Dec. i. p. 11.
MEXICO. Cultivated specimens only in Kew herbarium.—PERU?

76. **Solanum mammosum**, Linn. Sp. Pl. p. 267; DC. Prodr. xiii. 1, p. 250.
SOUTH MEXICO, region of Orizaba (*Bourgeau*, 2838; *Botteri*, 849); NICARAGUA, Chontales (*Tate*, 205); PANAMA (*Hayes*, 394; *Seemann*, 164).—COLOMBIA to GUIANA and the WEST INDIES. Hb. Kew.
77. **Solanum martensii**, Dun. in DC. Prodr. xiii. 1, p. 140.
Solanum dichotomum, Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 10), nec Lour.
SOUTH MEXICO, Cordillera of Yavezia, at 7000 feet (*Galeotti*, 1227).
78. **Solanum mexicanum**, Moç. et Sessé in DC. Prodr. xiii. 1, p. 343; Sendt. in Fl. Bras. x. p. 78, t. 5.
SOUTH MEXICO, without locality (*Moçino & Sessé*; *Aschenborn*), Zacoalco (*Bourgeau*, 725). Hb. Kew.
79. **Solanum mitlense**, Dun. in DC. Prodr. xiii. 1, p. 314.
SOUTH MEXICO, around Mitla, Oaxaca (*Andrieux*, 190).—GUATEMALA, Dueñas (*Salvin*). Hb. Kew.
80. **Solanum mocinianum**, Dun. in DC. Prodr. xiii. 1, p. 164.
Solanum monanthum, Rœm. et Schult. Syst. iv. p. 608; Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 9).
SOUTH MEXICO, without locality (*Moçino & Sessé*), around Toluca (*Andrieux*, 169), Yavezia, eastern Cordillera of Oaxaca, at 6500 feet (*Galeotti*, 1166). Hb. Kew.
81. **Solanum modestum**, Rœm. et Schult. Syst. iv. p. 663; DC. Prodr. xiii. 1, p. 372.
MEXICO.
82. **Solanum multinervium**, Dun. in DC. Prodr. xiii. 1, p. 127.
SOUTH MEXICO, Sierra San Pedro Nolasco &c. (*Jurgensen*, 79), without locality (*Sallé*). Hb. Kew.
83. **Solanum neglectum**, Dun. Sol. p. 177, et in DC. Prodr. xiii. 1, p. 166; Griseb. Fl. Brit. W. Ind. p. 439.
SOUTH MEXICO, Orizaba (*Botteri*, 1194).—WEST INDIES. Hb. Kew.
84. **Solanum nigrescens**, Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 12); DC. Prodr. xiii. 1, p. 49.
SOUTH MEXICO, Cordillera of Oaxaca, at 7000 feet (*Galeotti*, 1238).
85. **Solanum nigricans**, Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 6); DC. Prodr. xiii. 1, p. 129.
SOUTH MEXICO, forests of Comaltepec, eastern Cordillera of Oaxaca, at 3000 feet (*Galeotti*, 1240).

86. **Solanum nigrum**, Linn.; DC. Prodr. xiii. 1, p. 50; Sendt. in Fl. Bras. x. p. 16; Griseb. Fl. Brit. W. Ind. p. 437; A. Gr. Synop. Fl. N. Am. ii. p. 227 (varietates).

Solanum crenato-dentatum, Dun. in DC. Prodr. xiii. 1, p. 54.

Solanum pterocaulon, Dun. Sol. p. 153; Dill. Hort. Elth. t. 275.

Solanum nodiflorum, Jacq. Ic. Pl. Rar. ii. t. 326.

Solanum oleraceum, Rich.; DC. Prodr. xiii. 1, p. 50.

A common weed in nearly all tropical and temperate countries; but it is impossible to determine where it is really indigenous.

87. **Solanum nudum**, H. B. K. Nov. Gen. et Sp. iii. p. 33; DC. Prodr. xiii. 1, p. 144; Sendt. in Fl. Bras. x. p. 19.

Solanum micranthum, Schl. in Linnæa, v. p. 112, non Willd.

SOUTH MEXICO, near Jalapa (*Humboldt & Bonpland*; *Schiede*).

88. **Solanum nutans**, Ruiz et Pav. Fl. Peruv. ii. p. 34, t. 166. fig. A; DC. Prodr. xiii. 1, p. 128.

PANAMA, Isle of Coiba and Remedios (*Seemann*, 1072, 1198).—Southward to PERU. Hb. Kew.

89. **Solanum nyctaginioides**, Dun. in DC. Prodr. xiii. 1, p. 172.

MEXICO (*Alaman*, *Berlandier*).

90. **Solanum oaxacanum**, Dun. in DC. Prodr. xiii. 1, p. 204.

SOUTH MEXICO, Tehuantepec, Oaxaca (*Andrieux*, 189). Hb. Kew.

91. **Solanum obtusilobum**, Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 14); DC. Prodr. xiii. 1, p. 334.

SOUTH MEXICO, Cordillera of Oaxaca, tableland at 6000 feet (*Galeotti*, 1168). Hb. Kew.

92. **Solanum oxycarpum**, Schiede in Schl. Hort. Hal. i. p. 5, t. 3; DC. Prodr. xiii. 1, p. 40.

Solanum stoloniferum, Schl. in Linnæa, viii. p. 255, pro parte.

SOUTH MEXICO, Malpays de la Joya (*Schiede*).

93. **Solanum panamense**, Van Heurck et Müll. Arg. in Heurck, Obs. Bot. fasc. ii. p. 128.

PANAMA, Chagres (*Fendler*, 251).

94. **Solanum pavonii**, Dun. in DC. Prodr. xiii. 1, p. 226.

MEXICO.

95. **Solanum pedunculare**, Schl. in Linnæa, xix. p. 305; DC. Prodr. xiii. 1, p. 165.

MEXICO (*Ehrenberg*; *Schiede*).

96. **Solanum piliferum**, Benth. Pl. Hartw. p. 68; DC. Prodr. xiii. 1, p. 171.
SOUTH MEXICO, Llano Verde (*Hartweg*), Chiapas (*Ghiesbreght*, 827); GUATEMALA, without locality (*Skinner*), ridge above Calderas, 8300 feet (*Salvin*). Hb. Kew.
97. **Solanum pilosissimum**, Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 11); DC. Prodr. xiii. 1, p. 169.
SOUTH MEXICO, eastern Cordillera of Oaxaca, at 7000 feet (*Galeotti*, 1228).
98. **Solanum pilosiusculum**, Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 8); DC. Prodr. xiii. 1, p. 166.
SOUTH MEXICO, eastern Cordillera of Oaxaca, at 7000 feet (*Galeotti*, 1171). Hb. Kew.
99. **Solanum pinnatisectum**, Dun. in DC. Prodr. xiii. 1, p. 40.
SOUTH MEXICO, Leon, west of Guanajuato (*Mendez*).
100. **Solanum porphyranthum**, Dun. in DC. Prodr. xiii. 1, p. 240.
Solanum macranthum, Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 15), nec Dun.
SOUTH MEXICO, Jalapa, Chinantla, Mirador (*Galeotti*, 1154).
101. **Solanum propinquum**, Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 15); DC. Prodr. xiii. 1, p. 330.
SOUTH MEXICO, Tehuacan, Puebla, at 5000 feet, and near Tulancingo, north of Mexico, at 7000 feet (*Galeotti*, 1167, 1205).
102. **Solanum pruinatum**, Dun. in DC. Prodr. xiii. 1, p. 58.
SOUTH MEXICO, around the city of Mexico (*Berlandier*).
103. **Solanum quadriflorum**, Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 11); DC. Prodr. xiii. 1, p. 169.
SOUTH MEXICO, Cordillera of Yavezia, Oaxaca, 7000 feet (*Galeotti*, 1231).
104. **Solanum quinquangulare**, Willd.; Roem. et Schult. Syst. iv. p. 669; DC. Prodr. xiii. 1, p. 239.
PANAMA, Boquete (*Seemann*, 1196).—COLOMBIA; VENEZUELA. Hb. Kew.
105. **Solanum radiatum**, Sendt. in Fl. Bras. x. p. 53, in nota; DC. Prodr. xiii. 1, p. 175.
SOUTH MEXICO, banks of the Rio Poyapatengo, Teapa (*Linden*, 228), region of Orizaba (*Bourgeau*, 2516); NICARAGUA, Chontales (*Tate*); PANAMA, Chagres (*Fendler*, 251).—COLOMBIA to PERU. Hb. Kew.
106. **Solanum receptum**, Van Heurck et Müll. Arg. in Heurck, Obs. Bot. fasc. i. p. 46.
SOUTH MEXICO, Orizaba (*Botteri*, 852). Hb. Kew.
107. **Solanum refractum**, Hook. et Arn. Bot. Beech. Voy. p. 304; DC. Prodr. xiii. 1, p. 233.
MEXICO (*Beechey*). Hb. Kew.

108. **Solanum rossii**, Knowles et Westcott, Fl. Cab. ii. t. 141; DC. Prodr. xiii. 1, p. 223.

MEXICO.

109. **Solanum rostratum**, Dun. Sol. p. 234, t. 24; DC. Prodr. xiii. 1, p. 329; A. Gr. Synop. Fl. N. Am. ii. p. 231.

Solanum heterandrum, Pursh, Fl. Am. Sept. i. p. 156, t. 7.

NEBRASKA to TEXAS.—NORTH MEXICO, Chihuahua (*Potts*); SOUTH MEXICO, Aguas Calientes (*Hartweg*, 201), Zimapan (*Coulter*, 1251), valley of Mexico (*Bourgeau*, 114, 542, 982). Hb. Kew.

110. **Solanum rude-pannum**, Dun. in DC. Prodr. xiii. 1, p. 264.

MEXICO.

111. **Solanum sanctæ-catharinæ**, Dun. in DC. Prodr. xiii. 1, p. 109?

NICARAGUA, Chontales (*Tate*, 179). Hb. Kew.

The typical plant is a native of Brazil.

112. **Solanum scabrum**, Vahl, Eclog. p. 22; DC. Prodr. xiii. 1, p. 216; Griseb. Fl. Brit. W. Ind. p. 440.

GUATEMALA (*Friedrichsthal*); PANAMA, Chagres (*Fendler*, 253), Isle of Taboga (*Sinclair*).—COLOMBIA; WEST INDIES. Hb. Kew.

113. **Solanum schlechtendalianum**, Walp. Rep. iii. p. 61; DC. Prodr. xiii. 1, p. 109.

Solanum geminiflorum (errore typogr.), Schl. in Linnæa, v. p. 112.

Solanum geminifolium, Schl. in Linnæa, viii. p. 255.

SOUTH MEXICO, near Jalapa (*Schiede & Deppe*), valley of Cordova (*Bourgeau*, 1875), Vera Cruz (*Linden*, 239), Mirador, at 3000 feet (*Galeotti*, 1159); PANAMA, David, Veraguas (*Seemann*, 1199). Hb. Kew.

114. **Solanum seaforthianum**, Andr. Bot. Rep. t. 504; DC. Prodr. xiii. 1, p. 67; Griseb. Fl. Brit. W. Ind. p. 437.

PANAMA, Paraiso, in a garden (*S. Hayes*, 90).—VENEZUELA to GUIANA, and in the WEST INDIES. Hb. Kew.

115. **Solanum sideroxyloides**, Schl. in Linnæa, viii. p. 253; DC. Prodr. xiii. 1, p. 175.

SOUTH MEXICO, near Hacienda de la Laguna (*Schiede*).

116. **Solanum sisymbriifolium**, Lam. Ill. n. 2386; DC. Prodr. xiii. 1, p. 326; A. Gr. Synop. Fl. N. Am. ii. p. 230.

Solanum brancafolium, Jacq. Eclog. t. 7.

Solanum balbisii, Dun. Sol. p. 232, t. 3; Bot. Mag. tt. 2828 et 3954.

Solanum decurrens, Balb. Ic. et Descript. fasc. i. p. 17, t. 1.

SOUTH MEXICO, Vera Cruz to Orizaba (*Müller*, 180).—Common in South America to PERU and BUENOS AYRES. Hb. Kew.

Also naturalized in the South-eastern States of North America.

117. ***Solanum somniculentum***, Kunze; Schl. in Linnæa, xix. p. 306; Flore des Serres, t. 454; DC. Prodr. xiii. 1, p. 165.

SOUTH MEXICO, Acalingo (*Leibold*), Zimapan and Regla (*Schiede*). Hb. Kew.

118. ***Solanum squamulosum***, Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 12); DC. Prodr. xiii. 1, p. 33.

SOUTH MEXICO, Real del Monte, at 8000 feet (*Galeotti*, 1221).

119. ***Solanum stephanodes***, Schl. in Linnæa, xix. pp. 290 et 291. n. 57; DC. Prodr. xiii. 1, p. 80.

SOUTH MEXICO, Cumbre del Obispo (*Schiede & Deppe*).

120. ***Solanum stoloniferum***, Schl. et Bouché in Verhandl. Ver. Gartenb. Preuss. ix. t. 2; DC. Prodr. xiii. 1, p. 34.

SOUTH MEXICO, foot of the peak of Orizaba.

121. ***Solanum suaveolens***, Kunth et Bouché, Ind. Sem. Hort. Berol. 1848, p. 14; DC. Prodr. xiii. 1, p. 34.

SOUTH MEXICO, region of Orizaba (*Bourgeau*, 2864), Vera Cruz (*Galeotti*, 1156; *Linden*, 240), valley of Mexico (*Bourgeau*, 1678); COSTA RICA (*Endres*). Hb. Kew.

122. ***Solanum symphysicaulis***, Pavon in DC. Prodr. xiii. 1, p. 106.

MEXICO.

123. ***Solanum synantherum***, Sendt. in Flora, 1846, p. 194 (errore 178); DC. Prodr. xiii. 1, p. 158.

GUATEMALA (*Friedrichsthal*). Hb. Kew.

124. ***Solanum tampicense***, Dun. in DC. Prodr. xiii. 1, p. 284.

SOUTH MEXICO, Tampico (*Berlandier*).

125. ***Solanum tectum***, Pers. Syn. i. p. 227; DC. Prodr. xiii. 1, p. 327; Cav. Ic. Pl. t. 309.

MEXICO.

126. ***Solanum torvum***, Sw. Prodr. p. 47; DC. Prodr. xiii. 1, p. 260; Griseb. Fl. Brit. W. Ind. p. 441; Dun. Sol. t. 23; Sendt. in Fl. Bras. x. p. 95, t. 7. figg. 1–8.

Solanum ferrugineum, Jacq. Hort. Schönab. iii. t. 334.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 637); SOUTH MEXICO, San Blas (*Hinds*), valley of Cordova (*Bourgeau*, 1608, 1671, 1797, 2410), region of Orizaba (*Botteri*, 845, 1083; *Bourgeau*, 2408), Guanajuato (*Hartweg*), Mirador (*Linden*, 235), Yucatan (*Johnson*); GUATEMALA, Volcan de Fuego, 5300 feet (*Salvin*);

NICARAGUA, Chontales (*Tate*, 182; *Seemann*, 80); PANAMA, Chagres (*Fendler*, 254).
Hb. Kew.

127. ***Solanum tribulosum***, Schauer in Linnæa, xx. p. 711; DC. Prodr. xiii. 1, p. 328.

SOUTH MEXICO, Zimapan (*Aschenborn*).

128. ***Solanum tricolor***, Moç. et Sessé in DC. Prodr. xiii. 1, p. 169.

SOUTH MEXICO, near Boca del Rio, Vera Cruz (*Moçino*).

129. ***Solanum tridynamum***, Moç., Sessé, et Cerv. in DC. Prodr. xiii. 1, p. 333.

MEXICO.

130. ***Solanum triquetrum***, Cav. Ic. Pl. iii. p. 30, t. 259; DC. Prodr. xiii. 1, p. 153; A. Gr. Synop. Fl. N. Am. ii. p. 228.

Solanum lindheimerianum, Scheele in Linnæa, xxi. p. 776.

TEXAS.—NORTH MEXICO, around Matamoros (*Berlandier*, 2299), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 633½). Hb. Kew.

131. ***Solanum triste***, Jacq. Amer. p. 50, t. 40. fig. 2; DC. Prodr. xiii. 1, p. 148; Griseb. Fl. Brit. W. Ind. p. 437.

SOUTH MEXICO, Orizaba (*Botteri*, 1094; *Bourgeau*, 2405); NICARAGUA, Chontales (*Seemann*, 78); PANAMA, Cruces (*Seemann*, 424).—COLOMBIA to PERU and GUIANA, and in the WEST INDIES. Hb. Kew.

132. ***Solanum tuberiferum***, Dun. in DC. Prodr. xiii. 1, p. 63.

MEXICO. "Cultum loco *Solani tuberosi*" (*Dunal*).

133. ***Solanum tuberosum***, Linn. Sp. Pl. p. 282; DC. Prodr. xiii. 1, p. 31; A. Gr. Synop. Fl. N. Am. ii. p. 227; Hemsl. in Journ. Hort. Soc. Lond. n. s. v. p. 123.

The potato is wild in Mexico; but whether really indigenous it is impossible to say. It is probable that more than one species was concerned in the parentage of the cultivated varieties. On the other hand, several tuberiferous *Solani* described by various authors as distinct species differ less from each other than the more distinct of the cultivated varieties.

134. ***Solanum ulmoides***, Dun. in DC. Prodr. xiii. 1, p. 130.

MEXICO.

135. ***Solanum urceolatum***, Pers. Ench. i. p. 223; DC. Prodr. xiii. 1, p. 137.

MEXICO.—PERU.

136. ***Solanum utile***, Klotsch in Allg. Gart.-Zeit. 1849, et in Bot. Zeit. 1850, p. 170; DC. Prodr. xiii. 1, p. 677,

MEXICO.

137. **Solanum vellereum**, Schl. in Linnæa, xix. p. 302.

Solanum leiboldianum, Dun. in DC. Prodr. xiii. 1, p. 314.

SOUTH MEXICO, Tenancingo (*Schiede*).

138. **Solanum verbascifolium**, Linn. Sp. Pl. p. 263; DC. Prodr. xiii. 1, p. 114; Jacq. Hort. Vindob. i. t. 13; A. Gr. Synop. Fl. N. Am. ii. p. 229.

This species is generally dispersed in the TROPICS, and extends into some subtropical regions. Hb. Kew.

139. **Solanum verrucosum**, Schl. Hort. Hal. i. p. 3, t. 2; DC. Prodr. xiii. 1, pp. 32 et 677.

SOUTH MEXICO, peak of Orizaba, 10,000 to 12,000 feet (*Galeotti*, 1175; *Linden*, 244; *Müller*, 1673; *Bourgeau*). Hort. Kew.

3. CYPHOMANDRA.

Cyphomandra, Sendt. in Flora, 1845, p. 162, et in Fl. Bras. x. p. 113, tt. 15 ad 17; Benth. et Hook. Gen. Plant. ii. p. 889.

Shrubs or small trees. About twenty-four species, inhabiting Tropical America.

1. **Cyphomandra allophylla**, Hemsl.

Pionandra allophylla, Miers in Seem. Bot. Voy. 'Herald,' p. 174.

PANAMA, near the city of Mexico (*Seemann*, 169). Hb. Kew.

2. **Cyphomandra hartwegii**, Dun. in DC. Prodr. xiii. 1, p. 401?

Pionandra hartwegii, Miers in Hook. Lond. Journ. Bot. iv. p. 363.

Cyphomandra betacea, Miers in Seem. Bot. Voy. 'Herald,' p. 174, non Sendt.

NICARAGUA (*Tate*, 254); PANAMA, between Mesa and Santiago de Veraguas (*Seemann*, 1201). Hb. Kew.

The typical plant inhabits Colombia.

3. **Cyphomandra tegorea**, Hemsl.

Solanum tegorea, Aubl. Guian. i. p. 212, t. 84; DC. Prodr. xiii. 1, p. 79.

Pionandra tegorea, Miers in Hook. Lond. Journ. Bot. iv. p. 362.

NICARAGUA, Chontales (*Tate*, 248).—COLOMBIA; GUIANA. Hb. Kew.

4. **Cyphomandra viridiflora**, Sendt. in Flora, 1845, p. 175; DC. Prodr. xiii. 1, p. 400?

COSTA RICA (*Endres*, 225). Hb. Kew.

This seems to differ only in the shape of the leaves from the Colombian and Peruvian specimens.

5. **Cyphomandra**, sp.

COSTA RICA, 4000 feet (*Endres*, 134). Hb. Kew.

A very distinct species; but the specimens are insufficient for description.

4. PHYSALIS.

Physalis, Linn. Gen. Plant. n. 250; Benth. et Hook. Gen. Plant. ii. p. 890.

Herbs. About thirty species, mostly inhabiting America and chiefly Mexico and North America; a few now widely dispersed in the Old World. The Mexican species need revision. There are about as many unnamed species in Kew Herbarium as there are names enumerated below.

1. ***Physalis æquata***, Jacq. fil. Eclog. ii. t. 137; Linnæa, xix. p. 309; DC. Prodr. xiii. 1, p. 447; A. Gr. Synop. Fl. N. Am. ii. p. 234.

TEXAS and NEW MEXICO to CALIFORNIA.—MEXICO, near Jalapa (*Schiede*), Mineral del Monte (*Ehrenberg*), around the city of Mexico (*Berlandier*).—WEST INDIES.

2. ***Physalis angulata***, Linn.; DC. Prodr. xiii. 1, p. 448; Griseb. Fl. Brit. W. Ind. p. 436; A. Gr. in Proc. Am. Acad. x. p. 64, et Synop. Fl. N. Am. ii. p. 234.

Physalis linkiana, Nees in Linnæa, vi. p. 471; DC. Prodr. *l. c.*

A very widely diffused species in tropical countries, including MEXICO and CENTRAL AMERICA. Hb. Kew.

3. ***Physalis capsicifolia***, Dcne. in DC. Prodr. xiii. p. 449.

MEXICO.—TROPICAL SOUTH AMERICA. Hb. Kew.

4. ***Physalis chenopodiifolia***, Lam.; DC. Prodr. xiii. 1, p. 439.

SOUTH MEXICO, Oaxaca (*Ghiesbreght*), Tacubaya (*Bourgeau*, 112), around Toluca (*Andrieux*, 181).—PERU. Hb. Kew.

5. ***Physalis cordata***, Mill. Dict. n. 15; DC. Prodr. xiii. 1, p. 450.

SOUTH MEXICO, Vera Cruz (*Houston*).

6. ***Physalis coztomatl***, Moç. et Sessé in DC. Prodr. xiii. 1, p. 450; Calques des Dess. Fl. Mex. 916.

MEXICO.

7. ***Physalis crassifolia***, Benth. Bot. Voy. 'Sulphur,' p. 40; A. Gr. Synop. Fl. N. Am. ii. p. 235.

Physalis cardiophylla, Torr. Bot. U.S. & Mex. Bound. p. 153.

COLORADO; CALIFORNIA; ARIZONA.—NORTH MEXICO, Sonora (*Schott*).

8. ***Physalis curassavica***, Linn.; DC. Prodr. xiii. 1, p. 437.

MEXICO (*Berlandier*, 1525, 248).—CURAÇAO.

9. ***Physalis dentata***, Pavon in DC. Prodr. xiii. 1, p. 441.

MEXICO.

10. ***Physalis divaricata***, G. Don; Dun. in DC. Prodr. xiii. 1, p. 444.

MEXICO (*Berlandier*, ex Dunal).—TROPICAL AFRICA and ASIA.

11. **Physalis foetens**, Poir.; DC. Prodr. xiii. 1, p. 446; Griseb. Fl. Brit. W. Ind. p. 435.

Physalis foetidissima, Lag. Nov. Gen. et Sp. p. 10.

SOUTH MEXICO, valley of Mexico (*Bourgeau*, 723, 984; *Galeotti*, 1223), Real del Monte (*Coulter*, 1218). Hb. Kew.

12. **Physalis geniculata**, Miers, Ill. S. Am. Pl. ii. App. p. 56.

Saracha geniculata, Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 5); DC. Prodr. xiii. 1, p. 430.

SOUTH MEXICO, Mirador (*Galeotti*, 1193).

13. **Physalis glabra**, Benth. Bot. Voy. 'Sulphur,' p. 39; DC. Prodr. xiii. 1, p. 443, non Mart. et Gal.

CALIFORNIA?—GUATEMALA (*Friedrichsthal*). Hb. Kew.

The original specimen is labelled "Cape San Lucas, California, *Hinds*;" but we think it probable that it was collected in Central America, especially as several other plants of the same collection seem to have been mislabelled.

14. **Physalis glabra**, Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 3); DC. Prodr. xiii. 1, p. 451 (non Benth.).

SOUTH MEXICO, Mirador and Zacuapan, at 3000 feet (*Galeotti*, 1197).

We have not seen *Galeotti's* plant upon which this species was founded, and are therefore unable to reduce it.

15. **Physalis glutinosa**, Schl. in Linnæa, xix. p. 310; DC. Prodr. xiii. 1, p. 435.

SOUTH MEXICO, Mineral del Monte (*Ehrenberg*).

16. **Physalis gracilis**, Miers, Ill. S. Am. Pl. ii. p. 28.

SOUTH MEXICO, Real del Monte (*Coulter*, 1222). Hb. Kew.

17. **Physalis hederæfolia**, A. Gr. in Proc. Am. Acad. x. p. 65, et in Synop. Fl. N. Am. ii. p. 235.

TEXAS; NEW MEXICO; ARIZONA.—NORTH MEXICO (ex *A. Gray*).

18. **Physalis hirsuta**, Dun. in DC. Prodr. xiii. 1, p. 445?

SOUTH MEXICO, Cordillera of Vera Cruz, at 3000 feet (*Galeotti*, 1196), valley of Cordova (*Bourgeau*, 1609); GUATEMALA, Mazatenango (*Bernoulli*, 478), Volcan de Fuego, 8300 feet (*Salvin*); NICARAGUA, neighbourhood of Granada (*Lévy*, 244). Hb. Kew.

19. **Physalis lævigata**, Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 3); DC. Prodr. xiii. 1, p. 442.

SOUTH MEXICO, Morelia, Michoacan (*Galeotti*, 1188).

20. **Physalis lanceifolia**, Nees in Linnæa, vi. p. 473; DC. Prodr. xiii. 1, p. 447.

MEXICO.—PERU.

21. **Physalis lanceolata**, Michx. Fl. Bor.-Am. i. p. 149; A. Gr. Synop. Fl. N. Am. ii. p. 236.

CENTRAL and SOUTHERN STATES of N. America.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 647). Hb. Kew.

22. **Physalis minima**, Linn.; DC. Prodr. xiii. 1, p. 445; Griseb. Fl. Brit. W. Ind. p. 436.

A widely diffused species in the TROPICS. Hb. Kew.

23. **Physalis minutiflora**, Moç. et Sessé in DC. Prodr. xiii. 1, p. 451.
MEXICO.

24. **Physalis mollis**, Nutt. in Trans. Am. Phil. Soc. ser. 2, v. p. 194; A. Gr. Synop. Fl. N. Am. ii. p. 236.

ARKANSAS; TEXAS.—NORTH MEXICO, around Matamoros etc. (*Berlandier*), near Monterey (*Eaton & Edwards*, 109), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 641, 648). Hb. Kew.

25. **Physalis nicandroides**, Schl. in Linnæa, xix. p. 311; DC. Prodr. xiii. 1, p. 451.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*)?; SOUTH MEXICO, Orizaba (*Botteri*, 853), Regla and Aguas Calientes (*Ehrenberg*), Hacienda de la Laguna (*Schiede*). Hb. Kew.

26. **Physalis orizabæ**, Dun. in DC. Prodr. xiii. 1, p. 452; Schl. in Linnæa, xix. p. 312.

SOUTH MEXICO, Orizaba (*Schiede*).

27. **Physalis pedunculata**, Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 4); DC. Prodr. xiii. 1, p. 451.

SOUTH MEXICO, valley of Mextitlan near Real del Monte, at 5000 feet (*Galeotti*, 1189).

28. **Physalis peruviana**, Linn. Sp. Pl. ii. p. 1670; DC. Prodr. xiii. 1, p. 440; Griseb. Fl. Brit. W. Ind. p. 435.

Generally dispersed in TROPICAL AMERICA, and naturalized in many other countries. Hb. Kew.

29. **Physalis pubescens**, Linn. Sp. Pl. i. p. 262; DC. Prodr. xiii. 1, p. 446; Griseb. Fl. Brit. W. Ind. p. 435.

Generally dispersed in TROPICAL AMERICA, and naturalized in many other countries. Hb. Kew.

30. **Physalis sancti-josephi**, Dun. in DC. Prodr. xiii. 1, p. 451; Schl. in Linnæa, xix. p. 311.

SOUTH MEXICO, near San José del Oro (*Schiede*).

31. **Physalis schiedeana**, Dun. in DC. Prodr. xiii. 1, p. 452; Schl. in Linnæa, xix. p. 311.

MEXICO, locality not recorded (*Schiede*).

32. **Physalis villosa**, Mill. Dict. n. 14; DC. Prodr. xiii. 1, p. 451.

SOUTH MEXICO, Vera Cruz.

5. CHAMÆSARACHA.

Chamæsaracha, A. Gr. in Proc. Am. Acad. x. p. 62 (Sect. *Saracha*); Benth. et Hook. Gen. Plant. ii. p. 891.

Three dwarf herbaceous species known, the third inhabiting California.

1. **Chamæsaracha coronopus**, A. Gr. Synop. Fl. N. Am. ii. p. 232.

Solanum coronopus, Dun. in DC. Prodr. xiii. 1, p. 64.

Withania? *coronopus*, Torr. Bot. U.S. & Mex. Bound. p. 155.

COLORADO; TEXAS; ARIZONA.—NORTH MEXICO, Chihuahua (*Potts*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 653), Zacatecas (*Coulter*, 1252). Hb. Kew.

2. **Chamæsaracha sordida**, A. Gr. Synop. Fl. N. Am. ii. p. 232.

Withania? *sordida*, Dun. in DC. Prodr. xiii. 1, p. 456.

Solanum conoides, Moric. in DC. Prodr. xiii. 1, p. 64.

TEXAS; KANSAS; ARIZONA.—NORTH MEXICO, Chihuahua (*Potts*). Hb. Kew.

Judging from a cursory examination of numerous specimens recently collected by Dr. Palmer in Texas and in Nuevo Leon and Coahuila, Mexico, there is probably only one species, and that very variable in the size and shape of its leaves.

6. SARACHA.

Saracha, Ruiz et Pav. Prodr. p. 31, t. 34; Benth. et Hook. Gen. Plant. ii. p. 891.

About twelve herbaceous species inhabiting Western America, from Mexico to Bolivia.

1. **Saracha allogona**, Schl. in Linnæa, xix. p. 308; DC. Prodr. xiii. 1, p. 432; Miers, Ill. S. Am. Pl. ii. p. 16.

Solanum allogonum, Bernh. Ind. Sem. Hort. Erf. 1832; Walp. Rep. iii. p. 48.

SOUTH MEXICO, los Baños del Grande, near Jalapa (*Ehrenberg*).

[*Saracha angulata*, Linn., Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 5), should doubtless have been *Physalis angulata*, Linn.]

2. **Saracha conspersa**, Miers, Ill. S. Am. Pl. ii. p. 19; DC. Prodr. xiii. 1, p. 684.

SOUTH MEXICO, Zimapan (*Coulter*, 1227). Hb. Kew.

3. **Saracha glabrata**, Miers, Ill. S. Am. Pl. ii. p. 19; DC. Prodr. xiii. 1, p. 684.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 651), Zacatecas (*Coulter*, 1226). Hb. Kew.

4. **Saracha jaltomata**, Schl. Ind. Sem. Hort. Hal. 1839, p. 10; DC. Prodr. xiii. 1, p. 432; Miers, Ill. S. Am. Pl. ii. p. 16.

Jaltomata edulis, Schl. Ind. Sem. Hort. Hal. 1838, ex Linnæa, xiii. Litteratur-Ber. p. 98.

SOUTH MEXICO, region of Orizaba (*Bourgeau*, 2693; *Botteri*, 851), valley of Mexico (*Bourgeau*, 347, 869), Chiapas (*Ghiesbreght*); GUATEMALA, Mazatenango (*Bernoulli*, 565); COSTA RICA (*Endres*). Hb. Kew.

5. **Saracha laxa**, Miers, Ill. S. Am. Pl. ii. p. 18.

Saracha diffusa, Miers, loc. cit. p. 22, nec species ib. sub eodem nomine, p. 17.

Saracha miersii, Dun. in DC. Prodr. xiii. 1, p. 684.

SOUTH MEXICO, Cordillera of Oaxaca, 6000 to 8000 feet (*Galeotti*, 1169). Hb. Kew.

6. **Saracha umbellata**, G. Don, Gen. Syst. iv. p. 451; DC. Prodr. xiii. 1, p. 431?, ex Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 6).

SOUTH MEXICO, Zacuapan, at 3000 feet, and peak of Orizaba, at 10,000 feet (*Galeotti*, 1177, 1198).

The type is a Peruvian plant.

[*Saracha viscosa*, Schrad.?, Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 5), est *Physalidis* species.]

7. ATHENÆA.

Athenæa, Sendt. in Fl. Bras. x. p. 133; Benth. et Hook. Gen. Plant. ii. p. 890.

Larnax, Miers in Ann. Nat. Hist. ser. 2, iv. p. 37.

About fifteen herbaceous and shrubby species, inhabiting South America.

1. **Athenæa? (Physalis) xalapensis**, H. B. K. Nov. Gen. et Sp. iii. p. 13.

Withania xalapensis, Dun. in DC. Prodr. xiii. 1, p. 455.

Larnax xalapensis, Miers, Ill. S. Am. Pl. ii. p. 29.

SOUTH MEXICO, between Perote and Jalapa, at 4200 feet (*Humboldt & Bonpland*).

[*Withania morisoni*, Dun. in DC. Prodr. xiii. 1, p. 454, *Larnax morisoni*, Miers, Ill. S. Am. Pl. ii. Suppl. p. 60, and *W. ramosa*, Dun. loc. cit. p. 456, *L. ramosa*, Miers, loc. cit. p. 61, are very doubtful plants, reported from Mexico. *Atropa herbacea*, Mill. Dict. n. 3; DC. Prodr. xiii. 1, p. 465, is another Mexican plant of the same category.]

8. BASSOVIA.

Bassovia, Aubl. Guian. i. p. 217, t. 85; Benth. et Hook. Gen. Plant. ii. p. 892.

About twelve shrubby and small arboreous species, inhabiting South America, Central America, and the West Indies.

1. **Bassovia lucida**, Dun. in DC. Prodr. xiii. 1, p. 406.

Solanum lucidum, Moric. Pl. Nouv. d'Am. p. 26, t. 18.

GUATEMALA, Barbasco (*Bernoulli*)?.—BRAZIL. Hb. Kew.

9. CAPSICUM.

Capsicum, Linn. Gen. Plant. ii. p. 252; Benth. et Hook. Gen. Plant. ii. p. 892.

Herbs or undershrubs. Upwards of fifty species have been described, very many of which are varieties of garden origin. Several of the species are now generally diffused in tropical countries, and commonly cultivated; but it is probable that they have spread from Tropical America. The Mexican species should, perhaps, be reduced to two or three.

1. **Capsicum annuum**, Linn.; DC. Prodr. xiii. 1, p. 412; Fingerh. Monogr. p. 12, t. 2.

MEXICO, Papantla (*Schiede*).—TROPICAL AMERICA etc.

2. **Capsicum baccatum**, Linn.; DC. Prodr. xiii. 1, p. 420; Fingerh. Monogr. p. 18, t. 4. fig. *a*; Griseb. Fl. Brit. W. Ind. p. 436; A. Gr. Synop. Fl. N. Am. ii. p. 231. *Capsicum microphyllum*, Dun. in DC. Prodr. xiii. 1, p. 421; Fingerh. Monogr. t. 4. fig. *b*.

In nearly all tropical countries, including MEXICO and CENTRAL AMERICA. Hb. Kew.

3. **Capsicum chlorocladum**, Dun. in DC. Prodr. xiii. 1, p. 415.

SOUTH MEXICO, Tampico (*Berlandier*).

4. **Capsicum frutescens**, Linn.; DC. Prodr. xiii. 1, p. 413; Fingerh. Monogr. p. 17, t. 4. fig. *c*; Griseb. Fl. Brit. W. Ind. p. 436.

MEXICO and CENTRAL AMERICA,—and nearly all TROPICAL COUNTRIES. Hb. Kew.

5. **Capsicum hispidum**, Dun. in DC. Prodr. xiii. 1, p. 419.

TEXAS.—MEXICO, around Tampico (*Berlandier*).

[*C. milleri*, Rœm. et Schult. Syst. iv. p. 563, *C. cerasiforme*, Mill. non Willd., was probably founded on a Mexican plant.]

10. BRACHISTUS.

Brachistus, Miers, in Ann. Nat. Hist. ser. 2, iii. p. 264, et Ill. S. Am. Pl. ii. p. 6; Benth. et Hook. Gen. Plant. ii. p. 892.

Fregirardia, Dun. in DC. Prodr. xiii. 1, p. 502.

From ten to fifteen shrubby species, restricted to Tropical America.

1. **Brachistus diversifolius**, Miers, Ill. S. Am. Pl. ii. p. 13.

Witheringia diversifolia, Klotzsch; Walp. Rep. iii. p. 29.

MEXICO.

2. **Brachistus?** (**Fregirardia?** **ligustrina**, Dun. in DC. Prodr. xiii. 1, p. 507).

SOUTH MEXICO, Desierto Viejo (*Berlandier*).

Brachistus neesianus, Miers, Ill. S. Am. Pl. ii. p. 13; DC. Prodr. xiii. 1, p. 688.

Brachistus? *linnæanus*, Miers, loc. cit.

Physalis arborescens, Linn. Sp. Pl. p. 261.

MEXICO.

By some oversight Miers split *Physalis arborescens* into two species, probably through neglecting to cancel one of the two names.

3. **Brachistus solanacea**, Benth. et Hook. Gen. Pl. ii. p. 892.

Sicklera solanacea, Sendt. in Flora, 1846, p. 195 (errore typog. 179); DC. Prodr. xiii. 1, p. 501.

NICARAGUA, San Juan (*Friedrichsthal*); COSTA RICA (*Friedrichsthal*).

4. **Brachistus stramonifolius**, Miers, Ill. S. Am. Pl. ii. p. 7.

Witheringia stramonifolia, H. B. K. Nov. Gen. et Sp. iii. p. 13.

SOUTH MEXICO, between La Banderilla and Jalapa, at about 4500 feet, very common (*Humboldt & Bonpland*).

11. MARGARANTHUS.

Margaranthus, Schl. Hort. Hal. p. 1, t. 1; Benth. et Hook. Gen. Plant. ii. p. 893.

One annual species.

1. **Margaranthus solanaceus**, Schl. Hort. Hal. p. 1, t. 1; DC. Prodr. xiii. 1, p. 453; A. Gr. Synop. Fl. N. Am. ii. p. 237.

Margaranthus tenuis, Miers, Ill. S. Am. Pl. ii. p. 74, t. 57.

TEXAS; NEW MEXICO.—NORTH MEXICO, around Matamoros (*Berlandier*); SOUTH MEXICO, Cordillera of Oaxaca, at 5000 feet (*Galeotti*, 1191), Zimapan (*Coulter*, 1220), Papantla (*Schiede*). Hb. Kew.

12. ACNISTUS.

Acnistus, Schott in Wien. Zeitschr. iv. p. 1180; Benth. et Hook. Gen. Plant. ii. p. 894.

Shrubs and trees. About fifteen species, inhabiting Tropical America: one has a wide range; and the rest are chiefly western.

1. **Acnistus arborescens**, Schl. in Linnæa, vii. p. 67; DC. Prodr. xiii. 1, p. 497; Griseb. Fl. Brit. W. Ind. p. 435.

Cestrum cualiflorum, Jacq. Hort. Schœnb. iii. t. 325.

MEXICO (ex *Grisebach*); GUATEMALA (*Friedrichsthal*).—Southward to PERU and BRAZIL, and in the WEST INDIES. Hb. Kew.

2. **Acnistus benthami**, Miers in Hook. Lond. Journ. Bot. iv. p. 342.

Lycium macrophyllum, Benth. Pl. Hartw. p. 49.

SOUTH MEXICO, Morelia, 6000 to 7000 feet (*Hartweg*, 368; *Galeotti*, 1212). Hb. Kew.

13. DUNALIA.

Dunalia, H. B. K. Nov. Gen. et Sp. iii. p. 55, t. 194; Benth. et Hook. Gen. Plant. ii. p. 895.

About eight shrubby and arboreous species, inhabiting Western Tropical America from Mexico to Bolivia.

1. **Dunalia ramiflora**, Miers in Hook. Lond. Journ. Bot. vii. p. 340; Ill. S. Am. Pl. i. p. 139.

Nicotiana plumbaginifolia, Willd.?, Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 1).

SOUTH MEXICO, near Vera Cruz, at 500 feet; Guadalajara, at 3000 to 5000 feet; and near Juquila, on the Pacific coast of Oaxaca, at 3000 to 5000 feet (*Galeotti*, 1145). Hb. Kew.

14. NICANDRA.

Nicandra, Adans. Fam. Nat. ii. p. 219; Benth. et Hook. Gen. Plant. ii. p. 897.

Calydermos, Ruiz et Pav. Fl. Peruv. et Chil. ii. p. 43.

An herbaceous monotype.

1. **Nicandra physaloides**, Gært. Fruct. ii. p. 237, t. 131; Bot. Mag. t. 2458.

SOUTH MEXICO, valley of Mexico (*Bourgeau*, 979); GUATEMALA, Volcan de Fuego (*Salvin*).—A native of PERU, now generally dispersed in warm countries. Hb. Kew.

15. JABOROSA.

Jaborosa, Juss. Gen. Plant. p. 125; Benth. et Hook. Gen. Plant. ii. p. 898.

About six or seven herbaceous species, whereof one is Mexican and the rest South-American, extending through the Andes to the extratropical region.

1. **Jaborosa longiflora**, Moç. et Sessé in DC. Prodr. xiii. 1, p. 481; Calques des Dess. Fl. Mex. 906.

MEXICO (*Moçino & Sessé*).

16. NECTOUXIA.

Nectouxia, H. B. K. Nov. Gen. et Sp. iii. p. 10; Benth. et Hook. Gen. Plant. ii. p. 899.

An herbaceous monotype.

1. **Nectouxia formosa**, H. B. K. Nov. Gen. et Sp. iii. p. 11, t. 193; DC. Prodr. xiii. 1, p. 480.

Nectouxia bella, Miers, Ill. S. Am. Pl. ii. p. 32, t. 40.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 652); SOUTH MEXICO, Real del Monte, at about 8500 feet (*Humboldt & Bonpland*; *Coulter*, 1270), around Toluca (*Andrieux*, 180). Hb. Kew.

17. LYCIUM.

Lycium, Linn. Gen. Plant. n. 262; Benth. et Hook. Gen. Plant. ii. p. 900.

Shrubs and small trees. Miers (Ill. S. Am. Pl. ii. pp. 94–140, tt. 64–74) describes seventy species; but many of them cannot be considered more than slight varieties. They are widely dispersed in temperate and subtropical regions of the northern hemisphere, and they are also numerous in extratropical South America and South Africa.

BIOL. CENTR.-AMER., Bot. Vol. II., April 1882.

1. **Lycium barbinodum**, Miers, Ill. S. Am. Pl. ii. p. 115, t. 68; A. Gr. Synop. Fl. N. Am. ii. p. 239.

NORTH MEXICO, Magdalena, Sonora (*Thurber*), Saltillo, Coahuila (*Palmer*, 955), Sierra Madre (*Seemann*, 2090). Hb. Kew.

2. **Lycium berlandieri**, Dun. in DC. Prodr. xiii. 1, p. 520; A. Gr. Synop. Fl. N. Am. ii. p. 239.

Lycium senticosum, Miers, Ill. S. Am. Pl. ii. p. 114, t. 68.

Lycium stolidum, Miers, loc. cit. p. 126, t. 71.

TEXAS; NEW MEXICO; ARIZONA.—NORTH MEXICO, Monterey (*Berlandier*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 654). Hb. Kew.

3. **Lycium brachyanthum**, A. Gr. MSS. in hb. Kew.

“Corolla fere campanulata calycem breviter 4-dentatum vix superanti, fauce villosissima insigne.”
—*A. Gr.*

TEXAS.—NORTH MEXICO, Coahuila (*Palmer*, 866, 868, 963). Hb. Kew.

4. **Lycium palmeri**, A. Gr. in Proc. Am. Acad. viii. p. 292, et Synop. Fl. N. Am. ii. p. 238.

NORTH MEXICO, Yaqui river, Sonora (*Palmer*).

5. **Lycium pallidum**, Miers, Ill. S. Am. Pl. ii. p. 108, t. 67; Torr. Bot. U.S. & Mex. Bound. Surv. p. 154; A. Gr. Synop. Fl. N. Am. ii. p. 238.

UTAH; ARIZONA; NEW MEXICO.—NORTH MEXICO, Chihuahua (*Bigelow*).

6. **Lycium parviflorum**, A. Gr. in Proc. Am. Acad. vi. p. 48, et Synop. Fl. N. Am. ii. p. 239.

ARIZONA.—NORTH MEXICO, Sonora (*Thurber*).

7. **Lycium quadrifidum**, Moç. et Sessé in DC. Prodr. xiii. 1, p. 513; Calques des Dess. Fl. Mex. 914.

MEXICO (*Moçino & Sessé*).

Miers unites this with *L. carolinianum*, Walt., a species ranging from S. Carolina to Texas.

8. **Lycium schaffneri**, A. Gr. MSS. in herb. Kew.

“*L. pallido* affinis, floribus minus amplis, corolla semipollicari, genitalibus inclusis, antheris rotundo-ovalibus haud apiculatis, stigmatibus bilamellato-didymo majore, filamentis basi fundoque corollæ hirsutissimo.”—*A. Gr.*

NORTH MEXICO, near San Luis Potosi (*Schaffner*, 54; *Parry & Palmer*, 655). Hb. Kew.

9. **Lycium torreyi**, A. Gr. in Proc. Am. Acad. vi. p. 47, et Synop. Fl. N. Am. ii. p. 239.

TEXAS to CALIFORNIA.—NORTH MEXICO, mountains east of Saltillo, Coahuila (*Palmer*, 954). Hb. Kew.

18. SOLANDRA.

Solandra, Swartz in Act. Stockh. viii. (1787) p. 300, t. 11, ex ejusd. Fl. Ind. Occ. p. 386, t. 9; Benth. et Hook. Gen. Plant. ii. p. 901.

A Tropical-American genus of about four climbing shrubby species.

1. ***Solandra grandiflora***, Sw. Fl. Ind. Occ. i. p. 387, t. 9; DC. Prodr. xiii. 1, p. 535; Bot. Mag. t. 1874; Jacq. Hort. Schœnb. i. t. 45; Miers, Ill. S. Am. Pl. ii. p. 45.

SOUTH MEXICO, valley of Cordova (*Bourgeau*, 1746), Llano Verde (*Hartweg*); GUATEMALA, Quezaltenango (*Hartweg*); NICARAGUA, Chontales (*Tate*, 139).—COLOMBIA to BRAZIL. Hb. Kew.

S. guttata and *S. nitida* are perhaps not specifically different from this.

2. ***Solandra guttata***, D. Don in Bot. Reg. t. 1551; DC. Prodr. xiii. 1, p. 536. MEXICO.

3. ***Solandra lævis***, Hook. Bot. Mag. t. 4345. MEXICO ?

4. ***Solandra nitida***, Zuccag.; DC. Prodr. xiii. 1, p. 535; Schl. in Linnæa, xix. p. 272.

SOUTH MEXICO, Cuernavaca (*Schiede*), Barranca, near Mestitlan, etc. (*Ehrenberg*).

19. DATURA.

Datura, Linn. Gen. Plant. n. 246; Benth. et Hook. Gen. Plant. ii. p. 901.

Herbs, shrubs, or small trees. About twelve species, now widely distributed in warm countries; but it is impossible to determine in all cases whether they are indigenous or merely naturalized.

1. ***Datura arborea***, Linn. Sp. Pl. p. 256; DC. Prodr. xiii. 1, p. 544; Ruiz et Pav. Fl. Peruv. t. 128.

Brugmansia candida, Pers. Ench. i. p. 216.

SOUTH MEXICO, valley of Mexico (*Bourgeau*, 343), Orizaba (*Botteri*, 863); GUATEMALA (*Skinner*).—Southward to PERU and BRAZIL. Hb. Kew.

2. ***Datura ceratocaula***, Ort. Dec. p. 11; DC. Prodr. xiii. 1, p. 544; Bot. Mag. t. 3352; Bot. Reg. t. 1031; Jacq. Hort. Schœnb. iii. t. 309.

SOUTH MEXICO, valley of Mexico (*Bourgeau*, 344), without locality (*Parkinson*). Hb. Kew.

3. ***Datura cornigera***, Hook. Bot. Mag. t. 4252; DC. Prodr. xiii. 1, p. 689. SOUTH MEXICO, valley of Mexico (*Bourgeau*, 1847). Hb. Kew.

4. ***Datura discolor***, Bernh. in Linnæa, viii. Litterat.-Ber. p. 138; DC. Prodr. xiii. 1, p. 541; A. Gr. Synop. Fl. N. Am. ii. p. 240.

Datura thomasii, Torr. Bot. Pacif. Railr. Rep. v. p. 362, et Bot. U.S. & Mex. Bound. Surv. p. 155.

COLORADO; ARIZONA; "introduced from Mexico?" (*A. Gray*).—NORTH MEXICO, Corallitas, Chihuahua (*Thurber*).—WEST INDIES (ex *Dunal*). Hb. Kew.

5. ***Datura ferox***, Linn.; DC. Prodr. xiii. 1, p. 539?

MEXICO, Zacatecas (*Coulter*, 1258), near the city of Mexico (*Hahn*). Hb. Kew.

The Mexican specimens agree quite well with Sicilian and cultivated specimens in Kew herbarium; but they are perhaps the same as *D. quercifolia*, H. B. K.

6. ***Datura metel***, Linn. Sp. Pl. i. p. 256; DC. Prodr. xiii. 1, p. 543; Griseb. Fl. Brit. W. Ind. p. 434.

A very widely dispersed species, occurring in MEXICO. Hb. Kew:

7. ***Datura meteloides***, DC. Prodr. xiii. 1, p. 544; Calques des Dess. Fl. Mex 919; Torr. Bot. U.S. & Mex. Bound. Surv. p. 154; A. Gr. Synop. Fl. N. Am. ii. p. 240; Fl. des Serres, t. 1266.

Datura wrightii, Regel, Gartenfl. t. 260.

TEXAS; ARIZONA; CALIFORNIA.—NORTH MEXICO, Chihuahua, Sonora, and other Mexican States (*Wright*). Hb. Kew.

8. ***Datura quercifolia***, H. B. K. Nov. Gen. et Sp. iii. p. 7; DC. Prodr. xiii. 1, p. 541; A. Gr. Synop. Fl. N. Am. ii. p. 240.

MEXICO, near Zelayo, &c., at 5500 feet (*Humboldt & Bonpland*).

This species also occurs in Texas, Arizona, and California, where, according to Dr. Gray, it is naturalized from Mexico.

9. ***Datura sanguinea***, Ruiz et Pav. Fl. Peruv. ii. p. 15; DC. Prodr. xiii. 1, p. 545.

Brugmansia bicolor, Pers. Ench. i. p. 216; Bot. Reg. t. 1739.

Brugmansia sanguinea, D. Don in Sweet's Brit. Fl. Gard. ser. 2, t. 272.

Brugmansia arborea auctorum plurium, nec *Datura arborea*, Linn.

SOUTH MEXICO, Tlalpujahua (*Graham*).—PERU. Hb. Kew.

10. ***Datura stramonium***, Linn. Sp. Pl. p. 179; DC. Prodr. xiii. 1, p. 540; Fl. Dan. t. 436; A. Gr. Synop. Fl. N. Am. ii. p. 240.

This is generally regarded as an Old-World species; but it is now common in MEXICO and CENTRAL AMERICA, as well as in most tropical and temperate countries. Hb. Kew.

11. ***Datura suaveolens***, Humb. et Bonpl., ex Willd. Enum. Pl. Hort. Berol. p. 227; DC. Prodr. xiii. 1, pp. 545 et 690; Griseb. Fl. Brit. W. Ind. p. 433.

Brugmansia suaveolens, G. Don, Gen. Syst. iv. p. 475.

Originally recorded as a native of Mexico; but we have seen only cultivated and South-American specimens.

12. ***Datura tatula***, Linn. Sp. Pl. p. 256; Griseb. Fl. Brit. W. Ind. p. 434; Desc. Fl. Antill. iii. t. 173; Sweet, Brit. Fl. Gard. t. 83; A. Gr. Synop. Fl. N. Am. ii. p. 240. *Datura stramonium* β . *tatula*, Dcne. in DC. Prodr. xiii. 1, p. 540.

In nearly all temperate and tropical countries.

20. MARKEA.

Markea, L. C. Rich. in Act. Soc. Hist. Nat. Par. 1792, p. 107; Benth. et Hook. Gen. Plant. ii. p. 903.

Lamarkea, Pers. Syn. i. p. 218 (non Mœnch.).

Epiphytal or climbing shrubs, inhabiting Tropical America. About six species are known.

1. *Markea neurantha*, Hemsley, n. sp.

Foliis glabris lanceolato-oblongis, floribus mediocribus puberulis, corolla anguste campanulata insigniter nervosa, staminibus basi corollæ insertis.

Frutex epiphytus?, ramulis pedunculisque tuberculatis, scabridis vel fere muricatis. *Folia* alterna, petiolata, coriacea, glabra, lanceolato-oblonga, 4–6 poll. longa et usque ad 1½ poll. lata, longe acuminata, obtusiuscula, basi sæpius rotundata, margine obsolete undulata, venis primariis lateralibus utrinque sæpius 4, inter se anastomosantibus. *Flores* circiter 15 lineas longi, pauci in apice pedunculi aggregati, breviter pedicellati; pedunculi terminales vel pseudo-terminales, gracillimi, 10–12 poll. longi; pedicelli 6–9 poll. longi; calycis segmenta lanceolato-oblonga, 9–10 lineas longa, obtusiuscula, extus puberula, inconspicue reticulato-venosa; corolla anguste campanulata, circiter 15 lineas longa, extus puberula, prominenter nervosa, lobis brevibus (rectis?) obtusis; stamina inclusa, basi corollæ inserta, antheris magnis, filamentis basi leviter barbatis; ovarium glabrum, læve, stylo sursum clavato. *Fructus* deest.

COSTA RICA, without locality (*Endres*, 534). Hb. Kew.

The strongly nerved corolla is remarkable; and, should it be associated with any peculiarity in the fruit, this species might form a new genus.

2. *Markea*, sp. ?

PANAMA, Lion Hill (*S. Hayes*, 369). Hb. Kew.

The specimen is insufficient for description, bearing only one expanded flower and one bud. The flower is only about half an inch long.

21. JUANULLOA.

Juanulloa, Ruiz et Pav. Prodr. Fl. Peruv. et Chil. p. 27, t. 4; Benth. et Hook. Gen. Plant. ii. p. 903. *Laureria*, Schl. in Linnæa, viii. p. 513.

About half a dozen shrubby species, inhabiting Tropical America from Mexico to Peru.

1. *Juanulloa aurantiaca*, Otto et Dietr. Allg. Gartenz. xii. p. 265; DC. Prodr. xiii. 1, p. 529; Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 17).

Juanulloa parasitica, Hook. Bot. Mag. t. 4118 (non Ruiz et Pav.).

Juanulloa hookeriana, Miers, Ill. S. Am. Pl. ii. p. 40.

Brugmansia floribunda, Paxt. Mag. Bot. ix. p. 3, cum ic. color.

SOUTH MEXICO, Zacuapan at 5000 feet, Chinantla and El Rincon, Oaxaca, 3500 to 6500 feet (*Galeotti*, 1202). Hb. Kew.

2. *Juanulloa elliptica*, Ruiz et Pav.; DC. Prodr. xiii. 1, p. 530.

MEXICO.

3. **Juanulloa mexicana**, Miers, Ill. S. Am. Pl. ii. p. 39; DC. Prodr. xiii. 1, p. 529.

Laureria mexicana, Schl. in Linnæa, viii. p. 513.

SOUTH MEXICO, Hacienda de la Laguna (*Schiede*), Tenampa, Vera Cruz (*Linden*, 50). Hb. Kew.

4. **Juanulloa panamensis**, Miers, Ill. S. Am. Pl. ii. p. 41, t. 46; DC. Prodr. xiii. 1, p. 530.

PANAMA, David, Veraguas (*Seemann*, 1200). Hb. Kew.

Dunal (DC. Prodr. xiii. 1, p. 528) refers Galeotti's 1112 to *J. parasitica*, citing Mart. et Gal. in Bull. Acad. Brux. xii.; but the number there given is 1202, and the name quoted is *J. aurantiaca*. Galeotti would be likely to know the latter, as it was in cultivation at the time.

22. CESTRUM.

Cestrum, Linn. Gen. Plant. n. 261; Benth. et Hook. Gen. Plant. ii. p. 904.

Shrubs and small trees, inhabiting the warmer parts of America, none of them extending north of Mexico. Upwards of 160 species have been enumerated; but Bentham and Hooker estimate the probable number of distinct species at about one hundred.

1. **Cestrum alaternoides**, Desf. Cat. Hort. Par. ed. 1, p. 70; DC. Prodr. xiii. 1, p. 625; Bot. Mag. t. 2929.

PANAMA, Boquete (*Seemann*, 1203).—WEST INDIES; TROPICAL SOUTH AMERICA. Hb. Kew.

2. **Cestrum amygdalifolium**, Dun. in DC. Prodr. xiii. 1, p. 653.

MEXICO?

3. **Cestrum anagyris**, Dun. in DC. Prodr. xiii. 1, p. 608.

SOUTH MEXICO, around Toluca (*Andrieux*, 193), valley of Mexico (*Bourgeau*, 983, 1257). Hb. Kew.

4. **Cestrum aurantiacum**, Lindl. Bot. Reg. 1844, misc. n. 65, et 1845, t. 22; DC. Prodr. xiii. 1, p. 603.

GUATEMALA, Chimalapa (*Skinner*). Hb. Kew.

5. **Cestrum benthami**, Miers in Hook. Lond. Journ. Bot. v. p. 151; DC. Prodr. xiii. 1, p. 601.

Habrothamnus tomentosus, Benth. Pl. Hartw. p. 49.

SOUTH MEXICO, Real del Monte and Chico (*Graham*). Hb. Kew.

Several other specimens in Kew herbarium are named *C. benthami*, probably correctly; but the species of the section *Habrothamnus* are in a state of great confusion.

6. **Cestrum billbergianum**, Beurling in Kong. Vet. Handl. 1854, p. 140.
PANAMA, Portobello (*Billberg*).
7. **Cestrum candidum**, Seem. et Schmidt in Flora, 1844, p. 496; DC. Prodr. xiii. 1, p. 672.
MEXICO?
8. **Cestrum confertiflorum**, Schl. in Linnæa, xix. p. 263; DC. Prodr. xiii. 1, p. 610.
SOUTH MEXICO, Anganguio (*Schiede*).
9. **Cestrum dumetorum**, Schl. in Linnæa, vii. p. 61; DC. Prodr. xiii. 1, p. 651.
SOUTH MEXICO, near Vera Cruz and San Pablo (*Schiede & Deppe*). Hb. Kew.
- β. **phyllobotryon**, Dun. in DC. Prodr. xiii. 1, p. 652.
SOUTH MEXICO, Tampico (*Berlandier*).
10. **Cestrum ehrenbergii**, Dun. in DC. Prodr. xiii. 1, p. 613; Schl. in Linnæa, xix. p. 269, sine nomine.
SOUTH MEXICO, Chapultepec (*Ehrenberg*).
11. **Cestrum elegans**, Schl. in Linnæa, xix. p. 261; DC. Prodr. xiii. 1, p. 600; Bot. Mag. t. 5659.
Habrothamnus elegans, Brongn.; Fl. des Serres, ii. Févr. t. 9.
Habrothamnus purpureus, Lindl. Bot. Reg. 1844, t. 43.
Habrothamnus hügelii, Regel in Bot. Zeit. 1851, p. 596; Walp. Ann. v. p. 590?
SOUTH MEXICO, Mirador (*Galeotti*, 1206).
12. **Cestrum endlicheri**, Miers in Hook. Lond. Journ. Bot. v. p. 151; Schl. in Linnæa, xix. p. 261; DC. Prodr. xiii. 1, p. 600.
Habrothamnus corymbosus, Endl.; Walp. Rep. iii. p. 122; Bot. Mag. t. 4201.
Meyenia corymbosa, Schl. in Linnæa, viii. p. 252.
SOUTH MEXICO, Chiconquiaco and Cumbre del Obispo (*Schiede*). Hb. Kew.
13. **Cestrum fasciculatum**, Miers in Hook. Lond. Journ. Bot. v. p. 151; Linnæa, xix. p. 260; DC. Prodr. xiii. 1, p. 599.
Habrothamnus fasciculatus, Endl. in Walp. Rep. iii. p. 122; Trans. Hort. Soc. Lond. n. s. iii. t. 2; Bot. Mag. t. 4183; Fl. des Serres, i. t. 50.
Meyenia fasciculata, Schl. ex Linnæa, viii. p. 251.
SOUTH MEXICO, Chiconquiaco (*Schiede*), Cordillera of Oaxaca (*Galeotti*, 2619), Orizaba (*Bourgeau*, 2404). Hb. Kew.
There are many other specimens in Kew herbarium that may belong to this species, to which *C. hartwegii*, Dun., should perhaps be reduced.
14. **Cestrum graciliflorum**, Dun. in DC. Prodr. xiii. 1, p. 669; Schl. in Linnæa, xix. p. 269, ubi sine nomine descript.
MEXICO, without locality (*Schiede*).

15. **Cestrum hartwegi**, Dun. in DC. Prodr. xiii. 1, p. 599.
Habrothamnus fasciculatus, Benth. Pl. Hartw. p. 49, excl. syn.
 SOUTH MEXICO, Banco (*Hartweg*). Hb. Kew.
 Apparently not specifically different from *C. fasciculatum*.
16. **Cestrum hirtellum**, Schl. in Linnæa, vii. p. 62; DC. Prodr. xiii. 1, p. 650.
 SOUTH MEXICO, Jalapa, near Hacienda de la Laguna (*Schiede*).
17. **Cestrum hirtum**, Swartz, Prodr. Fl. Ind. Occ. p. 49; DC. Prodr. xiii. 1, p. 629?
 PANAMA, Boquete (*Seemann*, 1203). Hb. Kew.
 The type is a West-Indian plant.
18. **Cestrum involucreatum**, Dun. in DC. Prodr. xiii. 1, p. 610.
 SOUTH MEXICO, Cordillera of Guichilaca (*Berlandier*).
19. **Cestrum lævigatum**, Schl. in Linnæa, vii. p. 58; DC. Prodr. xiii. 1, p. 643?
 NICARAGUA, Chontales (*Tate*, 140). Hb. Kew.
 The type is Brazilian.
20. **Cestrum lanatum**, Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 18); DC. Prodr. xiii. 1, p. 619.
 NORTH MEXICO, Sierra Madre (*Seemann*, 2093); SOUTH MEXICO, Orizaba (*Botteri*, 889, 1198, 1200), Mirador (*Linden*, 261; *Galeotti*, 1208), valley of Cordova (*Bourgeau*, 1498), Cuernavaca (*Bilimek*, 268). Hb. Kew.
21. **Cestrum lancifolium**, Schl. in Linnæa, xix. p. 267; DC. Prodr. xiii. 1, p. 629.
 SOUTH MEXICO, near San Toro, between Los Baños and Puente de Dios (*Ehrenberg*).
22. **Cestrum laxum**, Benth. Pl. Hartw. p. 33; DC. Prodr. xiii. 1, p. 607.
 SOUTH MEXICO, Leon (*Hartweg*). Hb. Kew.
23. **Cestrum macrophyllum**, Vent. Choix, t. 18; DC. Prodr. xiii. 1, p. 627; Griseb. Fl. Brit. W. Ind. p. 443.
Cestrum megalophyllum, Dun. in DC. Prodr. xiii. 1, p. 638.
 GUATEMALA (ex *Grisebach*); PANAMA, Mamei station (*S. Hayes*, 500), near Cruces (*Seemann*, 421), Chagres (*Fendler*, 195).—WEST INDIES. Hb. Kew.
24. **Cestrum multinervium**, Dun. in DC. Prodr. xiii. 1, p. 611.
 SOUTH MEXICO, between Tula and Tampico (*Berlandier*).
25. **Cestrum nitidum**, Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 19); DC. Prodr. xiii. 1, p. 612.
 SOUTH MEXICO, Cordillera of Oaxaca, 6000 to 8000 feet (*Galeotti*, 1207), valley of Mexico (*Bourgeau*, 857, 868). Hb. Kew.

26. **Cestrum nocturnum**, Linn. Sp. Pl. p. 277, et Hort. Cliff. p. 490; DC. Prodr. xiii. 1, p. 631.

Cestrum fetidissimum, Jacq. Hort. Schœnb. iii. t. 329.

SOUTH MEXICO, Jalapa (*Schiede & Deppe*; *Linden*, 260), Vera Cruz to Orizaba (*Müller*, 838), valley of Mexico (*Bourgeau*, 868), valley of Cordova (*Bourgeau*, 1499, 2406).—

WEST INDIES. Hb. Kew.

27. **Cestrum oblongifolium**, Schl. in Linnæa, xix. p. 266; DC. Prodr. xiii. 1, p. 628.

SOUTH MEXICO, Barranca near los Reyes (*Ehrenberg*).

28. **Cestrum pedunculare**, Pav.; DC. Prodr. xiii. 1, p. 618.

MEXICO.

29. **Cestrum persicæfolium**, Dun. in DC. Prodr. xiii. 1, p. 608.

SOUTH MEXICO, Cordillera of Guichilaca (*Berlandier*).

30. **Cestrum propinquum**, Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 19); DC. Prodr. xiii. 1, p. 646.

SOUTH MEXICO, near Jalapa, at 4000 feet (*Galeotti*, 1209).

31. **Cestrum psychotriæfolium**, Schl. in Linnæa, xix. p. 265; DC. Prodr. xiii. 1, p. 613.

SOUTH MEXICO, Anganguio (*Schiede*).

32. **Cestrum regelii**, Planch. in Fl. des Serres, t. 946.

Habrothamnus aurantiacus, Regel, Ind. Sem. Hort. Turic. 1850, Collect. p. 4, et in Linnæa, xxiv. p. 231.

GUATEMALA (*Warscewicz*).

33. **Cestrum roseum**, H. B. K. Nov. Gen. et Sp. iii. p. 59, t. 197; DC. Prodr. xiii. 1, p. 602; Linnæa, xix. p. 263.

SOUTH MEXICO, Real de Moran and Hacienda de Regla, at 7200 feet (*Humboldt & Bonpland*), Yavezia, Oaxaca, 6500 feet (*Galeotti*), Mineral del Monte (*Ehrenberg*). Hb. Kew.

34. **Cestrum scandens**, Vahl, Eclog. i. p. 24; DC. Prodr. xiii. 1, p. 664.

PANAMA (*S. Hayes, Seemann*).—COLOMBIA; VENEZUELA. Hb. Kew.

35. **Cestrum? semivestitum**, Dun. in DC. Prodr. xiii. 1, p. 651.

MEXICO, between Victoria and Tula (*Berlandier*).

36. **Cestrum sylvaticum**, Dun. in DC. Prodr. xiii. 1, p. 603.

Cestrum paniculatum, Schl. in Linnæa, xix. p. 262, nec H. B. K.

Habrothamnus paniculatus, Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 20).

SOUTH MEXICO, Huatusco, Vera Cruz, 5000 feet (*Galeotti*, 1241).

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37. **Cestrum terminale**, Dun. in DC. Prodr. xiii. 1, p. 608.

Cestrum parqui, Benth. Pl. Hartw. p. 24, non Linn.

SOUTH MEXICO, pine woods, Bolaños (*Hartweg*), San Nicolas (*Bourgeau*, 983, in part).
Hb. Kew.

38. **Cestrum thyrsoideum**, H. B. K. Nov. Gen. et Sp. iii. p. 63; DC. Prodr. xiii. 1, p. 612.

SOUTH MEXICO, near Chalco, at about 7000 feet (*Humboldt & Bonpland*; *Schaffner*).
Hb. Kew.

39. **Cestrum vespertinum**, Linn.; Griseb. Fl. Brit. W. Ind. p. 443; Jacq. Hort. Schœnb. iii. t. 328.

PANAMA (*Cuming*, 1268).—Southward to PERU and BRAZIL, and in the WEST INDIES.
Hb. Kew.

40. **Cestrum viride**, Moric.; DC. Prodr. xiii. 1, p. 606.

MEXICO, cultivated (*Berlandier*).

[*Hyoscyamus albus*, Linn., an Old-World plant, appears to be naturalized in North Mexico, as Palmer collected it in Coahuila.]

23. NICOTIANA.

Nicotiana, Linn. Gen. Plant. n. 248; Benth. et Hook. Gen. Plant. ii. p. 906.

Herbs, or a few species woody at the base; very few quite shrubby. Upwards of fifty species have been described, many of them on very slight characters. The greater part are American, chiefly western, ranging from Oregon to Chili; a few appear to be indigenous in Australasia and the Pacific Islands; and several are commonly naturalized in warm countries, where they have escaped from cultivation.

1. **Nicotiana glauca**, Graham, Bot. Mag. t. 2837; DC. Prodr. xiii. 1, p. 562.

Nicotidendron, Griseb. Pl. Lorentz. p. 168.

NORTH MEXICO, Sierra Madre (*Seemann*, 2092); SOUTH MEXICO, Tacubaya (*Bilimek*), valley of Mexico (*Bourgeau*, 109).—Apparently endemic in BUENOS AYRES and URUGUAY.
Hb. Kew.

2. **Nicotiana ipomopsisiflora**, Dun. in DC. Prodr. xiii. 1, p. 559; Calques des Dess. Fl. Mex. 909.

Nicotiana trigonophylla, Dun. loc. cit. p. 562; A. Gr. Synop. Fl. N. Am. ii. p. 242.

TEXAS to CALIFORNIA.—NORTH MEXICO, Sonora Alta (*Coulter*, 1255), Monterey (*Berlandier*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 660).—SOUTH MEXICO, Leon (*Hartweg*). Hb. Kew.

3. **Nicotiana longiflora**, Cav. Descr. p. 106; DC. Prodr. xiii. 1, p. 566; Sweet's Brit. Fl. Gard. ser. 2, t. 196.

MEXICO?—CHILI and BUENOS AYRES.

4. **Nicotiana mexicana**, Schl. Ind. Sem. Hort. Hal. 1840, Coll. p. 4, et in Linnæa, xv. Litt.-Ber. p. 95; DC. Prodr. xiii. 1, p. 565; et β . *rubriflora*, Dun. in DC. Prodr. xiii. 1, p. 565; Schl. in Linnæa, xix. p. 270.

MEXICO.

5. **Nicotiana obtusifolia**, Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 1); DC. Prodr. xiii. 1, p. 564.

SOUTH MEXICO, in the cactiferous regions of Tehuacan, Puebla, at 5000 feet, and of Zimapan to the north of Mexico (*Galeotti*, 1146, 1148).

6. **Nicotiana pilosa**, Dun. in DC. Prodr. xiii. 1, p. 559; Calques des Dess. Fl. Mex. 908.

MEXICO, cultivated in gardens (*Moçino & Sessé*).

7. **Nicotiana plantaginea**, DC. Prodr. xiii. 1, p. 559; Calques des Dess. Fl. Mex. 910.

MEXICO (*Moçino & Sessé*).

8. **Nicotiana plumbaginifolia**, Viv.; DC. Prodr. xiii. 1, p. 569; A. Gr. Synop. Fl. N. Am. ii. p. 241.

TEXAS.—NORTH MEXICO; SOUTH MEXICO, Tampico (*Berlandier*), Orizaba (*Sallé*).—WEST INDIES. Hb. Kew.

9. **Nicotiana pusilla**, Linn. Sp. Pl. p. 258; DC. Prodr. xiii. 1, p. 560.

MEXICO.—PERU; JAMAICA.

10. **Nicotiana repanda**, Willd.; Lehm. Nic. p. 40, t. 3; DC. Prodr. xiii. 1, p. 569; A. Gr. Synop. Fl. N. Am. ii. p. 242.

TEXAS.—NORTH MEXICO, Matamoros (*Berlandier*); SOUTH MEXICO, Tampico (*Berlandier*).—CUBA. Hb. Kew.

[*Nicotiana rustica*, Linn., is likely to occur in Mexico, as it is now naturalized in nearly all warm countries.]

11. **Nicotiana sordida**, Lehm. Del. Sem. Hort. Hamb. 1843, p. 8; DC. Prodr. xiii. 1, p. 563.

MEXICO.

12. **Nicotiana tabacum**, Linn. Sp. Pl. p. 258; DC. Prodr. xiii. 1, p. 557; A. Gr. Synop. Fl. N. Am. ii. p. 241.

A native of South America, now widely dispersed in warm countries, including Mexico. Hb. Kew.

24. PETUNIA.

Petunia, Juss. in Ann. Mus. Par. ii. p. 214, t. 47; Benth. et Hook. Gen. Plant. ii. p. 907.

From twelve to fifteen herbaceous species, ranging from the southernmost States of North America to extratropical South America.

1. ***Petunia parviflora***, Juss. in Ann. Mus. Par. ii. p. 216, t. 47; Miers, Ill. S. Am. Pl. i. t. 23; DC. Prodr. xiii. 1, p. 575; A. Gr. Synop. Fl. N. Am. ii. p. 243.

Nicotiana parviflora, Lehm. Nic. p. 48.

Callibrachoa procumbens, Llav. et Lex. Nov. Veg. ii. p. 3.

Leptophragma prostrata, Benth., ex Dun. in DC. Prodr. xiii. 1, p. 575.

FLORIDA and TEXAS to CALIFORNIA.—NORTH MEXICO, Monterey (*Eaton & Edwards*), Sonora Alta (*Coulter*, 1292); SOUTH MEXICO, Tacubaya (*Bourgeau*, 70), Vera Cruz (*Gouin*).—Widely dispersed in SOUTH AMERICA; also in CUBA. Hb. Kew.

2. ***Petunia villadiana***, Barcena.

Herbacea, erecta, 4 poll. alta, dichotoma, viscosa, ferrugineo-pubescens.

Folia alterna, sessilia, spathulata, utrinque viridia, circiter 1 poll. longa et $2\frac{1}{2}$ lineas lata. *Flores* sessiles, solitarii; calycis lobi aperti, spathulati, crassiusculi, pilosi, 2 lineas longi; corolla campanulata, 5-lobata, albo-cærulea, fere $1\frac{1}{2}$ poll. longa, lobis rotundatis, leviter revolutis; stamina 5, basi corollæ inserta, inclusa; ovarium ovoideum, viride, pilosum, 2-loculare, multiovulatum. *Capsula* septicida, 2 lineas longa, polysperma; semina reticulata, fusca.

SOUTH MEXICO, Chapultepec (*Barcena*).

The foregoing description is a translation from the original Spanish, which appeared in a Mexican newspaper in 1878, and was communicated to us by the author, Don Mariano Barcena, without the title of the paper. It may be the same as the next.

3. ***Petunia viscidula***, Miers in Hook. Lond. Journ. Bot. v. p. 189; DC. Prodr. xiii. 1, p. 575.

Nierembergia viscidula, H. B. K. Nov. Gen. et Sp. vii. p. 205.

MEXICO.

25. BOUCHETIA.

Bouchetia, DC. Prodr. xiii. 1, p. 589; Benth. et Hook. Gen. Plant. ii. p. 908.

Two herbaceous species.

1. ***Bouchetia erecta***, DC. Prodr. xiii. 1, p. 589; Benth. et Hook. Gen. Plant. ii. p. 908; A. Gr. Synop. Fl. N. Am. ii. p. 244.

Nierembergia anomala, Miers, Ill. S. Am. Pl. i. t. 20.

Nierembergia staticæfolia, Sendt. in Fl. Bras. x. p. 179.

Leucanthea ræmeriana, Scheele in Linnæa, xxv. pp. 258, 259.

TEXAS.—NORTH MEXICO, Monterey (*Eaton & Edwards*, 73), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*; *Schaffner*, 611, in part); SOUTH MEXICO, valley of Mexico (*Bourgeau*, 498).—BRAZIL; BUENOS AYRES; URUGUAY. Hb. Kew.

2. **Bouchetia procumbens**, DC. Prodr. xiii. 1, p. 589, et Calques des Dess. Fl. Mex. 920; Benth. et Hook. Gen. Plant. ii. p. 908, sub *Nierembergia*.

NORTH MEXICO, valley of San Luis Potosi (*Schaffner*, 611, in part). Hb. Kew.

Var. ? floribus quam in icone fere duplo majoribus.

NORTH MEXICO, valley of San Luis Potosi (*Schaffner*, 69; *Parry & Palmer*, 701); SOUTH MEXICO, Jalapa (*Graham*, 270). Hb. Kew.

Bentham and Hooker (Gen. Plant. ii. p. 908) limit the genus *Bouchetia* to one species, and identifying, erroneously as we believe, Galeotti's 1476 and Bourgeau's 68 with *B. procumbens*, refer that to *Nierembergia*. The specimens we have referred to this species are, like those of *B. erecta*, easily distinguished from any *Nierembergia* by the gradually tapering tube of the corolla, and by the longer, perfectly free stamens inserted lower in the corolla.

26. NIEREMBERGIA.

Nierembergia, Ruiz et Pav. Prodr. p. 23, et Fl. Peruv. et Chil. t. 123; Benth. et Hook. Gen. Plant. ii. p. 908.

About twenty herbaceous species, inhabiting America, chiefly in the mountains of Mexico and western South America, a few occurring in extratropical South America.

1. **Nierembergia angustifolia**, H. B. K. Nov. Gen. et Sp. iii. p. 9, t. 198; DC. Prodr. xiii. 1, p. 586.

NORTH MEXICO, in marshes around the city of San Luis Potosi (*Schaffner*, 610); SOUTH MEXICO, near Real del Monte, 8000 to 9000 feet (*Humboldt & Bonpland*), valley of Mexico (*Bourgeau*, 68), Morelia, 6000 feet (*Galeotti*, 1476). Hb. Kew.

Bentham and Hooker (Gen. Plant. ii. p. 908) refer Galeotti's 1476 and Bourgeau's 68 to *Bouchetia procumbens*, DC., which, however, is a distinct plant, and, as we believe, a true *Bouchetia*: see our remarks under that genus.

2. **Nierembergia coulteri**, Hemsley.

Leptoglossis (Brachyglossis) coulteri, A. Gr. in Proc. Am. Acad. xii. p. 165.

SOUTH MEXICO, Zimapan (*Coulter*, 1346). Hb. Kew.

We regret being unable to follow Dr. Gray in referring this and the next to *Leptoglossis*, this especially being so like a typical *Nierembergia* as not to be easily distinguished from such species as *N. veitchii*, Berkeley in Bot. Mag. t. 5599, and *N. filicaulis*, Lindl. Bot. Reg. t. 1649. Moreover the typical species of *Leptoglossis* are so different in habit, and in the form of the corolla, that we regard the character derived from the stamens as of secondary importance, particularly as some other species of *Nierembergia* exhibit a tendency to inequality in the size and degree of development of the stamens.

3. **Nierembergia (Leptoglossis) viscosa**, Torr. in Bot. U.S. & Mex. Bound. Surv. p. 155.

Browallia (Leptoglossis) texana, Torr. loc. cit. p. 156.

Leptoglossis (Brachylossis) texana, A. Gr. in Proc. Am. Acad. xii. p. 164, et Synop. Fl. N. Am. ii. p. 244.

TEXAS.—NORTH MEXICO, San Carlos (*Berlandier*), Monterey (*Eaton & Edwards*). Hb. Kew.

We have not seen good corollas of this species; but in habit it closely resembles *Bouchetia erecta*.

27. BROWALLIA.

Browallia, Linn. Gen. Plant. n. 773; Benth. et Hook. Gen. Plant. ii. p. 910.

A genus of about six annual species, restricted to Tropical America.

1. ***Browallia demissa***, Linn. Sp. Pl. p. 879; DC. Prodr. x. p. 197; Bot. Mag. t. 1136.

Browallia elata, Linn. Sp. Pl. p. 880; Bot. Mag. t. 34.

GUATEMALA (*Godman & Salvin*); COSTA RICA (*Endres*); PANAMA (*Seemann*).—COLOMBIA to GUIANA and BRAZIL, and in the WEST INDIES. Hb. Kew.

28. MICROSCHWENKIA,

Genus novum, Benth. MS. in herb. Kew.

Calyx tubulosus, alte 5-fidus, lobis linearibus leviter imbricatis. *Corollæ* tubus elongatus, cylindraceus, lobis 5 primariis breviter lineari-clavatis, sinibus in appendices breviores bifidas productis. *Stamina* inclusa, didynama; antheræ longiorum oblongæ, perfectæ, breviorum minores, ovatæ. *Discus* cupulatus. *Ovarium* obliquum, 1-loculare; stylus filiformis, apice leviter complanato-dilatatus, vertice stigmatosus; ovulum unicum, prope basin affixum, erectum. *Fructus* tuberculatus.

1. ***Microschwenkia guatemalensis***, Benth. MS. in herb. Kew. (Tab. LVII. A. figg. 1-5.)

Herba (annua?) erecta, gracilis, pedalis, vix ramosa, puberula. *Folia* alterna, sessilia, crassiuscula, linearia, 4-6 lineas longa. *Flores* circiter lineam longi, fasciculato-spicati; spicæ terminales.

GUATEMALA, Llano de Jutiapa (*Bernoulli*, 716). Hb. Kew.

EXPLANATION OF TAB. LVII. A. FIGG. 1-5.

The plant, natural size.

Fig. 1, a flower; 2, a corolla laid open; 3, a stamen; 4, an ovary; 5, an immature fruit: all very much enlarged.

Order XCVI. SCROPHULARINEÆ.

This order is represented in every region of the globe, and comprises nearly 1900 species, referred to 157 genera. They are chiefly herbaceous plants; a considerable number, however, are shrubby, and a few arboreous.

1. GHIESBREGHTIA.

Ghiesbreghtia, A. Gr. in Proc. Am. Acad. viii. p. 629; Benth. et Hook. Gen. Plant. ii. p. 926.

A shrubby monotype.

1. **Ghiesbreghtia grandiflora**, A. Gr. in Proc. Am. Acad. viii. p. 130.
SOUTH MEXICO, Chiapas (*Ghiesbreght*, 723). Hb. Kew.

2. LEUCOPHYLLUM.

Leucophyllum, Humb. et Bonpl. Pl. Æquin. ii. p. 95; Benth. et Hook. Gen. Plant. ii. p. 927.

Three shrubby species, inhabiting Mexico and Texas.

1. **Leucophyllum ambiguum**, Humb. et Bonpl. Pl. Æquin. ii. p. 95, t. 109; DC. Prodr. x. p. 344.

Leucophyllum campanulatum, Miers, Ill. S. Am. Pl. ii. p. 78, t. 58.

SOUTH MEXICO, Zimapan, at 5000 feet (*Galeotti*, 7210; *Coulter*, 1271), Atotonilco el Grande (*Hartweg*). Hb. Kew.

2. **Leucophyllum minus**, A. Gr. in Torr. Bot. U.S. & Mex. Bound. Surv. p. 115, et Synop. Fl. N. Am. ii. p. 250.

TEXAS.—NORTH MEXICO, Parras, Coahuila (*Palmer*, 969). Hb. Kew.

3. **Leucophyllum texanum**, Benth. in DC. Prodr. x. p. 344; A. Gr. Synop. Fl. N. Am. ii. p. 250.

TEXAS.—NORTH MEXICO, Monterey (*Eaton & Edwards*), Chihuahua (*Potts*). Hb. Kew.

3. CALCEOLARIA.

Calceolaria, Linn. Mant. p. 143; Benth. et Hook. Gen. Plant. ii. p. 929.

Herbs, undershrubs, or shrubs. About 120 species, with the exception of two in New Zealand, restricted to America, chiefly western, and ranging from Mexico to the extreme south of Patagonia, and the Falkland Islands.

1. **Calceolaria glutinosa**, Heer et Regel in Linnæa, xxiv. p. 196.

GUATEMALA (*Warszewicz*).

2. **Calceolaria mexicana**, Benth. Pl. Hartw. p. 47; DC. Prodr. x. p. 205.

Calceolaria trachelifolia, Mart. et Gal. in Bull. Acad. Brux. xii. (reprint, p. 2); Walp. Rep. vi. p. 634.

SOUTH MEXICO, Anganguio (*Hartweg*), Cordillera of Oaxaca, 8500 feet (*Galeotti*, 1055), Vera Cruz (*Linden*, 214), peak of Orizaba, at 10,000 feet (*Galeotti*, 1056; *Linden*, 1093), San Felipe (*Andrieux*, 177); GUATEMALA, Volcan de Fuego (*Godman & Salvin*). Hb. Kew.

3. **Calceolaria trilobata**, Hemsley.

C. perfoliata et *C. calycinæ* affinis, differt foliis tenuioribus trilobatis, petiolo apice aptero vel angustissime alato, etc.

Herba, ut videtur, perennis, parce glanduloso-pilosula, robustiuscula, forsán 2–3 ped. alta, caulibus ramosis. *Folia* (caulina tantum visa) usque ad 6 poll. longa; lamina tenuis, late deltoideo-trilobata, basi cordata, petiolo paullo brevior, duplicato-dentata, dentibus secundi ordinis minutis; petioli basi alis latissimis connati, angustissime alati vel omnino apteri. *Flores* mediocres, densiuscule corymbosi; calycis segmenta ut videtur viridia, tenuia, ovata, acute acuminata, inconspicue longitudinaliter 5-nervia; corollæ labium superius parvum, inferius calycem paullo excedens, supra medium apertum; antherarum loculi distincti, leviter inæquales, magni, crassi, filamentis brevibus vel brevissimis.

GUATEMALA, Volcan de Fuego, 7000 to 10,000 feet (*Godman & Salvin*, 239).—
COLOMBIA. Hb. Kew.

The description was mainly drawn up from Hotton's Colombian specimen, n. 575; and Linden's 738 is the same species.

4. *Calceolaria*, sp.

COSTA RICA, Volcan de Irazu (*Wendland*). Hb. Kew.

A distinct species, though the material is insufficient for description.

[Two or three species of *Verbascum*, an Old-World genus, are more or less naturalized in Mexico, e. g. *V. thapsus* and *V. blattaria*.]

4. ALONSOA.

Alonsoa, Ruiz et Pav. Syst. Veg. Fl. Peruv. et Chil. p. 150; Benth. et Hook. Gen. Plant. ii. p. 930.

A genus of herbs and half-shrubs, comprising about six species, inhabiting America from Mexico to Peru.

1. *Alonsoa caulialata*, Ruiz et Pav. Syst. Veg. Fl. Peruv. et Chil. p. 152; DC. Prodr. x. p. 250.

Hemimeris parviflora et *mutisii*, H. B. K. Nov. Gen. et Sp. ii. p. 376.

SOUTH MEXICO, Cordillera of Oaxaca, 7000 feet (*Galeotti*, 1724); GUATEMALA, Volcan de Fuego, 8300 feet (*Salvin*).—COLOMBIA to PERU. Hb. Kew.

5. ANGELONIA.

Angelonia, Humb. et Bonpl. Pl. Æquin. ii. p. 92, t. 108; Benth. et Hook. Gen. Plant. ii. p. 930.

A genus of herbs and half-shrubs, comprising upwards of twenty species, inhabiting Tropical America, chiefly Brazil, one species occurring in Mexico and the West Indies.

1. *Angelonia angustifolia*, Benth. in DC. Prodr. x. p. 254.

SOUTH MEXICO, Vera Cruz, 2000 feet (*Galeotti*, 1013), Mirador (*Linden*, 206).—
CUBA; JAMAICA. Hb. Kew.

[*Linaria canadensis*, Dum.; Bot. Mag. t. 3473, may be expected to occur in Mexico, as it ranges in North America from Canada and Oregon to California, Texas, and Florida, recurring in subtropical and temperate South America.]

6. ANTIRRHINUM.

Antirrhinum, Linn. Gen. Plant. n. 750; Benth. et Hook. Gen. Plant. ii. p. 934.

Herbs, or very rarely shrubby. About twenty-five species, generally dispersed in the temperate regions of the northern hemisphere.

1. **Antirrhinum maurandioides**, A. Gr. in Proc. Am. Acad. vii. p. 376; Synop. Fl. N. Am. ii. p. 254.

Maurandia antirrhiniflora, Humb. et Bonpl., ex Willd. Hort. Berol. t. 83; DC. Prodr. x. p. 296; Bot. Mag. t. 1643; Reichb. Fl. Exot. t. 291.

Maurandia personata, Lag. Nov. Gen. et Sp. p. 19.

Usteria antirrhiniflora, Poir. Dict. Suppl. v. p. 105.

TEXAS; ARIZONA; CALIFORNIA.—NORTH MEXICO, Chihuahua (*Potts*), Saltillo (*Palmer*, 970), Monterey (*Eaton & Edwards*, 95), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*); SOUTH MEXICO, Real del Monte (*Coulter*, 1340), Aguas Calientes (*Hartweg*), valley of Mexico (*Bourgeau*, 275), near Oaxaca and Tehuacan, 5500 feet (*Galeotti*, 1043). Hb. Kew.

7. MAURANDIA.

Maurandia, Ort. Dec. ii. p. 21; A. Gr. in Proc. Am. Acad. vii. p. 377; Benth. et Hook. Gen. Plant. ii. p. 935; Hemsl. in Gard. Chron. n. s. xvii. p. 22.

A Mexican genus of six herbaceous species, whereof one is erect in habit and the rest climbers.

1. **Maurandia barclayana**, Lindl. Bot. Reg. t. 1108; Lodd. Bot. Cab. t. 1381; DC. Prodr. x. p. 297.

NORTH MEXICO, Caracol Mountains, twenty-one miles south-east of Monclova, Coahuila (*Palmer*, 972), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 664); SOUTH MEXICO, Zimapan (*Coulter*, 1342). Hb. Kew.

2. **Maurandia erecta**, Hemsley in Gard. Chron. n. s. xvii. p. 22.

Erecta, ramis crassiusculis dense foliosis, foliis rotundatis, pedunculis quam petiola brevioribus, calycis segmentis oblongis obtusissimis.

Herba erecta, ramosa, undique glanduloso-villosa, viscosa, ramis crassiusculis, dense foliosis. *Folia* longe petiolata, crassiuscula; lamina orbiculari-cordata vel interdum fere reniformis, obscure lobata vel grosse crenata, usque ad $1\frac{1}{2}$ poll. diametro; petiolus graciliusculus, usque ad 1 poll. longus. *Flores* axillares, solitarii, circiter $1\frac{1}{2}$ poll. longi; pedunculi 3–6 lineas longi; calycis segmenta glanduloso-villosa, viscosa, oblonga, obtusissima, 5–6 lineas longa, $1-1\frac{1}{2}$ lata; corolla angusta, leviter obliqua. *Capsula* calyce persistente paullo brevior, polysperma; semina subereo-rugulosa, circumalata, ala fimbriata vel lacerata.

NORTH MEXICO, San Lorenzo de Laguna, Coahuila (*Palmer*, 966). Hb. Kew.

3. **Maurandia erubescens**, A. Gr. in Proc. Am. Acad. vii. p. 377.

Lophospermum erubescens, D. Don in Sweet's Brit. Fl. Gard. 1830, ser. 2, t. 75, in nota; Zucc. in Flora, 1832, ii. Beibl. p. 61; DC. Prodr. x. p. 297; Bot. Reg. t. 1381.

BIOL. CENTR.-AMER., Bot. Vol. II., April 1882.

Lophospermum scandens, Sweet's Brit. Fl. Gard. ser. 2, t. 68; Bot. Mag. t. 3037, 3038, nec Don, nec Bot. Mag. t. 3650.

SOUTH MEXICO, Banco (*Hartweg*), region of Orizaba (*Bourgeau*), Zimapan (*Coulter*, 1339). Hb. Kew.

4. **Maurandia scandens**, A. Gr. (nec Pers.) in Proc. Am. Acad. vii. p. 377.

Lophospermum scandens, Don in Trans. Linn. Soc. xv. p. 353; Bot. Mag. t. 3650; Maund. Botanist, t. 17; Sweet's Brit. Fl. Gard. ser. 2, t. 401.

MEXICO. Only cultivated specimens in Kew herbarium.

5. **Maurandia semperflorens**, Ort.; Chav. Monogr. p. 78; DC. Prodr. x. p. 297; Bot. Mag. t. 460; Jacq. Hort. Schœnb. iii. t. 288.

Usteria scandens, Cav. Ic. Pl. ii. t. 116.

Maurandia scandens, Pers. Syn. ii. p. 160, nec A. Gr.

SOUTH MEXICO, Oaxaca, 5000 feet (*Galeotti*, 1071; *Andrieux*, 168); GUATEMALA (*Salvin*). Hb. Kew.

6. **Maurandia wislizeni**, Engelm. in Torr. Bot. U.S. & Mex. Bound. Surv. p. 111; A. Gr. Synop. Fl. N. Am. ii. p. 264.

NEW MEXICO.—NORTH MEXICO, along the Rio Grande, on both banks (*Wislizenus*, etc.). Hb. Kew.

8. RHODOCHITON.

Rhodochiton, Zucc. in Abhandl. Akad. Wiss. Münch. i. p. 306, ex eod. sub *Lophospermo*; Benth. et Hook. Gen. Plant. ii. p. 935.

1. **Rhodochiton volubile**, Zucc. in Abhandl. Akad. Wiss. Münch. i. p. 306; DC. Prodr. x. p. 298; Bot. Mag. t. 3367; Bot. Reg. t. 1755.

Lophospermum atrosanguineum, Zucc. loc. cit. t. 13.

Lophospermum rhodochiton, D. Don in Sweet's Brit. Fl. Gard. ser. 2, t. 250.

SOUTH MEXICO, San Juan, Juquila (*Hartweg*). Hb. Kew.

9. SCROPHULARIA.

Scrophularia, Linn. Gen. Plant. n. 736; Benth. et Hook. Gen. Plant. ii. p. 937.

Herbs, or occasionally shrubby at the base. Upwards of 100 species, widely dispersed in the extratropical regions of the northern hemisphere; but they are rare in North America, where only three species occur.

1. **Scrophularia coccinea**, A. Gr. in Torr. Bot. U.S. & Mex. Bound. Surv. p. 111, et Synop. Fl. N. Am. ii. p. 258.

NORTH MEXICO, within the old boundary, in the mountains near Santa Rita del Cobre (*Wright*, *Bigelow*). Hb. Kew.

2. **Scrophularia nodosa**, Linn.; DC. Prodr. x. p. 309; var. *marilandica*, A. Gr. Synop. Fl. N. Am. ii. p. 258.

CANADA and OREGON to FLORIDA and ARIZONA.—NORTH MEXICO, within the old boundary on Mount Graham, at 9250 feet (*Rothrock*).

Typical *S. nodosa* has a wide range in Europe and Asia.

10. PENTSTEMON.

Pentstemon, Mitchell in Act. Phys. Med. Acad. Nat. Cur. viii. p. 214 (*Penstemon*); Benth. et Hook. Gen. Plant. ii. p. 940.

With the exception of one species in North-east Asia, this is an exclusively North-American genus, chiefly western, including Mexico. About seventy herbaceous and half-shrubby species are known.

1. ***Pentstemon acuminatus***, Dougl.; Bot. Reg. t. 1285; DC. Prodr. x. p. 323; A. Gr. Synop. Fl. N. Am. ii. p. 264.

Pentstemon fendleri, A. Gr. in Pacif. Railr. Rep. ii. p. 168, t. 5.

SASKATCHEWAN and UPPER MISSOURI to the interior of OREGON, and southward to NEW MEXICO and TEXAS.—NORTH MEXICO, Chihuahua (*Potts, Wislizenus*). Hb. Kew.

2. ***Pentstemon ambiguus***, Torr. in Ann. Lyc. N. York, ii. p. 228, et in Marcy's Rep. t. 16; A. Gr. in Proc. Am. Acad. vi. p. 64, et Synop. Fl. N. Am. ii. p. 270.

COLORADO and UTAH to ARIZONA and NEW MEXICO.—NORTH MEXICO, Chihuahua (*Thurber*).

β. ***thurberi***, A. Gr. in Proc. Am. Acad. vi. p. 65, et Synop. Fl. N. Am. ii. p. 270. *Pentstemon thurberi*, Torr. in Pacif. Railr. Rep. vii. p. 15 (species).

UTAH; ARIZONA; NEW MEXICO.—NORTH MEXICO, Sonora (*Thurber*), Chihuahua (*Wislizenus*).

3. ***Pentstemon baccharifolius***, Hook. Bot. Mag. t. 4627; A. Gr. in Proc. Am. Acad. vi. p. 58, et Synop. Fl. N. Am. ii. p. 251.

TEXAS.

β. ***schaffneri***, Hemsley.

Fere glaber, foliis integris vel plus minus dentatis, floribus numerosioribus, pedicellis brevioribus calycibusque vix glandulosis.

NORTH MEXICO, valley of San Luis Potosi (*Schaffner*, 751; *Parry & Palmer*, 666). Hb. Kew.

We at first regarded this as a distinct species, as the first specimens we saw had quite entire leaves and almost perfectly glabrous inflorescences; but among copious specimens collected by Schaffner were some with the leaves almost as distinctly toothed as in some of the Texan specimens, and the pedicels and calycès slightly glandular-hairy.

4. ***Pentstemon barbatus***, Nutt. Gen. Am. Pl. ii. p. 53; DC. Prodr. x. p. 329; A. Gr. in Proc. Am. Acad. vi. p. 59; Synop. Fl. N. Am. ii. p. 261; Bot. Reg. xxv. t. 21.

Chelone barbata, Cav. Ic. Pl. iii. t. 242; Bot. Reg. t. 116.

Chelone ruellioides, Andr. Bot. Rep. t. 34.

COLORADO; NEW MEXICO.—NORTH MEXICO, Sierra Madre, Coahuila (*Palmer*, 975), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 667); SOUTH MEXICO, Leon (*Hartweg*), Zimapan (*Coulter*, 1274), Oaxaca (*Andrieux*, 170; *Ghiesbreght*), Tacubaya (*Bilimek*, 232; *Schaffner*). Hb. Kew.

β. **torreyi**, A. Gr. in Proc. Am. Acad. vi. p. 59.

Pentstemon torreyi, Benth. in DC. Prodr. x. p. 324 (species).

COLORADO; NEW MEXICO; TEXAS.—NORTH MEXICO (ex *A. Gray*).

γ. **wislizeni**, A. Gr. in Proc. Am. Acad. vi. p. 59, et Synop. Fl. N. Am. ii. p. 262.

Pentstemon coccineus, Engelm. in Mem. Wisliz. p. 107.

NORTH MEXICO, Chihuahua (*Wislizenus*).

5. **Pentstemon campanulatus**, Willd. Sp. Pl. iii. p. 228; DC. Prodr. x. p. 326; A. Gr. in Proc. Am. Acad. vi. p. 74; Bot. Mag. tt. 1878 et 3884; Jacq. Hort. Schœnb. iii. t. 362.

Chelone elegans, H. B. K. Nov. Gen. et Sp. ii. p. 364.

Chelone campanulata, Cav. Ic. Pl. i. t. 29.

Chelone campanuloides, Andr. Bot. Rep. t. 40.

Pentstemon kunthii, G. Don, Gen. Syst. iv. p. 639.

Chelone angustifolia, H. B. K. Nov. Gen. et Sp. ii. p. 365, t. 173.

Chelone rosea, Cerv., ex Sweet's Brit. Fl. Gard. t. 230.

Pentstemon roseus, G. Don, Gen. Syst. iv. p. 639.

Pentstemon angustifolius, Lindl. Bot. Reg. t. 1122; Lodd. Bot. Cab. t. 1420.

Pentstemon elegans, Trautv. Comm.

Chelone atropurpurea, Sweet, Brit. Fl. Gard. t. 235.

Pentstemon atropurpureus, G. Don in Loud. Hort. Brit. p. 243; Lodd. Bot. Cab. t. 1429.

Pentstemon pulchellus, Lindl. Bot. Reg. t. 1138; Lodd. Bot. Cab. t. 1438.

SOUTH MEXICO, very common (*Andrieux*, 172; *Bourgeau*, 341, 342; *Coulter*, 1273, 1277; *Galeotti*, 1044, 1051, 1052; *Graham*, 287, 288, 289); GUATEMALA, Volcan de Fuego (*Godman & Salvin*, 195). Hb. Kew.

6. **Pentstemon cleavelandi**, A. Gr. in Proc. Am. Acad. xi. p. 94, et Synop. Fl. N. Am. ii. p. 265.

CALIFORNIA.—NORTH MEXICO (ex *A. Gray*).

7. **Pentstemon dasyphyllus**, A. Gr. in Torr. Bot. U.S. & Mex. Bound. Surv. p. 112, et Synop. Fl. N. Am. ii. p. 266.

NEW MEXICO; ARIZONA.—NORTH MEXICO, Sonora (*Thurber*, etc.).

8. **Pentstemon gentianoides**, Don, Gen. Syst. iv. p. 639; DC. Prodr. x. p. 323; A. Gr. in Proc. Am. Acad. vi. p. 63.

Chelone gentianoides, H. B. K. Nov. Gen. et Sp. ii. p. 364, t. 172, nec Bot. Mag., nec Bot. Reg.

SOUTH MEXICO, summit of San Felipe (*Andrieux*, 171), peak of Orizaba, 9000 to 12000 feet (*Linden*, 227; *Galeotti*, 1048), Anganguio (*Hartweg*), valley of Mexico

(*Bourgeau*, 875); GUATEMALA, Volcan de Fuego, 10,000 to 11,000 feet (*Salvin*). Hb. Kew.

9. ***Pentstemon hallii***, var. ***arizonicus***, A. Gr. Synop. Fl. N. Am. ii. p. 263. NORTH MEXICO, within the old boundary on Mount Graham (*Rothrock*). The type inhabits Colorado.

10. ***Pentstemon hartwegii***, Benth. Pl. Hartw. p. 48; DC. Prodr. x. p. 323; A. Gr. in Proc. Am. Acad. vi. p. 64.

Pentstemon gentianoides, Lindl. Bot. Reg. 1838, t. 3; Bot. Mag. t. 3661, excl. syn., non Don.

Pentstemon coccineus, Hoffm. in Linnæa, xvi. Litt.-Bl. p. 281, non Engelm.

Pentstemon puniceus, Lilj. in Linnæa, xvii. p. 111, non A. Gr.

NORTH MEXICO, Chihuahua (*Potts*); SOUTH MEXICO, Real del Monte (*Hartweg*, 362; *Coulter*, 1279; *Galeotti*, 1054). Hb. Kew.

11. ***Pentstemon imberbis***, Trautv. de Pentast. in Comment. Acad. Petrop. iv. 1839 (reprint, p. 22); DC. Prodr. x. p. 324; A. Gr. in Proc. Am. Acad. vi. p. 59.

Pentstemon humboldtii, Don, Gen. Syst. iv. p. 640.

Chelone imberbis, H. B. K. Nov. Gen. et Sp. ii. p. 363.

NORTH MEXICO, mountains east of Saltillo (*Palmer*, 974), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 668), Sierra Madre (*Seemann*, 2107); SOUTH MEXICO, Cordillera of Oaxaca, at 7500 feet (*Galeotti*, 1047), Santa Fé (*Bourgeau*, 613), Anganguio (*Hartweg*, 360), Zimapan (*Coulter*, 1276). Hb. Kew.

12. ***Pentstemon lanceolatus***, Benth. Pl. Hartw. p. 22; DC. Prodr. x. p. 324. SOUTH MEXICO, Aguas Calientes (*Hartweg*, 184). Hb. Kew.

13. ***Pentstemon linarioides***, A. Gr. in Torr. Bot. U.S. & Mex. Bound. Surv. p. 112; Proc. Am. Acad. vi. p. 66; Synop. Fl. N. Am. ii. p. 270.

NEW MEXICO; ARIZONA.—NORTH MEXICO, Sierra San Luis, Chihuahua, and Sonora (*Schott*).

14. ***Pentstemon perfoliatus***, Brong.; DC. Prodr. x. p. 326; Proc. Am. Acad. vi. p. 74.

Pentstemon connatus, Deppe in Otto et Dietr. Allg. Gart.-Z. xii. p. 276.

Pentstemon cordatus et *Pentstemon verticillatus*, Mart. et Gal. in Bull. Acad. Brux. xii. (reprint, pp. 3 & 4); Walp. Rep. vi. pp. 639 et 640.

SOUTH MEXICO, Cordillera of Oaxaca, 9000 to 10,000 feet (*Galeotti*, 1045, 1046), summit of San Felipe (*Andrieux*, 174), Zimapan (*Coulter*, 1278). Hb. Kew.

15. ***Pentstemon puniceus***, A. Gr. in Torr. Bot. U.S. & Mex. Bound. Surv. p. 113; Proc. Am. Acad. vi. p. 63; Synop. Fl. N. Am. ii. p. 264.

NORTH MEXICO, Guadalupe Cañon, Sonora (*Smith*, *Thurber*).

16. **Pentstemon secundiflorus**, Benth. in DC. Prodr. x. p. 325 ; A. Gr. Synop. Fl. N. Am. ii. p. 263.

COLORADO.—NORTH MEXICO, within the old boundary on Mount Graham, at 9250 feet (*Rothrock*).

17. **Pentstemon stenophyllus**, A. Gr. in Torr. Bot. U.S. Mex. Bound. Surv. p. 112 ; Proc. Am. Acad. vi. p. 65 ; Synop. Fl. N. Am. ii. p. 266.

ARIZONA.—NORTH MEXICO, Cosquiachi (*Wislizenus*, 186). Hb. Kew.

18. **Pentstemon tenuifolius**, Benth. Pl. Hartw. p. 22 ; DC. Prodr. x. p. 322 ; Proc. Am. Acad. vi. p. 64.

SOUTH MEXICO, Aguas Calientes (*Hartweg*, 186), Oaxaca (*Ghiesbreght*), San Felipé (*Andrieux*, 161). Hb. Kew.

11. RUSSELIA.

Russelia, Jacq. Stirp. Amer. p. 178, t. 113 ; Benth. et Hook. Gen. Plant. ii. p. 940.

A Mexican and Central-American genus of four or five shrubby species.

1. **Russelia equisetiformis**, Ch. et Schl. in Linnæa, vi. p. 377 ; DC. Prodr. x. p. 332.

SOUTH MEXICO, Papantla (*Schiede*).

2. **Russelia juncea**, Zucc. in Flora, 1832, ii. Beibl. p. 99 ; DC. Prodr. x. p. 332 ; Bot. Reg. t. 1773.

SOUTH MEXICO, Oaxaca (*Ghiesbreght*). Hb. Kew.

3. **Russelia rotundifolia**, Cav. Ic. Pl. v. p. 9, t. 415 ; DC. Prodr. x. p. 332. *Russelia floribunda*, H. B. K. Nov. Gen. et Sp. ii. p. 359.

SOUTH MEXICO, Acapulco (*Hinds*), between the river Papagallos and Tierra Colorada, at about 700 feet (*Humboldt & Bonpland*). Hb. Kew.

4. **Russelia sarmentosa**, Jacq. Amer. p. 178, t. 113 ; DC. Prodr. x. p. 332 ; Regel, Gartenfl. t. 5 (varietates plures).

Scrophularia coccinea, Linn. Sp. Pl. p. 866.

Russelia multiflora, Sims, Bot. Mag. t. 1528.

Russelia ternifolia, H. B. K. Nov. Gen. et Sp. ii. p. 360.

Russelia syringifolia, Ch. et Schl. in Linnæa, vi. p. 376.

Russelia paniculata, Mart. et Gal. in Bull. Acad. Brnx. xii. 2, p. 19 ; Walp. Rep. vi. p. 640.

Russelia polyedra, Zucc. Pl. Nov. vel min. Cogn. fasc. ii. p. 20.

NORTH MEXICO, Cerro de Pinal (*Seemann*, 1508) ; SOUTH MEXICO, Mazatlan (*Seemann*, 1511), Mirador (*Linden*, 1095), Oaxaca, 3000 to 7000 feet (*Galeotti*, 1010, 1011, 1012), Orizaba (*Botteri*, 953) ; GUATEMALA, Volcan de Fuego (*Salvin*) ; NICARAGUA, Realejo (*Sinclair*), Granada (*Ærsted*), Chontales (*Tate*) ; COSTA RICA (*Ærsted*) ; PANAMA (*Seemann*). —CUBA. Hb. Kew.

5. **Russelia verticillata**, H. B. K. Nov. Gen. et Sp. ii. p. 360; DC. Prodr. x. p. 332.

Russelia ephedroides, Benth. Pl. Hartw. p. 69.

SOUTH MEXICO, near Puente de la Madre de Dios, at about 5250 feet (*Humboldt & Bonpland*), Orizaba (*Müller*, 153), Hacienda de Santa Ana (*Hartweg*). Hb. Kew.

[*Collinsia corymbosa*, Herder in Regel's Gartenfl. xvii. p. 33, t. 468, is probably not Mexican, though it is not unlikely that some of the species of this essentially Californian genus may enter North-western Mexico.]

12. TETRANEMA.

Tetranema, Benth. in Bot. Reg. 1843, t. 52; Benth. et Hook. Gen. Plant. ii. p. 942.

An herbaceous monotype.

1. **Tetranema mexicana**, Benth. in Bot. Reg. 1843, t. 52; Bot. Mag. t. 4070; DC. Prodr. x. p. 331.

Episcia rosea, Mart. et Gal. in Bull. Acad. Brux. ix. (reprint, p. 8); Walp. Rep. ii. p. 717.

SOUTH MEXICO, Mirador (*Linden*, 443) near Vera Cruz, 2000 feet (*Galeotti*, 1905), Chiquihuite, valley of Cordova (*Bourgeau*, 2127). Hb. Kew.

13. UROSKINNERA.

Uroskinnera, Lindl. in Gard. Chron. 1857, p. 36; Benth. et Hook. Gen. Plant. ii. p. 942.

Two herbaceous species.

1. **Uroskinnera hirtiflora**, Hemsley, Diag. Pl. Nov. pars alt. p. 34. (Tab. LXIV.)
Foliis oblongo-ellipticis arctissime serrulatis, floribus longe racemosis distincte pedicellatis, calyce 5-dentato, corolla extus omnino et intus circa staminum insertionem hirsuta, filamentis plus minusve hirsutis.

Herba perennis, ferruginea, molliter villosa, caulibus crassiusculis, usque ad pedibus et forsan interdum ultra. *Folia* opposita, petiolata, oblongo-elliptica, 4–6-pollicaria, obtusiuscula, basi leviter cordata, arctissime serrulata; petiolus crassus teres circiter pollicaris. *Flores* dense racemosi, violacei, pedicellati, pedicellis $1\frac{1}{2}$ –3 lin. longis; calyx villosissimus, 5-dentatus, dentibus linearibus tubo lato fere æquilongis; corolla angusta, extus omnino, intus prope insertionem staminum hirsuta; limbi lobi breves, fere æquales, rotundati; filamenta basi hirsuta; staminodium parvum, inter stamina duo breviora insertum. *Capsula* subglobosa, calyce inclusa; semina numerosissima, minutissima.

SOUTH MEXICO, rocks of the Eastern Cordillera of Oaxaca, at 2500 feet (*Galeotti*, 1040), Sierra San Pedro Nolasco, etc. (*Jurgensen*, 642, 842, 936). Hb. Kew.

EXPLANATION OF TAB. LXIV.

Fig. 1, a corolla, laid open; 2, a pistil: both a little enlarged.

2. **Uroskinnera spectabilis**, Lindl. in Gard. Chron. 1857, p. 36; Bot. Mag. t. 5009.

GUATEMALA (*Skinner, Wendland*). Hb. Kew.

Not uncommon near Quirigua in the valley of the Motagua, Guatemala.

14. BERENDTIA.

Berendtia, A. Gr. in Proc. Am. Acad. vii. p. 379; Benth. et Hook. Gen. Plant. ii. p. 942.

Two shrubby or half-shrubby species.

1. **Berendtia coulteri**, A. Gr. in Proc. Am. Acad. vii. p. 380.

SOUTH MEXICO, Zimapan and San Blas to Guadalajara (*Coulter*, 1334, 1335). Hb. Kew.

2. **Berendtia rugosa**, A. Gr. in Proc. Am. Acad. vii. p. 380.

Diplacus rugosus, Benth. DC. Prodr. x. p. 368.

Berendtia ghiesbreghtii, A. Gr. loc. cit.

SOUTH MEXICO, Chiapas (*Linden*, 201; *Ghiesbreght*, 134, 504; *Berendt*). Hb. Kew.

15. HEMICHÆNA.

Hemichæna, Benth. Pl. Hartw. p. 78; Benth. et Hook. Gen. Plant. ii. p. 943.

A shrubby monotype.

1. **Hemichæna fruticosa**, Benth. Pl. Hartw. p. 78; Bot. Mag. t. 6164.

Leucocarpus fruticosus, Benth. in DC. Prodr. x. p. 336.

GUATEMALA, Quezaltenango (*Hartweg*), Volcan de Atitlan, amongst rocks, at 10,000 feet (*Salvin*); COSTA RICA (*Endres*). Hb. Kew.

16. LEUCOCARPUS.

Leucocarpus, Don in Sweet's Brit. Fl. Gard. ser. 2, t. 124; Benth. et Hook. Gen. Plant. ii. p. 943.

An herbaceous monotype.

1. **Leucocarpus alatus**, Don in Sweet's Brit. Fl. Gard. ser. 2, t. 124; DC. Prodr. x. p. 335.

Leucocarpus perfoliatus, Benth. in DC. Prodr. x. p. 335.

Mimulus perfoliatus, H. B. K. Nov. Gen. et Sp. ii. p. 371; Bot. Mag. t. 3067.

Conohea alata, Grah. in Edinb. New Phil. Journ. 1830.

SOUTH MEXICO, Zimapan (*Coulter*, 1333), San Bartolo (*Linden*, 203), Jalapa (*Galeotti*). Hb. Kew.

17. DERMATOCALYX.

Dermatocalyx, Ærst. in Vidensk. Meddel. Nat. Foren. Kjöbenh. 1856, p. 29; Benth. et Hook. Gen. Plant. ii. p. 943.

A shrubby monotype.

1. **Dermatocalyx parviflorus**, Ærst. in Vidensk. 1856 (reprint, p. 3).
COSTA RICA, Naranjo (*Ærsted*).

18. MIMULUS.

Mimulus, Linn. Gen. Plant. n. 783; Benth. et Hook. Gen. Plant. ii. p. 943.

Herbs. About forty species, inhabiting various extratropical and montane regions

of America, Asia, Australia, New Zealand and Africa, most abundant in Western America, absent from Europe and the whole of the Mediterranean region.

1. **Mimulus cardinalis**, Dougl. in Trans. Hort. Soc. Lond. ser. 2, ii. p. 70, t. 3; Sweet's Brit. Fl. Gard. ser. 2, t. 358; Bot. Mag. t. 3560; A. Gr. Synop. Fl. N. Am. ii. p. 276.

OREGON to CALIFORNIA and ARIZONA.—NORTH MEXICO, within the old boundary on Mount Graham, at 9250 feet (*Rothrock*).

2. **Mimulus glabratus**, H. B. K. Nov. Gen. et Sp. ii. p. 370; DC. Prodr. x. p. 371.

NORTH MEXICO, Sonora Alta (*Coulter*, 1310); SOUTH MEXICO, near Moran, at about 8000 feet (*Humboldt & Bonpland*), Orizaba, 12,000 to 12,500 feet (*Linden*, 1091; *Galeotti*, 1003; *Bourgeau*, 2839), mountains of Oaxaca at 7000 feet (*Galeotti*, 1000), valley of Mexico (*Bourgeau*, 706).—COLOMBIA; PERU. Hb. Kew.

3. **Mimulus jamesii**, Torr. et Gray; DC. Prodr. x. p. 371; A. Gr. Synop. Fl. N. Am. ii. p. 276.

ILLINOIS to UPPER MICHIGAN and MINNESOTA, west to MONTANA and south to ARIZONA, NEW MEXICO, and TEXAS.—NORTH MEXICO (ex *A. Gray*); GUATEMALA, Dueñas, 4950 feet (*Salvin*)? Hb. Kew.

4. **Mimulus luteus**, Linn. Sp. Pl. p. 884; DC. Prodr. x. p. 370; A. Gr. Synop. Fl. N. Am. ii. p. 277; Bot. Mag. tt. 1501, 3336, 3363; Bot. Reg. tt. 1030, 1796; Andr. Bot. Rep. t. 661.

Mimulus guttatus, DC. Cat. Hort. Monsp. p. 127; Reichb. Ic. Pl. Cult. t. 204.

Mimulus variegatus, Lodd. Bot. Cab. t. 1872.

Mimulus rivularis, Nutt.; Lodd. Bot. Cab. t. 1575.

A variable species, common in Western America, from the ALEUTIAN ISLANDS and ALASKA, through MEXICO and along the ANDES to SOUTH CHILI. Also naturalized in some parts of the Old World. Hb. Kew.

5. **Mimulus madrensis**, Seem. Bot. Voy. 'Herald,' p. 322, t. 58.

NORTH MEXICO, Sierra Madre (*Seemann*, 2110). Hb. Kew.

6. **Mimulus orizabæ**, Benth. in DC. Prodr. x. p. 372.

SOUTH MEXICO, peak of Orizaba, 10,000 to 12,000 feet (*Linden*, 1092). Hb. Kew.

7. **Mimulus pubescens**, Benth. in DC. Prodr. x. p. 372.

SOUTH MEXICO, Jalisco (*Beechey*). Hb. Kew.

19. STEMODIA.

Stemodia, Linn. Gen. Plant. n. 777; Benth. et Hook. Gen. Plant. ii. p. 950.

Herbs and half-shrubs. About twenty-six species, inhabiting Tropical and Extra-BIOL. CENTR.-AMER., Bot. Vol. II., April 1882. 3 m

tropical South America, Tropical Asia, Africa, and Australia; and one species extends to Arizona in North America.

1. **Stemodia angulata**, Erst. in Vidensk. Meddel. 1853, p. 22; Walp. Ann. v. p. 628.

COSTA RICA, Cartago (*Ersted*); PANAMA, Chagres (*Fendler*, 216). Hb. Kew.

2. **Stemodia bartsioides**, Benth. Pl. Hartw. p. 23; DC. Prodr. x. p. 384.

SOUTH MEXICO, Plain of Topetongo (*Graham*, 273), Lagos (*Hartweg*). Hb. Kew.

3. **Stemodia durantifolia**, Sw. Obs. p. 240; DC. Prodr. x. p. 383; A. Gr. Synop. Fl. N. Am. ii. p. 279.

Stemodia verticillaris, Link; Reichb. Ic. Exot. ii. t. 149.

ARIZONA.—NORTH MEXICO, Sonora Alta (*Coulter*, 1293), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 679); SOUTH MEXICO (*Beechey*); NICARAGUA (*Ersted*); COSTA RICA, Guanacaste (*Ersted*); PANAMA (*Hayes*, 340).—TROPICAL SOUTH AMERICA and the WEST INDIES. Hb. Kew.

[*Stemodia ehrenbergiana*, Schl. in Bot. Zeit. 1843, p. 169, has never been described.]

4. **Stemodia glabra**, Erst. (non Spreng.) in Vidensk. Meddel. 1853, p. 21; Walp. Ann. v. p. 628.

NICARAGUA, Segovia (*Ersted*). Hb. Kew.

5. **Stemodia jorullensis**, H. B. K. Nov. Gen. et Sp. ii. p. 358; DC. Prodr. x. p. 382.

SOUTH MEXICO, foot of the Volcan de Jorullo, at 2950 feet (*Humboldt & Bonpland*).

6. **Stemodia lanata**, Ruiz et Pav.; DC. Prodr. x. p. 383.

Herpestis tomentosa, Ch. et Schl. in Linnæa, v. p. 206.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*), Tampico (*Berlandier*); SOUTH MEXICO, Vera Cruz (*Müller*, 118), near Tecoluta (*Schiede & Deppe*). Hb. Kew.

7. **Stemodia parviflora**, Ait. Hort. Kew. ed. 2, iv. p. 52; DC. Prodr. x. p. 382.

Stemodia arenaria, H. B. K. Nov. Gen. et Sp. ii. p. 357, t. 175.

SOUTH MEXICO, Orizaba (*Botteri*, 612); NICARAGUA (*Lévy*); COSTA RICA, Aguas Calientes (*Ersted*); PANAMA, Chagres (*Fendler*, 215, 216), Empire station (*S. Hayes*, 232).—Southward to BRAZIL and PERU and in the WEST INDIES. Hb. Kew.

8. **Stemodia peduncularis**, Benth. in DC. Prodr. x. p. 382.

SOUTH MEXICO, Mirador (*Linden*, 1098; *Galeotti*, 1024); GUATEMALA, Mazatenango (*Bernoulli*, 64). Hb. Kew.

9. **Stemodia pusilla**, Benth. Bot. Voy. 'Sulphur,' p. 144; DC. Prodr. x. p. 381.

SOUTH MEXICO, Tepic (*Barclay*); GUATEMALA, Chojoja, near Mazatenango (*Bernoulli*, 65); NICARAGUA, Chontales (*Tate*, 223). Hb. Kew.

20. CONOBEA.

Conobea, Aubl. Pl. Guian. p. 639; Benth. et Hook. Gen. Plant. ii. p. 951.

Seven herbaceous species in North and South America.

1. **Conobea intermedia**, A. Gr. in Torr. Bot. U.S. & Mex. Bound. Surv. p. 117; Synop. Fl. N. Am. ii. p. 279.

NEW MEXICO; ARIZONA.—NORTH MEXICO, Sonoita valley (*Rothrock*).

2. **Conobea pusilla**, Benth. et Hook. Gen. Plant. ii. p. 951.
Schistophragma pusilla, Benth. in DC. Prodr. x. p. 392.

SOUTH MEXICO, near Tehuantepec (*Alaman*); NICARAGUA, Realejo (*Ersted*).—VENEZUELA. Hb. Kew.

3. **Conobea scoparioides**, Benth. in DC. Prodr. x. p. 391.
Sphærotheca scoparioides, Ch. et Schl. in Linnæa, ii. p. 391.

SOUTH MEXICO, Teapa (*Linden*, 195).—BRAZIL.

21. HERPESTIS.

Herpestis, Gærtn. f. Fruct. iii. p. 186, t. 214; Benth. et Hook. Gen. Plant. ii. p. 951.

About fifty herbaceous species, widely dispersed in the warmer regions, but most numerous in America.

1. **Herpestis chamædryoides**, H. B. K. Nov. Gen. et Sp. ii. p. 369; DC. Prodr. x. p. 393; A. Gr. Synop. Fl. N. Am. ii. p. 430.

Herpestis colubrina, H. B. K. Nov. Gen. et Sp. ii. p. 368.

Herpestis chrysantha, Ch. et Schl. in Linnæa, ii. p. 577.

TEXAS.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 674, in part); SOUTH MEXICO, Aguas Calientes (*Hartweg*, 199), Mirador (*Linden*, 1101), Jalapa, 3000 feet (*Galeotti*, 998), Real del Monte (*Coulter*, 1285), valley of Mexico, &c. (*Bourgeau*, 69, 1252, 2287, 2705), Toluca (*Galeotti*, 1083); NICARAGUA, Chontales (*Tate*, 168); COSTA RICA (*Ersted*; *Endres*); PANAMA, Chagres (*Fendler*, 213).—Southward to PERU and BRAZIL and in the WEST INDIES. Hb. Kew.

2. **Herpestis monniera**, H. B. K. Nov. Gen. et Sp. ii. p. 366; DC. Prodr. x. p. 400; A. Gr. Synop. Fl. N. Am. ii. p. 281; Bot. Mag. t. 2557.

Herpestis moranensis, H. B. K. Nov. Gen. et Sp. ii. p. 367.

Cosmopolitan in TROPICAL and SUBTROPICAL REGIONS. Hb. Kew.

3. **Herpestis nigrescens**, Benth.; DC. Prodr. x. p. 394; A. Gr. Synop. Fl. N. Am. ii. p. 280.

NORTH CAROLINA to TEXAS.—NORTH MEXICO, Guajuco, Nuevo Leon (*Palmer*, 988). Hb. Kew.

4. **Herpestis pilosa**, Mart. et Gal. (nec Benth.) in Bull. Acad. Brux. xii. 2, p. 21); Walp. Rep. vi. p. 643.

SOUTH MEXICO, near Zacuapan, at 3000 feet (*Galeotti*, 1024).

5. **Herpestis radiata**, Benth. in Hook. Comp. Bot. Mag. ii. p. 56, et in DC. Prodr. x. p. 394?

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 674, in part). Hb. Kew.

The type is believed to be a native of Patagonia.

6. **Herpestis ranaria**, Benth. in Hook. Comp. Bot. Mag. ii. p. 57, et DC. Prodr. x. p. 395.

Var. **panamensis**, Seem. Bot. Voy. 'Herald,' p. 176.

PANAMA, swamps near the city of Panama (*Seemann*, 259).—BRAZIL. Hb. Kew.

7. **Herpestis repens**, Ch. et Schl. in Linnæa, v. p. 107; Griseb. Fl. Brit. W. Ind. p. 430; A. Gr. Synop. Fl. N. Am. ii. p. 280.

SOUTH CAROLINA southward.—MEXICO (ex *Grisebach*).—VENEZUELA to BRAZIL and in the WEST INDIES.

8. **Herpestis salzmanni**, Benth. in Hook. Comp. Bot. Mag. ii. p. 58, et DC. Prodr. x. p. 397.

GUATEMALA (*Bernoulli*, 858); COSTA RICA (*Ersted*, 24); PANAMA, Chagres (*Fendler*, 211), Hacienda de Juan Lanas (*Seemann*, 266).—Southward to PERU and BRAZIL. Hb. Kew.

9. **Herpestis sessiliflora**, Benth. in Hook. Comp. Bot. Mag. ii. p. 58, et DC. Prodr. x. p. 396; Griseb. Fl. Brit. W. Ind. p. 430.

PANAMA, Chagres (*Fendler*, 211, 212).—COLOMBIA; GUIANA; BRAZIL; WEST INDIES. Hb. Kew.

β. **ramosa**, Benth. in DC. Prodr. x. p. 396.

SOUTH MEXICO (*Beechey*). Hb. Kew.

22. VANDELLIA.

Vandellia, Linn. Mant. n. 1265; Benth. et Hook. Gen. Plant. ii. p. 955.

About thirty herbaceous species, mostly inhabiting the warmer parts of the Old World—one species extending to Europe and North Asia, and two recurring in Tropical America.

1. **Vandellia diffusa**, Linn. Mant. p. 89; DC. Prodr. x. p. 416; Griseb. Fl. Brit. W. Ind. p. 430; Fl. Bras. fasc. xxx. p. 320, t. 55. fig. 1.

NICARAGUA, Greytown and Chontales (*Tate*, 59, 224); PANAMA (*Seemann*, 343).—

Generally dispersed in TROPICAL SOUTH AMERICA and the WEST INDIES; also in TROPICAL AFRICA and MADAGASCAR. Hb. Kew.

23. ILYSANTHES.

Ilysanthes, Rafn.; DC. Prodr. x. p. 418; Benth. et Hook. Gen. Plant. ii. p. 955.

Eight annual herbaceous species inhabiting North America, South Africa, India, and Australia, one recurring in South America.

1. **Ilysanthes gratioloïdes**, Benth. in DC. Prodr. x. p. 419; A. Gr. Synop. Fl. N. Am. ii. p. 283.

Capraria gratioloïdes, Linn. Sp. Pl. p. 876.

Herpestis callitrichoïdes, H. B. K. Nov. Gen. et Sp. ii. p. 367.

CANADA and OREGON southward to FLORIDA, TEXAS, and CALIFORNIA.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 676); SOUTH MEXICO; NICARAGUA (*Tate*, 328); COSTA RICA, San José (*Ersted*); PANAMA, Chagres (*Fendler*, 214).—Tropical SOUTH AMERICA; Eastern ASIA, and naturalized in Western Europe. Hb. Kew.

24. MICRANTHEMUM.

Micranthemum, Michx. Fl. Bor.-Am. i. p. 10; Benth. et Hook. Gen. Plant. ii. p. 956.

A genus of delicate herbs, comprising about sixteen species, chiefly Cuban, the remainder inhabiting North and South America.

1. **Micranthemum orbiculatum**, Michx. Fl. Bor.-Am. i. p. 10, t. 2; DC. Prodr. x. p. 423; A. Gr. Synop. Fl. N. Am. ii. p. 284.

NORTH CAROLINA to TEXAS.—PANAMA, Santiago de Veraguas (*Seemann*, 309).—Southward to PERU and BRAZIL, and in CUBA and TRINIDAD. Hb. Kew.

25. HYDRANTHELIUM.

Hydrantheium, H. B. K. Nov. Gen. et Sp. vii. p. 202, t. 646; Benth. et Hook. Gen. Plant. ii. p. 957.

Two or three species of slender herbs, inhabiting marshy places in Tropical America, one recurring in Tropical Africa.

1. **Hydrantheium egense**, Pœpp. et Endl. Nov. Gen. et Sp. iii. p. 75, t. 287; DC. Prodr. x. p. 425.

SAN SALVADOR (*Bernoulli*, 13).—COLOMBIA to PERU and North BRAZIL; also in west Tropical AFRICA. Hb. Kew.

26. LIMOSELLA.

Limosella, Linn. Gen. Plant. n. 776; Benth. et Hook. Gen. Plant. ii. p. 958.

Small aquatic or subaquatic herbs. About six species or distinct forms, whereof one or two are generally diffused, and the rest South-African.

1. **Limosella aquatica**, Linn. Sp. Pl. p. 881; DC. Prodr. x. p. 426; A. Gr. Synop. Fl. N. Am. ii. p. 284; Reichb. Ic. Fl. Germ. t. 1722; Fl. Dan. i. t. 69.

From HUDSON'S BAY southward.—MEXICO, valleys of San Luis Potosi and Mexico (*Schaffner*).—SOUTH AMERICA; EUROPE; NORTH ASIA; AUSTRALIA. Hb. Kew.

27. SIBTHORPIA.

Sibthorpia, Linn. Gen. Plant. n. 775; Benth. et Hook. Gen. Plant. ii. p. 959.

Slender prostrate herbs. About six species inhabiting Western Europe, mountains of Naples, Tropical and North-west Africa, and South and Central America.

1. **Sibthorpia pichinchensis**, H. B. K. Nov. Gen. et Sp. ii. p. 390, t. 176; DC. Prodr. x. p. 428.

Sibthorpia retusa, H. B. K. loc. cit. p. 391, t. 177.

Sibthorpia parvifolia, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 25; Walp. Rep. vi. p. 644.

SOUTH MEXICO, Vera Cruz to Orizaba (*Müller*, 1558), Zimapan (*Coulter*, 1313), valley of Mexico (*Bourgeau*, 988; *Schaffner*), peak of Orizaba, 9000 to 12,000 feet (*Galeotti*, 7046; *Linden*, 1404), Cordillera of Oaxaca at 9000 feet (*Galeotti*, 7165).—COLOMBIA to PERU, BOLIVIA, and ARGENTINA. Hb. Kew.

28. SCOPARIA.

Scoparia, Linn. Gen. Plant. n. 143; Benth. et Hook. Gen. Plant. ii. p. 959.

About six herbaceous and half-shrubby species, inhabiting South America and Mexico, one species also widely diffused in the warm regions of the Old World.

1. **Scoparia annua**, Ch. et Schl. in Linnæa, vi. p. 375; DC. Prodr. x. p. 431.

SOUTH MEXICO, Tecoluta (*Schiede*).

2. **Scoparia dulcis**, Linn. Sp. Pl. p. 168; DC. Prodr. x. p. 431; Griseb. Fl. Brit. W. Ind. p. 426; Lam. Ill. t. 85.

A common plant in nearly all TROPICAL and SUBTROPICAL COUNTRIES, including MEXICO and CENTRAL AMERICA. Hb. Kew.

3. **Scoparia flava**, Ch. et Schl. in Linnæa, ii. p. 603; DC. Prodr. x. p. 431; Link et Otto, Ic. Pl. Sel. Hort. Berol. t. 60.

SAN SALVADOR (*Bernoulli*, 12).—Southward on the eastern side of South America to URUGUAY. Hb. Kew.

29. CAPRARIA.

Capraria, Linn. Gen. Plant. n. 768; Benth. et Hook. Gen. Plant. ii. p. 959.

Herbs or half-shrubs. Species four, inhabiting Tropical America, one of them recurring in Tropical Africa.

1. **Capraria biflora**, Linn. Sp. Pl. p. 875; DC. Prodr. x. p. 429; A. Gr. Synop. Fl. N. Am. ii. p. 285; Jacq. Amer. t. 115.

Capraria mexicana, Moricand; DC. Prodr. x. p. 429; Griseb. Fl. Brit. W. Ind. p. 427.

FLORIDA, and widely dispersed in Tropical America from MEXICO to BRAZIL and PERU; also in West Tropical AFRICA. Hb. Kew.

2. **Capraria integrifolia**, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 20; Walp. Rep. vi. p. 645.

SOUTH MEXICO, Cordillera of Oaxaca at 5000 feet (*Galeotti*, 653).

3. **Capraria saxifragæfolia**, Schl. et Ch. in Linnæa, v. p. 105.

Pogostoma saxifragæfolia, Schrad. Ind. Sem. Hort. Gætt. 1831; DC. Prodr. x. p. 430.

Capraria cuneata, R. Br. in Ait. Hort. Kew. ed. 2, iv. p. 45.

NORTH MEXICO, San Luis Potosi to Tampico (*Palmer*, 1128); SOUTH MEXICO, near Vera Cruz (*Schiede*), near the Pacific (*Beechey*). Hb. Kew.

30. VERONICA.

Veronica, Linn. Gen. Plant. n. 25; Benth. et Hook. Gen. Plant. ii. p. 964.

A genus comprising upwards of 150 species, dispersed over the temperate and cold regions of both hemispheres, though not numerous in America, and rare in the mountains of the tropics. The small flora of New Zealand numbers about forty, chiefly shrubby, species of this genus. It is one of the very few perfectly natural genera that include slender annual species from an inch or two high, robust perennial herbaceous species, shrubby species, and even arboreous species; for one or two of the New-Zealand species attain the dimensions of small trees.

[*Veronica agrestis*, Linn., is an exceedingly common Old-World species, now naturalized in many other countries, including Mexico.]

1. **Veronica peregrina**, Linn. Sp. Pl. p. 20; DC. Prodr. x. p. 482; A. Gr. Synop. Fl. N. Am. ii. p. 288; Fl. Dan. iii. t. 407; Reichb. Pl. Crit. i. t. 36.

Veronica xalapensis, H. B. K. Nov. Gen. et Sp. ii. p. 389.

CANADA and BRITISH COLUMBIA southward.—MEXICO; CENTRAL AMERICA.—And in South America from COLOMBIA to PATAGONIA; also in North-east ASIA, and now a common weed in many other countries. Hb. Kew.

2. **Veronica serpyllifolia**, Linn. Sp. Pl. p. 15; DC. Prodr. x. p. 482; A. Gr. Synop. Fl. N. Am. ii. p. 288; Fl. Dan. t. 492; Engl. Bot. t. 1075.

LABRADOR and the ALEUTIAN ISLANDS to the mountains of GEORGIA, NEW MEXICO, and CALIFORNIA.—MEXICO, pine-forests, peak of Orizaba, at 12,000 feet (*Galeotti*, 1725).—SOUTH AMERICA; EUROPE; ATLANTIC ISLANDS; NORTH AFRICA; ASIA; AUSTRALIA. Hb. Kew.

31. ESCOBEDIA.

Escobedia, Ruiz et Pav. Prodr. Fl. Per. et Chil. p. 91, t. 18; Benth. et Hook. Gen. Plant. ii. p. 965.

An exclusively Tropical-American genus of two herbaceous species.

1. ***Escobedia linearis***, Schl. in Linnæa, viii. p. 246; DC. Prodr. x. p. 337. (Tab. LXII.)

Escobedia laevis, Ch. et Schl. in Linnæa, v. p. 108.

Escobedia stricta, Zuccar. in Flora, 1832, ii. Beibl. p. 100.

SOUTH MEXICO, near Vera Cruz, 3000 feet (*Galeotti*, 1072), Mirador (*Linden*, 524), Vera Cruz to Orizaba (*Müller*, 1137; *Bourgeau*), Zacuapan (*Hartweg*), near Oaxaca (*Andrieux*, 176), Chiapas (*Ghiesbreght*, 673); GUATEMALA, Dueñas (*Godman & Salvin*). Hb. Kew.

EXPLANATION OF TAB. LXII.

Fig. 1, a corolla laid open, slightly enlarged; 2 and 3, stamens, enlarged about two thirds; 4, a capsule, natural size; 5, a seed, enlarged.

2. ***Escobedia scabrifolia***, Ruiz et Pav. Syst. Veg. p. 159; DC. Prodr. x. p. 337; H. B. K. Nov. Gen. et Sp. ii. t. 174; Fl. Bras. viii. t. 45.

Buchnera grandiflora, Linn. f. Suppl. p. 287.

Silvia curialis, Vell. Fl. Flum. i. t. 149.

SOUTH MEXICO, Aguas Calientes (*Hartweg*), San Felipe (*Andrieux*, 175), region of Orizaba (*Bourgeau*, 2804), Chiapas (*Ghiesbreght*, 726).—COLOMBIA to PERU, GUIANA, and BRAZIL. Hb. Kew.

32. MELASMA.

Melasma, Berg. Fl. Capen. p. 162, t. 3. fig. 4; Benth. et Hook. Gen. Plant. ii. p. 966.

About four herbaceous species—two inhabiting South Africa, one Brazil, and one Mexico.

1. ***Melasma hispidum***, Benth. in Hook. Comp. Bot. Mag. i. p. 202; DC. Prodr. x. p. 338.

Lophospermum physalodes, D. Don in Trans. Linn. Soc. xv. p. 350.

Lyncea hispida, Ch. et Schl. in Linnæa, v. p. 109.

Gastromeria physalodes, D. Don in G. Don's Gen. Syst. iv. p. 562.

SOUTH MEXICO, Mirador (*Linden*, 152), Cordillera of Vera Cruz, 3000 feet (*Galeotti*, 759), region of Orizaba (*Bourgeau*, 3127; *Botteri*, 860), Zacuapan (*Hartweg*), Cuernavaca (*Bourgeau*, 1171), Cordillera of Oaxaca (*Galeotti*, 7067). Hb. Kew.

33. BUCHNERA.

Buchnera, Linn. Gen. Plant. n. 772; Benth. et Hook. Gen. Plant. ii. p. 968.

Herbs. About thirty species have been described, some of them very difficult to distinguish. They are widely scattered in the warmer regions of both hemispheres.

1. **Buchnera elongata**, Sw. Fl. Ind. Occ. ii. p. 1061; DC. Prodr. x. p. 498; A. Gr. Synop. Fl. N. Am. ii. 289.

Buchnera lithospermifolia, H. B. K. Nov. Gen. et Sp. ii. p. 341; DC. Prodr. x. p. 497?

Buchnera elongata β . *pilosa*, Schl. in Linnæa, viii. p. 247.

Buchnera pilosa, Benth. Bot. Voy. 'Sulphur,' p. 144.

SOUTH CAROLINA to FLORIDA and TEXAS.—MEXICO, Juquila &c., 3000 feet (*Galeotti*, 759), Mirador (*Linden*, 152), Vera Cruz to Orizaba (*Müller*, 1580), Bolaños (*Hartweg*, 100); GUATEMALA (*Bernoulli*); NICARAGUA, Realejo (*Hinds*).—Southward to PERU and BRAZIL. Hb. Kew.

There may be more than one species included here.

2. **Buchnera major**, Polak. in Linnæa, xli. p. 588.

COSTA RICA, San José (*Polakowsky*).

3. **Buchnera mexicana**, Hemsley, n. sp.

B. americanæ affinis, differt foliis caulinis omnibus multo angustioribus, corollis extus glabris, etc. *Herba* erecta, scabra, caulibus subsimplicibus, gracilibus, sublignosis. *Folia* caulina linearia, usque ad $2\frac{1}{2}$ poll. longa, integra. *Flores* majusculi, brevissime pedicellati vel sessiles; racemi vel spicæ paucifloræ; bracteæ calyce breviores; calycis dentes lineari-subulati, patentes; corolla extus omnino glabra, 10–12 lineas diametro, limbi lobis latis, tubo 7–8 lineas longo, intus barbato.

NORTH MEXICO, Sierra Madre (*Seemann*, 2095). Hb. Kew.

This may be the plant called *B. americana*, var. *glabrior*, Benth. MSS., in Seem. Bot. Voy. 'Herald,' p. 323; but there is no evidence in writing on any of the sheets.

β . **minor** (vel species diversa) foliis caulinis nonnullis paucidentatis, floribus fere dimidio minoribus.

NORTH MEXICO, Cerro de Pinal (*Seemann*, 1506). Hb. Kew.

In Seemann's 'Botany of the Voyage of the Herald,' two species of *Buchnera* are recorded from the Sierra Madre, and both are stated to have blue flowers, whilst Seemann's own label attached to the specimen which we have named *B. mexicana* β . *minor* has "*flores carnei!!*" in Seemann's handwriting; and these are the only two Mexican forms collected by Seemann.

4. **Buchnera obliqua**, Benth. in DC. Prodr. x. p. 498.

MEXICO (*Alaman*, *Sheppard*). Hb. Kew.

5. **Buchnera rosea**, H. B. K. Nov. Gen. et Sp. ii. p. 342; DC. Prodr. x. p. 498.

PANAMA, Isle of Taboga (*Sinclair*).—COLOMBIA; GUIANA; BRAZIL. Hb. Kew.

6. **Buchnera tinctoria**, Bertolini, Fl. Guat. p. 26; DC. Prodr. x. p. 499.

GUATEMALA (*Velasquez*).

34. SEYMERIA.

Seymeria, Pursh, Fl. Am. Sept. ii. p. 736; Benth. et Hook. Gen. Plant. ii. p. 971.

Nine herbaceous species, whereof eight are North-American and Madagascarian.

1. ***Seymeria bipinnatisecta***, Seem. Bot. Voy. 'Herald,' p. 323, t. 59; A. Gr. Synop. Fl. N. Am. ii. p. 290.

TEXAS.—NORTH MEXICO, Sierra Madre (*Seemann*, 2102), Caracol Mountains, twenty-one miles south-east of Monclova (*Palmer*, 989). Hb. Kew.

2. ***Seymeria decurva***, Benth. in DC. Prodr. x. p. 572.

Gerardia virgata, Benth. in Hook. Comp. Bot. Mag. i. p. 205, non H. B. K.

SOUTH MEXICO, Real del Monte (*Coulter*, 1282), without locality (*Graham*, 278). Hb. Kew.

3. ***Seymeria pinnatifida***, Hemsley, n. sp.

Foliis parvis pinnatifidis, segmentis paucis latiusculis.

Herba parce viscoso-puberula, ramis vel caulibus subsimplicibus gracilibus. *Folia* (caulina tantum vidi) subsessilia, crassiuscula, usque ad 9 lineas longa et $4\frac{1}{2}$ lineas lata, pinnatifida, superiora gradatim minora, lobis utrinque 3, brevibus, latiusculis. *Flores* axillares, solitarii (vel racemosi, racemis foliiferis), pedunculis (vel pedicellis) quam folia longioribus; calycis lobi oblongo-spathulati, obtusi, corollæ tubum fere æquantes; corolla circiter 4 lineas longa lataque, tubo recto, lobis rotundatis, obscure ciliolatis; filamenta brevia, dilatata, barbata; antheræ magnæ, inclusæ; ovarium glabrum; stylus filiformis. *Capsulam* maturam non vidi.

SOUTH MEXICO, Zimapan (*Coulter*, 1281, 1283 in part). Hb. Kew.

4. ***Seymeria virgata***, Benth. in DC. Prodr. x. p. 511; Seem. Bot. Voy. 'Herald,' t. 60.

Gerardia virgata, H. B. K. Nov. Gen. et Sp. ii. p. 344.

Gerardia laciniata, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 26.

Dasystema laciniata, Walp. Rep. vi. p. 650.

NORTH MEXICO, Sierra Madre (*Seemann*, 2106), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 682); SOUTH MEXICO, Villalpando, between Guanajuato and Santa Rosa, at about 8000 feet (*Humboldt & Bonpland*), Cordillera of Oaxaca, at 7500 feet (*Galeotti*, 1070), Real del Monte (*Coulter*, 1280). Hb. Kew.

35. SILVIA.

Silvia, Benth. in DC. Prodr. x. p. 513; Benth. et Hook. Gen. Plant. ii. p. 972.

Two small, prostrate, half-shrubby species, endemic in Mexico.

1. ***Silvia prostrata***, Benth. in DC. Prodr. x. p. 513.

Gerardia prostrata, H. B. K. Nov. Gen. et Sp. ii. p. 343.

SOUTH MEXICO, between Pachuca and Cerro Ventoso, about 7000 feet (*Humboldt & Bonpland*), Real del Monte (*Berlandier*, 250; *Galeotti*, 1093; *Coulter*, 1283 in part), Oaxaca (*Ghiesbreght*). Hb. Kew.

2. ***Silvia serpyllifolia***, Benth. in DC. Prodr. x. p. 513.

Gerardia serpyllifolia, H. B. K. Nov. Gen. et Sp. ii. p. 343.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 685); SOUTH MEXICO, Chalco (*Andrieux*, 178), Lake Texcoco, valley of Mexico (*Bourgeau*, 107), near Lake San Cristoforo, at about 7000 feet (*Humboldt & Bonpland*). Hb. Kew.

36. GERARDIA.

Gerardia, Linn. Gen. Plant. n. 747; Benth. et Hook. Gen. Plant. ii. p. 972.

An exclusively American genus of about thirty-five species, chiefly inhabiting the eastern side of North America, though there are some scattered nearly all over tropical and temperate South America.

1. ***Gerardia dasyantha***, Ch. et Schl. in Linnæa, v. p. 104; DC. Prodr. x. p. 517.

MEXICO (*Schiede & Deppe*).

2. ***Gerardia grandiflora***, Benth. in Hook. Comp. Bot. Mag. i. p. 209; . Prodr. x. p. 518; A. Gr. Synop. Fl. N. Am. ii. p. 291.

WISCONSIN and IOWA to TENNESSEE and TEXAS.—NORTH MEXICO, Sierra Madre, Coahuila (*Palmer*). Hb. Kew.

3. ***Gerardia peduncularis***, Benth. in Hook. Comp. Bot. Mag. i. p. 209; DC. Prodr. x. p. 518, cum β . *guatemalensi*, loc. cit.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 670), Sierra Madre (*Seemann*, 2099); SOUTH MEXICO, Vera Cruz to Orizaba (*Müller*, 1175; *Botteri*, 1054; *Galeotti*, 1015; *Bourgeau*, 2707), Cordillera of Oaxaca, 7000 feet (*Galeotti*, 1014), Zimapan (*Coulter*, 1284), Zacuapan (*Linden*, 207), Chiapas (*Ghiesbreght*); GUATEMALA (*Skinner*; *Hartweg*). Hb. Kew.

4. ***Gerardia wrightii***, A. Gr. in Torr. Bot. U.S. & Mex. Bound. Surv. p. 118; Synop. Fl. N. Am. ii. p. 292.

ARIZONA.—NORTH MEXICO, between Babocomori and Santa Cruz, Sonora (*Wright*).

37. CASTILLEJA.

Castilleja, Mutis ex Linn. fil. Suppl. Gen. Plant. p. 47; Benth. et Hook. Gen. Plant. ii. p. 973.

About thirty-five herbaceous species, the greater part inhabiting North America, including Mexico; a few the Andes of South America; one of the Mexican species is widely dispersed in the Andes; another occurs in Brazil; and one of the North-American species is also widely dispersed in Northern Asia. The Mexican species are in need of revision; and many of the determinations below can only be regarded as approximations.

1. **Castilleja affinis**, Hook. et Arn. Bot. Beech. Voy. p. 154; A. Gr. Synop. Fl. N. Am. ii. p. 296; Seem. Bot. Voy. 'Herald,' p. 323.

CALIFORNIA.—NORTH MEXICO, Sierra Madre (*Seemann*, 2097). Hb. Kew.

2. **Castilleja angustifolia**, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 29; Walp. Rep. vi. p. 651.

SOUTH MEXICO, Mirador at 3000 feet, and Volcan de Jorullo at 4000 feet (*Galeotti*, 1033, 1078, 1098). Hb. Kew.

Galeotti's number 1078 is referred to *C. lithospermoides*, H. B. K., in Kew herbarium.

3. **Castilleja arvensis**, Ch. et Schl. in Linnæa, v. p. 103; DC. Prodr. x. p. 529.

NORTH MEXICO, Zacatecas (*Coulter*, 1349).—SOUTH MEXICO, Aguas Calientes (*Hartweg*, 192), valley of Cordova (*Bourgeau*, 1893), around the city of Mexico (*Berlandier*, 925; *Bilimek*, 296). Hb. Kew.

4. **Castilleja canescens**, Benth. in DC. Prodr. x. p. 533; Seem. Bot. Voy. 'Herald,' p. 323.

NORTH MEXICO, Sierra Madre (*Seemann*, 2098), region of San Luis Potosi (*Parry & Palmer*, 688); SOUTH MEXICO, mountains east of Oaxaca (*Galeotti*, 992, 1087), around Toluca (*Andrieux*, 156). Hb. Kew.

This may have to be reduced to *C. angustifolia*, Mart. et Gal., as it was founded, in part at least, on the same material.

5. **Castilleja communis**, Benth. in DC. Prodr. x. p. 529; Fl. Bras. viii. p. 323, t. 56. fig. 2.

SOUTH MEXICO, Vera Cruz (*Galeotti*, 1077; *Linden*, 212); GUATEMALA, Volcan de Fuego, 7400 feet (*Salvin*), near Coban, at 4400 feet (*Türkheim*); NICARAGUA, Masaya (*Ersted*); COSTA RICA (*Endres*); PANAMA, Remedios (*Seemann*, 1248).—Common southward to PERU and URUGUAY. Hb. Kew.

6. **Castilleja fissifolia**, Linn. fil. Suppl. p. 293; DC. Prodr. x. p. 533; Smith, Ic. ined. t. 40.

GUATEMALA (*Friedrichsthal*); COSTA RICA, Volcan de Irazu, at 11,000 feet (*Wendland*).—COLOMBIA; VENEZUELA. Hb. Kew.

7. **Castilleja gracilis**, Benth. Prodr. x. p. 528.

MEXICO (*Alaman*; *Mairet*).

8. **Castilleja hirsuta**, Mart. et Gal. in Bull. Acad. Brux. (1845), xii. 2, p. 29; Walp. Rep. vi. p. 651.

Castilleja obovata, Benth. in DC. Prodr. (1846), x. p. 528.

SOUTH MEXICO, Mirador (*Linden*, 205), near Vera Cruz, 3000 feet (*Galeotti*, 984), San Cristobal (*Bourgeau*, 2905). Hb. Kew.

9. **Castilleja integra**, A. Gr. in Torr. Bot. U.S. & Mex. Bound. Surv. p. 119; A. Gr. Synop. Fl. N. Am. ii. p. 298.

Castilleja tomentosa, A. Gr. loc. cit.

TEXAS; COLORADO; ARIZONA.—NORTH MEXICO, Sonora (*Smith*). Hb. Kew.

10. **Castilleja integrifolia**, Linn. fil. Suppl. p. 293; DC. Prodr. x. p. 533; Smith, Ic. ined. t. 39.

SOUTH MEXICO, Vera Cruz to Orizaba (*Müller*, 1739), Chiapas (*Ghiesbreght*, 654, 655); GUATEMALA, Zunil (*Hartweg*).—COLOMBIA. Hb. Kew.

11. **Castilleja irasuensis**, Ærst. in Vidensk. Meddel. 1853, p. 27.

COSTA RICA, Volcan de Irazu, 9000 to 11,000 feet (*Ærsted*).

12. **Castilleja lanata**, A. Gr. in Torr. Bot. U.S. & Mex. Bound. Surv. p. 118; Synop. Fl. N. Am. ii. p. 298.

TEXAS to ARIZONA.—NORTH MEXICO, Monterey (*Eaton & Edwards*, 94), Buena Vista (*Gregg*), Saltillo (*Palmer*, 990). Hb. Kew.

13. **Castilleja laxa**, A. Gr. in Torr. Bot. U.S. & Mex. Bound. Surv. p. 119; Synop. Fl. N. Am. ii. p. 296.

NORTH MEXICO, Santa Cruz, Sonora (*Wright*, 1490). Hb. Kew.

14. **Castilleja linariæfolia**, Benth. in DC. Prodr. x. p. 532; A. Gr. Synop. Fl. N. Am. ii. p. 296.

COLORADO and WYOMING to NEW MEXICO, ARIZONA, and CALIFORNIA.—NORTH MEXICO, Sonora (*Thurber*).

15. **Castilleja lithospermoides**, H. B. K. Nov. Gen. et Sp. ii. p. 331, t. 164; DC. Prodr. x. p. 530.

SOUTH MEXICO, near Real del Monte and Moran, at about 8000 feet (*Humboldt & Bonpland*), region of Orizaba, up to 12,000 feet (*Linden*, 224; *Bourgeau*, 2904; *Müller*, 1657), Vera Cruz, 3000 feet (*Galeotti*, 983, 986, 1078?), Mirador (*Linden*, 1099). Hb. Kew.

16. **Castilleja longibracteata**, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 28; Walp. Rep. vi. p. 651.

SOUTH MEXICO, woods of Juquila del Sur, Pacific coast of Oaxaca, at 5000 feet, and at Talea and El Rincon, eastern Cordillera of Oaxaca, at 3000 to 4000 feet (*Galeotti*, 988). Hb. Kew.

17. **Castilleja longiflora**, Kunze in Linnæa, xvi. p. 312; DC. Prodr. x. p. 533; Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 28.

SOUTH MEXICO (*Ehrenberg*), Tehuacan, at 5500 feet (*Galeotti*, 987). Hb. Kew.

18. **Castilleja moranensis**, H. B. K. Nov. Gen. et Sp. ii. p. 329; DC. Prodr. x. p. 530.

SOUTH MEXICO, between Pachuca and Moran, at 8000 feet (*Humboldt & Bonpland*), near Toluca, 8500 feet (*Galeotti*, 1082). Hb. Kew.

19. **Castilleja pallida**, Kunth, Syn. Pl. Æquin. ii. p. 100, in nota; DC. Prodr. x. p. 531; A. Gr. Synop. Fl. N. Am. ii. p. 297.

Widely dispersed in North America from LABRADOR across the continent and down the western side to CALIFORNIA.—NORTH MEXICO, on the Sonoita, within the old boundary (*Rothrock*).

20. **Castilleja pectinata**, Mart. et Gal. in Bull. Acad. Brux. (1845), xii. 2, p. 27; Walp. Rep. vi. p. 651.

Castilleja orizabæ, Benth. in DC. Prodr. x. (1846) p. 533.

SOUTH MEXICO, peak of Orizaba, 9800 to 12,000 feet (*Galeotti*, 1074; *Linden*, 223). Hb. Kew.

21. **Castilleja (Hemichroma) schaffneri**, Hemsley, n. sp. (Tab. LXIII. B. figg. 7–13.)

Parva, nana, foliis integris, bracteis e basi lata trifidis, lobis angustis subacutis, calyce antice posticeque subæqualiter fissis, lobis latis rotundatis vel obscure emarginatis.

Herba annua (?), basi ramosa, hirsuta, scabrida, ramis vel caulibus erectis vel adscendentibus, 2–4 poll. longis, densissime foliosis. *Folia* integra, anguste lineari-lanceolata, subacuta, usque ad 8 lineas longa. *Flores* sessiles, sæpius ad 6 aggregati, conferti, 10–14 lineas longi; bractee floribus breviores, basi latæ, trinerviæ, trifidæ, lobis linearibus, subacutis, centrali longiore; calyx antice posticeque subæqualiter fissus, lobis latis, rotundatis vel obscure emarginatis (nec ut in icone tridentatis); corollæ labium superius paullo exsertum, extus hirsutum; labium inferius brevissimum, tridentatum. *Capsula* parva, inclusa; semina punctata.

SOUTH MEXICO, valley of Mexico (*Schaffner*, 373), Desierto Viejo, valley of Mexico (*Bourgeau*, 874) Hb. Kew.

EXPLANATION OF TAB. LXIII. B. FIGG. 7–13.

Fig. 7, a flower with subtending bract (lobes of the calyx incorrectly represented as 3-toothed); 8, front view of the same, the bract removed; 9, a corolla; 10, the same cut open; 11, a stamen; 12, a pistil: all enlarged. 13, a capsule, about natural size.

22. **Castilleja scorzonæræfolia**, H. B. K. Nov. Gen. et Sp. ii. p. 331, t. 165; DC. Prodr. x. p. 529.

Castilleja speciosa, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 30?

NORTH MEXICO, Sierra Madre (*Seemann*, 2096); SOUTH MEXICO, near Pazcuaro and Ario, at 6600 feet (*Humboldt & Bonpland*), Real del Monte (*Coulter*, 1347, 1348), peak of Orizaba (*Linden*, 222), Cordillera of Vera Cruz, 2000 feet (*Galeotti*, 1073). Hb. Kew.

23. **Castilleja sessiliflora**, Pursh, Fl. Am. Sept. ii. p. 738; DC. Prodr. x. p. 531; Torr. Bot. U.S. & Mex. Bound. Surv. p. 119; A. Gr. Synop. Fl. N. Am. ii. p. 298.

WISCONSIN and ILLINOIS to SASKATCHEWAN and DAKOTA, and south to TEXAS and NEW MEXICO.—NORTH MEXICO, Santa Maria, Chihuahua (*Schott*), mountains east of Saltillo (*Palmer*, 993). Hb. Kew.

24. **Castilleja tenuiflora**, Benth. Pl. Hartw. p. 22; DC. Prodr. x. p. 533.

SOUTH MEXICO, Aguas Calientes (*Hartweg*, 191). Hb. Kew.

25. **Castilleja tenuifolia**, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 30; Walp. Rep. vi. p. 651.

Castilleja anthemidifolia, Benth. in DC. Prodr. x. p. 528.

SOUTH MEXICO, Cordillera of Oaxaca, 3000 to 8000 feet (*Galeotti*, 995; *Ghiesbreght*). Hb. Kew.

26. **Castilleja toluensis**, H. B. K. Nov. Gen. et Sp. ii. p. 329; DC. Prodr. x. p. 530; Mart. et Gal. in Bull. Acad. Brux. xii. 2 (reprint, p. 15).

SOUTH MEXICO, Volcan de Toluca, 8250 to 12,000 feet (*Humboldt & Bonpland*; *Galeotti*, 1090), peak of Orizaba at the extreme limits of phanerogamic vegetation, 13,000 feet (*Galeotti*, 1075). Hb. Kew.

38. ORTHOCARPUS.

Orthocarpus, Nutt. Gen. N. Am. Pl. ii. p. 56; Benth. et Hook. Gen. Plant. ii. p. 974.

About twenty-four herbaceous species, inhabiting North-west America, one Mexico, and one the Andes of South America, southward to Chili.

1. **Orthocarpus mexicanus**, Hemsley, n. sp. (Tab. LXIII. A. figg. 1-6.)

Nanus, facie *Castilleja sessilifloræ*, a qua differt calyce multo brevior lobis breviter bifidis, corolla longissime exserta.

Herba annua (?), erecta, 3-6 poll. alta, hirsuta, caulibus dense foliosis. *Folia* sessilia, pinnatifida, lobis linearibus utrinque sæpius 2. *Flores* sessiles, 2-2½ poll. longi, erecti; bractæ calyce breviores, basi latæ, trinerviæ, alte trilobatæ, lobis linearibus, obtusiusculis, lateralibus paullo brevioribus; calyx antice posticeque fissus, lobis distincte bifidis; corolla calycem triplo superans, gracilis, puberula, labiis subæqualibus, inferiore tripartito, basi obscure saccato; antheræ biloculares, subobliquæ, loculis linearibus. *Capsulam* maturam non vidi.

NORTH MEXICO, Zacatecas (*Coulter*, 1355), near San Luis Potosi (*Schaffner*, 82). Hb. Kew.

Although this is very closely allied to *Castilleja sessiliflora*, we have preferred placing it in *Orthocarpus*, because it certainly ought to go into the same genus as *O. australis*, and because it differs from nearly all the species referred to *Castilleja* in the bifid lobes of the calyx, and in the long exserted corolla with nearly equal lips. Perhaps it would be better to place *Castilleja sessiliflora* and one or two allied species in *Orthocarpus*.

EXPLANATION OF TAB. LXIII. A. FIGG. 1-6.

Fig. 1, a flower with subtending bract; 2, front view of a flower; 3, upper portion of corolla laid open, showing the insertion of the stamens; 4 & 5, anthers; 6, a pistil: all enlarged.

39. CORDYLANTHUS.

Cordylanthus, Nutt. ex Benth. in DC. Prodr. x. p. 597; Benth. et Hook. Gen. Plant. ii. p. 974.

Eleven herbaceous species, inhabiting North-west America, two of them extending into North Mexico.

1. **Cordylanthus laxiflorus**, A. Gr. in Torr. Bot. U.S. & Mex. Bound. Surv. p. 120; Synop. Fl. N. Am. ii. p. 303.

ARIZONA.—NORTH MEXICO, Sonora (*Thurber*).

2. **Cordylanthus wrightii**, A. Gr. in Torr. Bot. U.S. & Mex. Bound. Surv. p. 120; Synop. Fl. N. Am. ii. p. 303.

TEXAS to ARIZONA.—NORTH MEXICO, Chihuahua (*Thurber*).

40. BARTSIA.

Bartsia, Linn. Gen. Plant. n. 739; Benth. et Hook. Gen. Plant. ii. p. 977.

About sixty herbaceous species, inhabiting Europe, extratropical Asia, North and Montane Africa, Montane and extratropical South America; and one Old-World species recurs in Arctic America. The numerous South-American species are difficult of discrimination in a dried state.

1. **Bartsia santolinæfolia**, Benth. in DC. Prodr. x. p. 546.

Euphrasia santolinæfolia, H. B. K. Nov. Gen. et Sp. ii. p. 333, t. 166.

Bartsia laticrenata, Benth. loc. cit. p. 547.

SOUTH MEXICO, Sierra San Pedro Nolasco etc. (*Jurgensen*, 687), without locality (*Sallé*).—COLOMBIA to PERU. Hb. Kew.

41. LAMOUROUXIA.

Lamourouxia, H. B. K. Nov. Gen. et Sp. ii. p. 335, tt. 167 ad 169; Benth. et Hook. Gen. Plant. ii. p. 978.

About twenty herbaceous species, inhabiting Mexico, Central America, and the mountains of South America.

1. **Lamourouxia dependens**, Benth. in DC. Prodr. x. p. 539.

GUATEMALA, Volcan de Fuego, 7400 feet (*Salvin*), without locality (*Skinner*). Hb. Kew.

2. **Lamourouxia gutierrezii**, *Ærsted* in Vidensk. Meddel. 1853, p. 29.

Lamourouxia scabra, Benth. in Seem. Bot. Voy. 'Herald,' p. 177, t. 33.

SOUTH MEXICO, Pedregal, valley of Mexico (*Bourgeau*, 101), without locality (*Sallé*); COSTA RICA, mountains of Candelaria (*Ærsted*, 10); PANAMA, Boquete, Veraguas (*Seemann*, 1175; *Bridges*). Hb. Kew.

3. **Lamourouxia lanceolata**, Benth. in DC. Prodr. x. p. 542.

SOUTH MEXICO, Amatenango, Chiapas (*Linden*, 198; *Ghiesbreght*, 705); GUATEMALA, near Coban (*Türckheim*); COSTA RICA, Ujaras and Volcan de Irazu (*Ærsted*). Hb. Kew.

4. **Lamourouxia longiflora**, Benth. Pl. Hartw. p. 22, et in DC. Prodr. x. p. 540. NORTH MEXICO, Sierra Madre (*Seemann*, 2101); SOUTH MEXICO, Bolaños (*Hartweg*, 188). Hb. Kew.

5. **Lamourouxia macrantha**, Mart. et Gal. in Bull. Acad. Brux. (1845) xii. 2, p. 32; Walp. Rep. vi. p. 652.

Lamourouxia betonicæfolia, Benth. in DC. Prodr. x. p. 539.

SOUTH MEXICO, Oaxaca (*Ghiesbreght*), Cerro San Felipe, Oaxaca, 8000 to 9000 feet (*Galeotti*, 1104), peak of Orizaba, at 8000 to 9500 feet (*Galeotti*, 994; *Linden*, 225). Hb. Kew.

6. **Lamourouxia microphylla**, Mart. et Gal. in Bull. Acad. Brux. (1845) xii. 2, p. 31; Walp. Rep. vi. p. 652.

Lamourouxia parvifolia, Benth. in DC. Prodr. x. p. 542.

SOUTH MEXICO, western Cordillera of Oaxaca at 7000 feet (*Galeotti*, 1005). Hb. Kew.

7. **Lamourouxia multifida**, H. B. K. Nov. Gen. et Sp. ii. p. 339; DC. Prodr. x. p. 540.

Lamourouxia laciniata, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 32; Walp. Rep. vi. p. 652.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 687), Sierra Madre (*Seemann*, 2104); SOUTH MEXICO, between Guanajuato and Santa Rosa de la Sierra, at 7200 feet (*Humboldt & Bonpland*), Cordillera of Oaxaca, 4500 to 9000 feet (*Galeotti*, 990, 994), Real del Monte (*Coulter*, 1356), Sierra de Zongolica (*Botteri*, 984), valley of Mexico (*Bourgeau*, 612), Chiapas (*Ghiesbreght*, 704); GUATEMALA, Volcan de Fuego (*Godman & Salvin*, 240), Barranca de Incienso (*Skinner*). Hb. Kew.

8. **Lamourouxia ovata**, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 33; Walp. Rep. vi. p. 653.

SOUTH MEXICO, calcareous mountains of Zeta, near Sola, south of Oaxaca, at 8000 feet (*Galeotti*, 989).

9. **Lamourouxia (Euphrasioides) parviflora**, Hemsley, n. sp.

Gracillima, præter flores fere glabra, foliis angustis tenuibus, floribus 7-9 lineas longis.

Herba erecta, ramosa, ramis gracillimis, obscure bifariam puberulis. *Folia* siccatione nigra, breviter petiolata, tenuia, glabra vel cito glabrescentia, lanceolata, usque ad 1 poll. longa, acuta, argute serrata. *Flores* axillares, solitarii, breviter pedunculati, 7-9 lineas longi; calyx fere glaber, circiter 4 lineas longus, lobis subæqualibus, acutis, tubo longioribus; corolla extus pubescens, recta, labiis subæqualibus, inferiore lobis obtusis; stamina 4 (interdum quinto minore), subæqualia, antheris muticis, valde barbatis. *Capsulam* non vidi.

MEXICO, without locality (*Tate*, 31; *Mairet*, 56). Hb. Kew.

10. **Lamourouxia rhinanthifolia**, H. B. K. Nov. Gen. et Sp. ii. p. 337, t. 169; DC. Prodr. x. p. 541.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 686); SOUTH MEXICO, Zimapan (*Coulter*, 1357), valley of Mexico (*Schaffner*, 377), Sierra San

BIOL. CENTR.-AMER., Bot. Vol. II., *April* 1882.

Pedro Nolasco etc. (*Jurgensen*, 708), near Magdalena, Actopan, and Santa Rosa, 625 to 7800 feet (*Humboldt & Bonpland*). Hb. Kew.

11. **Lamourouxia spathacea**, Benth. in DC. Prodr. x. p. 539.

SOUTH MEXICO, Sierra San Pedro Nolasco &c. (*Jurgensen*, 526, 555), peak of Orizaba, 5000 feet (*Linden*, 226; *Botteri*, 383; *Bourgeau*, 986), Cordillera east of Oaxaca, at 7000 feet (*Galeotti*, 1007 bis, in part). Hb. Kew.

12. **Lamourouxia tenuifolia**, Mart. et Gal. in Bull. Acad. Brux. (1845) xii. 2, p. 32; Walp. Rep. vi. p. 652.

Lamourouxia linearis, Benth. in DC. Prodr. x. p. 540.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 673), Zacatecas (*Coulter*, 1359); SOUTH MEXICO, Queretaro (*Berlandier*), valley of Mexico (*Schaffner*, 368; *Bilimek*, 284; *Bourgeau*, 1113), Real del Monte (*Coulter*, 1272), woods to the east of Oaxaca, 7000 feet (*Galeotti*, 1007). Hb. Kew.

13. **Lamourouxia viejensis**, Ærst. in Vidensk. Meddel. 1853, p. 28.

NICARAGUA, Volcan el Viejo, 3000 feet (*Ærsted*). Hb. Kew.

14. **Lamourouxia viscosa**, H. B. K. Nov. Gen. et Sp. ii. p. 338; DC. Prodr. x. p. 542.

Lamourouxia cordata, Ch. et Schl. in Linnæa, v. p. 103.

NORTH MEXICO, Cerro de Pinal (*Seemann*, 1510), Sierra Madre (*Seemann*, 2108), Zacatecas (*Hartweg*); SOUTH MEXICO, Vera Cruz (*Schiede*; *Galeotti*, 991), Oaxaca (*Andrieux*, 159, 160), Gonacatepec Puebla (*Andrieux*, 158), Orizaba (*Botteri*, 799; *Sallé*; *Bourgeau*, 2424), Mirador (*Linden*, 204), Acapulco (*Hinds*), Tepic (*Barclay*), Sierra San Pedro Nolasco (*Jurgensen*, 545), Zimapan (*Coulter*, 1358); GUATEMALA, San Gerónimo (*Godman & Salvin*, 135), Capetillo, Volcan de Fuego, 4600 feet (*Salvin*); COSTA RICA, Aguacate (*Ærsted*). Hb. Kew.

This species is very variable in its foliage; and we were unable to sort the specimens into the two proposed species.

15. **Lamourouxia xalapensis**, H. B. K. Nov. Gen. et Sp. ii. p. 388; DC. Prodr. x. p. 539.

SOUTH MEXICO, near Jalapa, at about 4000 feet (*Humboldt & Bonpland*), Oaxaca (*Ghiesbreght*), Cordillera of Oaxaca, at 7000 feet (*Galeotti*, 1007 bis, in part), Chiapas etc. (*Ghiesbreght*, 706), without locality (*Mackenzie, Parkinson*). Hb. Kew.

We suspect from the description of *L. xalapensis* that *L. spathacea* is the same species, and that all the specimens, except Humboldt and Bonpland's, here referred to the former belong to a different species.

42. PEDICULARIS.

Pedicularis, Linn. Gen. Plant. n. 746; Benth. et Hook. Gen. Plant. ii. p. 976.

Herbs. Upwards of 120 species are enumerated. They mostly inhabit montane,

alpine, and arctic regions in Europe, Central Asia, and North America; a few occur in the mountains of Tropical America and peninsular India. The genus is apparently unrepresented in Africa.

1. **Pedicularis angustifolia**, Benth. Pl. Hartw. p. 22; DC. Prodr. x. p. 567.

NORTH MEXICO, Sierra Madre (*Seemann*, 2103); SOUTH MEXICO, Bolaños (*Hartweg*). Hb. Kew.

2. **Pedicularis canadensis**, Linn. Mant. p. 86; DC. Prodr. x. p. 568; A. Gr. Synop. Fl. Am. ii. p. 307; Bot. Mag. t. 2506; Sweet's Brit. Fl. Gard. i. t. 67.

Pedicularis æquinoctialis, H. B. K. Nov. Gen. et Sp. ii. p. 332.

CANADA to the SASKATCHEWAN, south to FLORIDA, and west to the COLORADO ROCKY MOUNTAINS.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 684); SOUTH MEXICO, Real del Monte (*Coulter*, 1360; *Humboldt & Bonpland*). Hb. Kew.

3. **Pedicularis mexicana**, Zuccar.; DC. Prodr. x. p. 575.

Pedicularis orizabæ, Benth. Pl. Hartw. p. 47, non Ch. et Schl.

MEXICO, without locality (*Berlandier*, 590, 633, 1201; *Alaman*; *Bates*), Anganguio (*Hartweg*). Hb. Kew.

4. **Pedicularis orizabæ**, Ch. et Schl. in Linnæa, v. p. 103; DC. Prodr. x. p. 575.

SOUTH MEXICO, summit of San Felipe (*Andrieux*, 157), peak of Orizaba, 12,000 feet (*Galeotti*, 1064; *Linden*, 1090), Cordillera of Oaxaca, at 9000 feet (*Galeotti*, 1065). Hb. Kew.

5. **Pedicularis procera**, A. Gr. in Am. Journ. Sc. ser. 2, xxxiv. p. 251; Synop. Fl. N. Am. ii. p. 308.

COLORADO; NEW MEXICO.—NORTH MEXICO, within the old boundary on Mount Graham (*Rothrock*).

6. **Pedicularis tripinnata**, Mart. et Gal. in Bull. Acad. Brux. xii. 2, p. 34; Walp. Rep. vi. p. 654.

SOUTH MEXICO, woods of Jesus del Monte, near Morelia, at 7000 to 7500 feet (*Galeotti*, 1063). Hb. Kew.

Order XCVII. OROBANCHACEÆ.

Orobanchaceæ, Benth. et Hook. Gen. Plant. ii. p. 980.

Herbaceous, variously coloured, not green, leafless root-parasites, widely dispersed in temperate regions, including the mountains within the tropics, though relatively rare in the southern hemisphere. A Mediterranean species has been found in various parts of Australia, where, however, it is probably not indigenous. There are about 150 species, referred to eleven genera.

1. APHYLLON.

Aphyllon, Mitch. in Act. Phys.-Med. Acad. Nat. Cur. viii. p. 221; Benth. et Hook. Gen. Plant. ii. p. 983.

Eight or nine species in North America, and one in South America.

1. ***Aphyllon fasciculatum***, Torr. & Gr. in Gray's Manual, ed. 1, p. 281; Torr. Bot. U.S. & Mex. Bound. Surv. p. 110; Synop. Fl. N. Am. ii. p. 312.

Orobanche fasciculata, Nutt. Gen. N. Am. Pl. ii. p. 59; Hook. Fl. Bor.-Am. ii. t. 170.

LAKE MICHIGAN to SASKATCHEWAN, southward west of the Mississippi to ARIZONA, and west to OREGON and CALIFORNIA.—NORTH MEXICO, tributaries of the Yaqui river, Sonora (*Thurber*).

2. ***Aphyllon ludovicianum***, A. Gr. in Bot. Calif. i. p. 585; Synop. Fl. N. Am. ii. p. 313.

Phelipæa ludoviciana, Walp. Rep. iii. p. 461; DC. Prodr. xi. p. 11.

Orobanche ludoviciana, Nutt. Gen. N. Am. Pl. ii. p. 58.

ILLINOIS and SASKATCHEWAN to TEXAS, and westward to CALIFORNIA.—NORTH MEXICO, Chihuahua (*Thurber*); SOUTH MEXICO, Zimapan (*Coulter*, 1329). Hb. Kew.

3. ***Aphyllon multiflorum***, A. Gr. in Bot. Calif. i. p. 585; Synop. Fl. N. Am. ii. p. 313.

Phelipæa erianthera, Engelm. in Proc. Am. Acad. vii. p. 372.

Orobanche multiflora, Nutt. Pl. Gamb. p. 179.

TEXAS; NEW MEXICO; COLORADO; ARIZONA.—NORTH MEXICO, Saltillo, Coahuila (*Palmer*, 995). Hb. Kew.

4. ***Aphyllon***, sp. n.?

NORTH MEXICO, Sonora Alta (*Coulter*, 1330). Hb. Kew.

2. CONOPHOLIS.

Conopholis, Wallr. Orob. Diask. ex Endl. Gen. Pl. p. 726; Benth. et Hook. Gen. Plant. ii. p. 985.

Monotypic.

1. ***Conopholis americana***, Wallr. Orob. p. 78; DC. Prodr. xi. p. 15; Endl. Iconogr. t. 81; A. Gr. Synop. Fl. N. Am. ii. p. 313.

Orobanche americana, Linn. f. Suppl. p. 88.

NEW ENGLAND to MICHIGAN and FLORIDA.—MEXICO, Tlalpujahuá (*Graham*, 303), between Mexico and Toluca (*Andrieux*, 163), Zimapan (*Coulter*, 1331), Jalapa (*Linden*, 198), Vera Cruz to Orizaba (*Müller*, 647), Misteca Alta, 7000 feet (*Galeotti*, 972). Hb. Kew.

3. BOSCHNIAKIA.

Boschniakia, C. A. Mey. in Bong. Veg. Sitka, p. 41, in Mém. Acad. Pétersb. sér. 6, ii (1833); Benth. et Hook. Gen. Plant. ii. p. 985.

Five species—three North American (one of which recurs in North-eastern Asia), one Mexican, and one Himalayan.

[*Boschniakia glabra* is erroneously recorded from Mexico in DC. Prodr. xi. p. 39.]

1. **Boschniakia**, sp.

MEXICO, San Luis Potosi to Tampico (*Palmer*, 1132), Guanajuato (*Hartweg*). Hb. Kew.

Apparently a distinct species; but the material is insufficient for description.

Order XCVIII. LENTIBULARIACEÆ.

Lentibulariaceæ, Benth. et Hook. Gen. Plant. ii. p. 986.

Herbaceous plants, mostly inhabiting wet places, or quite aquatic, rarely epiphytical. There are four genera, comprising about 180 species, generally dispersed in warm and temperate regions with a humid climate. Of the two genera not represented within the limits of our flora, one is peculiar to South-west Australia, and the other to Brazil, Cuba, and Tropical and South Africa.

1. UTRICULARIA.

Utricularia, Linn. Gen. n. 31; Benth. et Hook. Gen. Plant. ii. p. 987.

About 150 species, spread over the whole area of the Order, and some of them having a very wide range.

1. **Utricularia andicola**, Benjam. in Linnæa, xx. p. 308; Walp. Ann. i. p. 490. SOUTH MEXICO, Cordillera of Oaxaca, 4000 feet (*Galeotti*, 7136). Hb. Kew.

2. **Utricularia denticulata**, Benjam. in Linnæa, xx. p. 492; Walp. Ann. i. p. 490.

MEXICO, without locality (*Ehrenberg*).

3. **Utricularia emarginata**, Benjam. in Linnæa, xx. p. 489; Walp. Ann. i. p. 489.

MEXICO, without locality (*Ehrenberg*).

4. **Utricularia endresii**, Rehb. f. in Gard. Chron. 1874, p. 582.

COSTA RICA, at 2000 feet (*Endres*). Hb. Kew.

5. **Utricularia foliosa**, Linn. Sp. Pl. p. 26; DC. Prodr. viii. p. 6; Griseb. Fl. Brit. W. Ind. p. 392.

NICARAGUA, Greytown (*Tate*).—VENEZUELA to PERU and BRAZIL, and in TRINIDAD. Hb. Kew.

6. **Utricularia gibba**, Linn. Sp. Pl. p. 26; DC. Prodr. viii. p. 11; A. Gr. Synop. Fl. N. Am. ii. p. 315.

MASSACHUSETTS and ILLINOIS southward.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 693 $\frac{1}{2}$), Zacatecas (*Hartweg*, 183). Hb. Kew.

Hartweg's specimen is referred to this species by Benjamin in Kew herbarium; and his *U. secunda* is founded upon a specimen in the Berlin herbarium bearing the same number.

7. **Utricularia obtusa**, Sw. Prodr. p. 14; DC. Prodr. viii. p. 10; Griseb. Fl. Brit. W. Ind. p. 391.

MEXICO (ex *Grisebach*).—Southward to BRAZIL, and CUBA to TRINIDAD.

8. **Utricularia parkeriana**, A. DC. Prodr. viii. p. 9.

PANAMA, Lion-Hill station (*S. Hayes*, 698).—GUIANA. Hb. Kew.

9. **Utricularia pusilla**, Vahl, Ench. i. p. 202; DC. Prodr. viii. p. 16; Griseb. Fl. Brit. W. Ind. p. 391.

PANAMA (*Seemann*, 263).—CUBA to TRINIDAD, GUIANA, and BRAZIL. Hb. Kew.

10. **Utricularia secunda**, Benjam. in Linnæa, xx. p. 308; Walp. Ann. i. p. 490. MEXICO (*Hartweg*, 183).

The specimens referred to *U. gibba* in Kew herbarium may be this species. See note under *U. gibba*.

11. **Utricularia sinuata**, Benjam. in Linnæa, xx. p. 219; Walp. Ann. i. p. 491. MEXICO, without locality (*Ehrenberg*).

[*Utricularia subulata*, Linn., a species inhabiting the eastern States of New Jersey to Florida and Texas, the West Indies, and South America, is likely to occur in Mexico.]

12. **Utricularia vulgaris**, Linn. Sp. Pl. p. 26; DC. Prodr. viii. p. 6; A. Gr. Synop. Fl. N. Am. ii. p. 315; Fl. Dan. t. 138.

SOUTH MEXICO, valley of Mexico (*Schaffner*, 338).—All round the NORTHERN HEMISPHERE. Hb. Kew.

2. PINGUICULA. .

Pinguicula, Linn. Gen. Plant. n. 30; Benth. et Hook. Gen. Plant. ii. p. 988.

Upwards of thirty species have been described; but several of them, including some Mexican, should be reduced. They are widely diffused in the temperate and arctic regions of the northern hemisphere, and extend through the Andes to the extreme south of America.

1. **Pinguicula acuminata**, Benth. Pl. Hartw. p. 71; DC. Prodr. viii. p. 28.

SOUTH MEXICO, Zimapan (*Coulter*, 931), Chico (*Hartweg*). Hb. Kew.

2. **Pinguicula caudata**, Schl. in Linnæa, vii. p. 393; DC. Prodr. viii. p. 28.

Pinguicula bakeriana, Gard. Chron. n. s. xv. p. 541, fig. 102.

Pinguicula orchidioides, A. DC. Prodr. viii. p. 27; Bot. Mag. t. 4231.

Pinguicula flos-mulionis, Morr. Belg. Hort. 1872, p. 371, t. 27.

Pinguicula moranensis et *P. macrophylla*, H. B. K. Nov. Gen. et Sp. ii. p. 226?

Pinguicula oblongiloba, DC. Prodr. viii. p. 27; Calques des Dess. Fl. Mex. 1071. fig. 2?

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 694); SOUTH MEXICO, peak of Orizaba, 9500 feet (*Linden*, 162; *Botteri*, 956; *Bourgeau*, 2838), San Felipe (*Andrieux*, 130), Tlalpujahua (*Graham*), Totontepec (*Hartweg*), Zimapan (*Coulter*, 929, 930), Cuesta Grande de Chiconquiaco (*Schiede*), Mirador (*Linden*, 160). Hb. Kew.

From plants that we have observed under cultivation, and specimens we have seen in herbaria, we believe we are right in reducing the names cited above to synonyms of one species. The plants first produce rosettes of small, densely packed leaves; and these are succeeded by a few much larger loose ones that conceal the rosettes.

3. **Pinguicula crenatiloba**, DC. Prodr. viii. p. 30; Calques des Dess. Fl. Mex. 1071. fig. 3.

Pinguicula lilacina, Seem. Bot. Voy. 'Herald,' p. 324, cum synon.

Pinguicula nana, Mart. et Gal., nec *P. lilacina*, Ch. et Schl.

NORTH MEXICO, Sierra Madre (*Seemann*, 2118); SOUTH MEXICO, Cordillera of Oaxaca, at 2000 feet (*Galeotti*, 861). Hb. Kew.

4. **Pinguicula heterophylla**, Benth. Pl. Hartw. p. 7; DC. Prodr. viii. p. 28.

SOUTH MEXICO, Juquila (*Hartweg*), eastern Cordillera of Oaxaca, 8000 to 9000 feet (*Galeotti*, 860). Hb. Kew.

5. **Pinguicula lilacina**, Ch. et Schl. in Linnæa, v. p. 94; DC. Prodr. viii. p. 31.

Pinguicula obtusiloba, DC. Prodr. viii. p. 30; Calques des Dess. Fl. Mex. 1071. fig. 1.

NORTH MEXICO, Cerro de Pinal, at 7000 feet (*Seemann*, 1514); SOUTH MEXICO, Cordillera of Vera Cruz, 2000 to 4000 feet (*Galeotti*, 859; *Linden*, 161), San Blas to Tepic (*Sinclair*). Hb. Kew.

[The anomalous genus *Columellia*, of which there are two species in the mountains of Ecuador and Peru, has not hitherto, we believe, been detected in Central America.]

Order XCIX. GESNERACEÆ.

Gesneraceæ, Benth. et Hook. Gen. Plant. ii. p. 990; Hanstein in Linnæa, xxvi. pp. 145-216, xxvii. pp. 693-785, xxix. pp. 497-502, xxxiv. pp. 225-446.

Herbs or shrubs, rarely arboreous. Including a few inedited ones, the Order comprises about seventy-five genera and 850 to 900 species, generally dispersed in tropical and subtropical countries; a few, and for the greater part belonging to monotypic

genera, occur in Chili, Australia, New Zealand, Japan, China, and the Mediterranean region. In America the Order is not represented north of Mexico. The *Gesnerææ* proper are confined to the New World, whilst the *Cyrtandreaæ* are, with few exceptions, either Old-world or insular.

A considerable number of species of this Order, from Costa Rica, remain undetermined in Kew herbarium.

1. NIPHÆA.

Niphæa, Lindl. Bot. Reg. 1841, Misc. p. 80; Benth. et Hook. Gen. Plant. ii. p. 997.

Herbs. The following and one Cuban species.

1. ***Niphæa oblonga***, Lindl. Bot. Reg. 1841, Misc. p. 80, et 1842, t. 5; Hanst. in Linnæa, xxvii. p. 729; Ærst. in Danske Vidensk. Selsk. Skriv. v. (reprint, p. 13).

GUATEMALA (*Hartweg*). Hb. Kew.

2. ***Niphæa parviflora***, A. Br. et Bouché in Linnæa, xxv. p. 299; Hanst. in Linnæa, xxvii. pp. 704 et 730; Ærst. in Danske Vidensk. Selsk. Skriv. v. (reprint, p. 14).

GUATEMALA (*Warszewicz*).

2. PHINÆA.

Phinæa, Benth. in Benth. et Hook. Gen. Plant. ii. p. 997.

Three or four herbaceous species, inhabiting Colombia, one of them extending to Central America.

1. ***Phinæa albo-lineata***, Benth. in Benth. et Hook. Gen. Plant. ii. p. 997.

Niphæa albo-lineata, Hook. Bot. Mag. t. 4282; Flore des Serres, iii. p. 210.

β. ***reticulata***, Planchon, Fl. des Serres, viii. t. 823; Hanstein in Linnæa, xxvii. pp. 704 et 705.

CENTRAL AMERICA (*ex Hanstein*).

3. MONOPYLE.

Monopyle, Moritz, ex Benth. et Hook. Gen. Plant. ii. p. 997.

About five or six herbaceous species, extending from Central America to Peru.

1. ***Monopyle macrocarpa***, Benth. in Hook. Ic. t. 1198.

β. ***costa-ricana***, Hemsley, foliis minoribus concoloribus, calycis lobis brevioribus latioribus.

COSTA RICA, 4000 feet (*Endres*, 82, 158). Hb. Kew.

The Central-American plant appears to differ more in size than in any essential characters from the South-American type.

4. GLOXINIA.

Gloxinia, Lher. Stirp. Nov. p. 149; Benth. et Hook. Gen. Plant. ii. p. 998.

Salisia, olim *Escheria*, Regel in Bot. Zeit. 1851, p. 894.

A genus of about six herbaceous species, ranging from Mexico to Brazil.

1. ***Gloxinia glabrata***, Zucc. in Flora, xv. Beibl. p. 99; Benth. et Hook. Gen. Plant. ii. p. 998 (ubi "*glabra*").

Plectopoma gloxiniflorum, Hanst. in Linnæa, xxvii. pp. 714 et 759.

Gloxinia fimbriata, Hook. Bot. Mag. t. 4430.

Achimenes gloxiniflora, Forkel, Fl. des Serres, iv. t. 318.

Diastema gloxiniflorum, Regel, Cat. Hort. Zur. 1853, p. 34.

Plectopoma fimbriatum, Hanst. in Linnæa, xxvi. p. 201.

Plectopoma glabratum, Hanst. in Linnæa, xxxiv. p. 434.

SOUTH MEXICO, Oaxaca (*Ghiesbreght*). Hb. Kew.

2. ***Gloxinia micrantha***, Mart. et Gal. in Bull. Acad. Brux. ix. 2, p. 35; Hanst. in Linnæa, xxxiv. p. 443.

SOUTH MEXICO, western Cordillera of Oaxaca, 4500 to 6000 feet (*Galeotti*, 1912).

3. ***Gloxinia pallidiflora***, Hook. Bot. Mag. t. 4213; Hanst. in Linnæa, xxvii. p. 716.

PANAMA, Paraiso station (*S. Hayes*, 271).—COLOMBIA; VENEZUELA. Hb. Kew.

5. ACHIMENES.

Achimenes, P. Br. Hist. Jam. p. 271; Benth. et Hook. Gen. Plant. ii. p. 998.

About twenty herbaceous species, ranging from Mexico and the West Indies to Brazil.

1. ***Achimenes amœna***, Van Houtte, ex Hanst. in Linnæa, xxvii. p. 713.
Guthnickia mimuliflora, Regel in Flora, 1849, p. 179; Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 22).

SOUTH MEXICO; GUATEMALA, near Soconusco (*Warscewicz*).

2. ***Achimenes andrieuxii***, DC. Prodr. vii. p. 536; Hanst. in Linnæa, xxvii. pp. 724 et 777.

Gloxinia verticillata, Mart. et Gal. in Bull. Acad. Brux. ix. 2 (reprint, p. 4)?

SOUTH MEXICO, between Tehuantepec and Rio Guazacualcos (*Andrieux*, 265), Oaxaca, Pacific side (*Galeotti*, 1911). Hb. Kew.

3. ***Achimenes autumnalis***, Hanst. in Linnæa, xxvii. pp. 724 et 744; Ærst. in Danske Vidensk. Selskabs Skrift. v (reprint, p. 17).

GUATEMALA?

4. ***Achimenes coccinea***, Pers. Syn. ii. p. 169; DC. Prodr. vii. p. 535; Hanst. in Linnæa, xxvii. pp. 706 et 739, excl. β . *rosea*.

Cyrilla pulchella, Lher. Stirp. Nov. t. 71; Bot. Mag. t. 374.

BIOL. CENTR.-AMER., Bot. Vol. II., *April* 1882.

Trevirana pulchella, Mart. Nov. Gen. iii. p. 66, t. 226. fig. 4.

Achimenes pyropæa, Lindl. in Journ. Hort. Soc. Lond. ii. p. 293, t. 4. f. 1.

SOUTH MEXICO, region of Orizaba (*Bourgeau*, 2939; *Botteri*, 789; *Müller*, 122); COSTA RICA (*Endres*).—JAMAICA. Hb. Kew.

5. ***Achimenes foliosa***, Morr. in Ann. Soc. Gand, ii. p. 403, t. 91.

Achimenes atosanguinea, Lindl. in Journ. Hort. Soc. Lond. iii. p. 318, cum ic. xylogr.

Guthnickia atosanguinea, Regel in Cat. Hort. Zur. 1851.

Guthnickia foliosa, Hanst. in Linnæa, xxvii. pp. 712 et 750.

Trevirana maculata, Mart. et Gal. in Bull. Acad. Brux. ix. 2 (reprint, p. 5).

Achimenes martensiana, Walp. Rep. ii. p. 719.

Gloxinia antirrhina, DC. Prodr. vii. p. 534; Calques des Dess. Fl. Mex. 716.

SOUTH MEXICO, western Cordillera of Oaxaca, 8000 feet (*Galeotti*, 1909), Sierra San Pedro Nolasco &c. (*Jurgensen*, 515). Hb. Kew.

6. ***Achimenes grandiflora***, DC. Prodr. vii. p. 536; Bot. Reg. xxxi. t. 11; Bot. Mag. t. 4012 (male); Paxt. Mag. x. p. 145, cum ic. color.; Hanst. in Linnæa, xxvii. pp. 708, 709, et 741, excl. δ . *incisa*; Ærst. in Danske Vidensk. Selskabs Skrift. v (reprint, p. 19).

Trevirana grandiflora, Schiede in Linnæa, viii. p. 247.

Salutia grandiflora, Colla in Mem. Acc. Tor. ser. 2, x. p. 103.

Achimenes ghiesbrechtiana et *A. cordata* Hort.

SOUTH MEXICO, Mirador (*Linden*, 444), region of Orizaba (*Botteri*, 790; *Bourgeau*, 2988, 2989; *Müller*, 1681); GUATEMALA, above Cubalco (*Godman & Salvin*). Hb. Kew.

7. ***Achimenes heterophylla***, DC. Prodr. vii. p. 536; Bot. Mag. t. 4871; Hanst. in Linnæa, xxvii. pp. 712, 713 et 748.

Achimenes ignescens, Lem. Fl. des Serres, iii. t. 248.

Achimenes ghiesbrechtii Hort. Angl.; Journ. Hort. Soc. Lond. v. pp. 193 et 194, cum ic. xylogr.

Locheria ignescens, Kl., ex Hanst. in Linnæa, xxvii. p. 713.

Locheria heterophylla, Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 21).

Locheria ignescens, Regel, Cat. Hort. Zur. 1854.

Trevirana heterophylla, Mart. Nov. Gen. iii. p. 65.

SOUTH MEXICO, between Zitacuaro and Hacienda de Laureles (*Hartweg*), without locality (*Bates*). Hb. Kew.

8. ***Achimenes hirsuta***, Lindl. Bot. Reg. 1843, Misc. n. 103, t. 55; Bot. Mag. t. 4144; Paxt. Mag. xii. p. 7 cum ic. color., nec DC. Prodr. vii. p. 536, fide Hanst. in Linnæa, xxvii. p. 711.

Achimenes skinneri, Lindl. in Journ. Hort. Soc. Lond. ii. p. 293, t. 4. fig. 2.

Locheria hirsuta, Regel in Flora, 1848, p. 252; Hanst. in Linnæa, xxvii. pp. 710, 711 et 746, varietates α , β , et γ ; Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 21).

GUATEMALA (*Skinner*). Hb. Kew.

9. ***Achimenes incisa***, Kl.; Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 19); Hanst. in Linnæa, xxxiv. p. 435.

Achimenes grandiflora δ . *incisa*, Hanst. in Linnæa, xxvii. p. 710.

GUATEMALA.

10. **Achimenes lanata**, Hanst. in Linnæa, xxxiv. pp. 434 et 443.

Scheeria lanata, Hanst. in Linnæa, xxvii. pp. 714 et 757; Bot. Mag. t. 4963.

Mandirola lanata, Planch. et Linden in Ill. Hort. iii. t. 80.

Eucodonia ehrenbergii, Hanst. in Linnæa, xxvi. p. 201, et xxvii. pp. 706 et 737.

Körnickeria lanata, Reg. Ind. Sem. Hort. Petrop. 1857.

SOUTH MEXICO, western Cordillera of Oaxaca, 6000 to 8000 feet (*Galeotti*, 1902).
Hb. Kew.

11. **Achimenes longiflora**, DC. Prodr. vii. p. 536; Benth. Pl. Hartw. p. 89; Hanst. in Linnæa, xxvii. pp. 706 ad 709 et 740 (varietates plures); Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 18); Bot. Reg. xxviii. t. 19; Bot. Mag. t. 3980; Trans. Hort. Soc. Lond. ser. 2, ii. p. 508, t. 14; Fl. des Serres, t. 536; Paxt. Mag. Bot. ix. p. 151.

Achimenes kleei, Paxt. Mag. Bot. xvi. p. 289, cum ic. color.

SOUTH MEXICO, Cordillera of Oaxaca, 4000 to 5000 feet (*Galeotti*, 919); GUATEMALA, Baño de los Padres (*Bernoulli*, 346), Volcan de Fuego, 3860 feet (*Salvin*), near the city of Guatemala (*Hartweg*); NICARAGUA, Omotopé (*Lévy*, 717). Hb. Kew.

12. **Achimenes panamensis**, Hemsley.

Scheeria? *panamensis*, Seem. Bot. Voy. 'Herald,' p. 185; Hanst. in Linnæa, xxvii. p. 726.

Nautilocalyx panamensis, Seem. loc. cit. p. 250.

PANAMA, near the town of Gorgona (*Seemann*, 235), Lion Hill (*S. Hayes*, 381).
Hb. Kew.

13. **Achimenes patens**, Benth. Pl. Hartw. p. 47; Hanst. in Linnæa, xxvii. p. 710; Journ. Hort. Soc. Lond. i. p. 257, t. 7; Fl. des Serres, t. 245; Paxt. Mag. xiii. p. 197, cum ic. color.

SOUTH MEXICO, between Zitacuaro and Hacienda de Laureles (*Hartweg*), Uruapan, Michoacan, 4000 feet (*Galeotti*, 1099). Hb. Kew.

14. **Achimenes pauciflora**, Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 17); Hanst. in Linnæa, xxxiv. p. 435.

COSTA RICA, Aguacate (*Ersted*).

15. **Achimenes pedunculata**, Benth. Pl. Hartw. p. 78; Bot. Reg. xxviii. t. 31; Bot. Mag. t. 4077; Paxt. Mag. Bot. x. p. 271, cum ic. color.

Locheria pedunculata, Regel in Flora, 1848, p. 241; Hanst. in Linnæa, xxvii. p. 710.

GUATEMALA, Santa Maria (*Hartweg*), Volcan de Fuego (*Godman & Salvin*). Hb. Kew.

16. **Achimenes rosea**, Lindl. Bot. Reg. 1841, t. 65; Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 16).

GUATEMALA (*Hartweg*).

17. **Achimenes scheerii**, Hemsley.

Scheeria mexicana, Seem. in Bot. Mag. t. 4743; Regel's Gartenfl. t. 71; Hanst. in Linnæa, xxvii. p. 714.

Mandirola seemannii, Lem. Ill. Hort. iii. sub tab. 80.

NORTH MEXICO, Chihuahua (*Potts*). Hb. Kew.

18. **Achimenes tenella**, DC. Prodr. vii. p. 536; Calques des Dess. Fl. Mex. 719; Hanst. in Linnæa, xxvii. pp. 724 et 778.

MEXICO (*Moçino & Sessé*).

6. NÆGELIA.

Nægelia, Regel in Flora, 1848, p. 249; Benth. et Hook. Gen. Plant. ii. p. 999.

Herbs. The genus is restricted to Central America and Mexico.

1. **Nægelia cinnabarina**, Linden, Suppl. Cat. Pl. Exot. Jard. Brux. 1856, cum figura; Hanst. in Linnæa, xxix. pp. 510 et 547.

Gesnera cinnabarina, Hook. Bot. Mag. t. 5036.

SOUTH MEXICO, Zacualpan, Chiapas (*Linden*, 412). Hb. Kew.

2. **Nægelia geroltiana**, Regel in Flora, 1848, p. 249; Hanst. in Linnæa, xxix. p. 509.

Gesnera geroltiana, Kth. et Behé. Ind. Sem. Hort. Berol. 1844; Fl. des Serres, ii. April, t. 4.

MEXICO.

3. **Nægelia multiflora**, Hook. Bot. Mag. t. 5083; Hanst. in Linnæa, xxix. p. 511.

Gloxinia? *multiflora*, Mart. et Gal. in Bull. Acad. Brux. ix. 2 (reprint, p. 5).

Achimenes (*Nægelia*) *amabilis*, Dcne. in Fl. des Serres, t. 1192.

SOUTH MEXICO, region of Orizaba (*Botteri*, 791; *Bourgeau*, 3283), Cordillera of Oaxaca, 3000 feet (*Galeotti*, 1913), Sierra San Pedro Nolasco &c. (*Jurgensen*, 838). Hb. Kew.

4. **Nægelia punctata**, Hemsley.

Gloxinia punctata, Mart. et Gal. in Bull. Acad. Brux. ix. 2 (reprint, p. 3); Walp. Rep. ii. p. 720.

SOUTH MEXICO, ravines near Vera Cruz, at 2000 feet (*Galeotti*, 1908), Mirador (*Linden*, 445). Hb. Kew.

Bentham and Hooker, Gen. Plant. ii. p. 998, under *Gloxinia*, refer this to *N. zebrina*, from which, however, it seems to be quite distinct.

5. **Nægelia secunda**, CErst.; Hanst. in Linnæa, xxix. pp. 510 et 547.

MEXICO.

6. **Nægelia zebrina**, Regel in Flora, 1848, p. 249; Hanst. in Linnæa, xxix. pp. 509 et 545.

Gesnera zebrina, Paxt. Mag. Bot. viii. p. 271; Bot. Reg. 1842, t. 16; Bot. Mag. t. 3940.

MEXICO; GUATEMALA? Cultivated specimens only in Kew herbarium.

7. KÖELLIKERIA.

Kœllikeria, Regel in Flora, 1848, p. 249; Benth. et Hook. Gen. Plant. ii. p. 1000.

An herbaceous monotype.

1. **Kœllikeria argyrostigma**, Regel in Flora, 1848, p. 250; Hanst. in Linnæa, xxvii. pp. 707 et 735, xxxiv. p. 431; Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 15).

Achimenes argyrostigma, Hook. Bot. Mag. t. 4175; Fl. des Serres, ii. April, t. 7.

COSTA RICA, Puntarenas (*Ærsted*); PANAMA, Santiago de Veraguas (*Seemann*, 234).—Southward to PERU and BRAZIL. Hb. Kew.

8. DICYRTA.

Dicyrta, Regel in Flora, 1849, p. 181; Benth. et Hook. Gen. Plant. ii. p. 1000.

Herbs. Restricted to Central America.

1. **Dicyrta candida**, Hanst. in Linnæa, xxvii. pp. 714 et 754; Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 24).

Diastema gracile, Regel in Flora, 1849, p. 180.

Achimenes candida, Lindl. in Journ. Hort. Soc. Lond. iii. p. 317, cum ic. xylogr.

Achimenes gracilis, Regel olim.

Trevirana candida, Dcne., ex Hanst. loc. cit.

GUATEMALA (*Skinner*; *Warscewicz*; *Salvin*). Hb. Kew.

2. **Dicyrta warscewicziana**, Regel in Flora, 1849, p. 181; Hanst. in Linnæa, xxvii. p. 714; Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 23).

Achimenes misera, Lindl. Journ. Hort. Soc. Lond. iii. p. 319?

GUATEMALA (*Skinner*; *Warscewicz*).

9. DIASTEMA.

Diastema, Benth. Bot. Voy. 'Sulphur,' p. 132; Benth. et Hook. Gen. Plant. ii. p. 1000.

Diastemella, Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 25).

About fifteen herbaceous species, ranging from Mexico to Peru.

1. **Diastema bracteosum**, Hanst. in Linnæa, xxxiv. p. 438.

Diastemella bracteosa, Ærst. in Danske Vidensk. Selsk. Skrift. v. t. 9. figg. 3–8 (reprint, p. 26).

COSTA RICA, Aguacate (*Ærsted*).

2. **Diastema cristatum**, Hanst. in Linnæa, xxxiv. p. 438.

COSTA RICA, Aguacate (*Hoffmann*, 692; *Friedrichsthal*, 168).

10. ISOLOMA.

Isoloma, Benth. Pl. Hartw. p. 229; Benth. et Hook. Gen. Plant. ii. p. 1001.

About sixty herbaceous species, inhabiting Tropical America, chiefly western, from Mexico to Bolivia and Peru.

1. **Isoloma cordifolium**, Hemsley.

Cryptoloma cordifolium, Hanst. in Linnæa, xxix. pp. 538 et 584, et xxxiv. p. 441.

Isoloma hondense, Dene., *δ. warscewiczii*, Regel, Gartenfl. iii. t. 75?

COSTA RICA (*Hoffmann*); PANAMA, Chagres (*Warscewicz*).

2. **Isoloma costaricensis**, Hemsley.

Moussonia costaricensis, Kl., ex Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 33); Hanst. in Linnæa, xxxiv. p. 286.

COSTA RICA (*Warscewicz*).

3. **Isoloma deppeanum**, Hemsley.

Gesnera deppeana, Ch. et. Schl. in Linnæa, v. p. 110; DC. Prodr. vii. p. 528.

Gesnera lasiantha, Zucc. Pl. Nov. fasc. i. p. 100.

Gesnera elongata, var., Hook. Bot. Mag. t. 3725.

Gesnera elongata, Mart. et Gal. in Bull. Acad. Brux. ix. 2, p. 32.

Moussonia deppeana, Klotzsch, ex Hanst. in Linnæa, xxxiv. p. 284.

SOUTH MEXICO, Jalapa (*Galeotti*, 1903; *Linden*, 441), Vera Cruz to Orizaba (*Müller*, 1431), Guadalajara, 5000 feet (*Galeotti*, 1916), valley of Cordova (*Bourgeau*, 1517), Cuernavaca (*Bilimek*, 321), Oaxaca (*Keerl*), San Cornelio (*Hartweg*), Sierra San Pedro Nolasco &c. (*Jurgensen*, 341, 554, 930), Chiapas (*Linden*, 411); GUATEMALA, near Coban (*Türkheim*), without locality (*Skinner*). Hb. Kew.

4. **Isoloma elegans**, Hemsley.

Moussonia elegans, Dene. in Fl. des Serres, t. 489; Hanst. in Linnæa, xxxiv. p. 287; Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 33).

Moussonia formosa, V. Houtte in Regel's Gartenflora, iii. p. 310, t. 101?

GUATEMALA.

5. **Isoloma ignoratum**, Hemsley.

Kohleria ignorata, Regel in Bot. Zeit. 1851, p. 893; Hanst. in Linnæa, xxix. pp. 518 et 560, et xxxiv. p. 441.

Gesnera ignorata, Kunth, Ind. Sem. Hort. Berol. 1848, p. 13.

MEXICO?

6. **Isoloma incanum**, Hemsley.

Kohleria incana, Klotzsch et Hanst. in Linnæa, xxix. pp. 592 et 564, et xxxiv. p. 441.

COSTA RICA and VERAGUAS (*Warscewicz*).

7. **Isoloma incurvum**, Hemsley.

Gesnera incurva, Benth. Bot. Voy. 'Sulphur,' p. 131; Hanst. in Linnæa, xxxiv. p. 444.

Brachyloma incurvum, Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 31).

PANAMA.—COLOMBIA. Hb. Kew.

8. **Isoloma linkianum**, Hemsley.

Kohleria linkiana, Hanst. in Linnæa, xxvi. p. 160, t. 1. fig. 18, et xxix. pp. 522 et 565, et xxxiv. p. 441; Ærst. in Vidensk. Selsk. Skrift. v. (reprint, p. 28).

GUATEMALA.

9. **Isoloma longifolium**, Dcne. in Rev. Hort. 1848, p. 465.
Kohleria longifolia, Hanst. in Linnæa, xxix. p. 525.
Brachyloma longifolium, Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 30).
Gesnera longifolia, Lindl. Bot. Reg. 1841, Misc. n. 190, 1842, t. 40.
 GUATEMALA (*Hartweg*).
10. **Isoloma petiolare**, Dcne. in Rev. Hort. 1848, p. 465.
Gesnera petiolaris, Benth. Bot. Voy. 'Sulphur,' p. 131.
Brachyloma petiolare, Hanst. in Linnæa, xxix. pp. 534 et 578, et xxxiv. p. 442; Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 30).
 PANAMA, island off the coast of Veraguas (*Sinclair*). Hb. Kew.
11. **Isoloma pictum**, Regel, Gartenfl. iii. p. 110.
Cryptoloma pictum, Hanst. in Linnæa, xxix. pp. 536 et 582, et xxxiv. p. 442.
Brachyloma pictum, Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 30).
Gesnera picta, Hook. Bot. Mag. t. 4431; Fl. des Serres, vi. t. 586.
 PANAMA (*Seemann*). Hb. Kew.
12. **Isoloma pilosum**, Hemsley.
Brachyloma pilosum, Ærst. in Danske Vidensk. Selsk. Skrift. v. t. 9. figg. 19–24 (reprint, p. 29).
Cryptoloma pilosum, Hanst. in Linnæa, xxix. p. 538.
 COSTA RICA, Aguacate (*Ersted*).
13. **Isoloma rupestre**, Hemsley.
Kohleria rupestris, Seem. in Gard. Chron. 1871, p. 611.
 NICARAGUA, Chontales (*Seemann*). Hb. Kew.
14. **Isoloma schiedeana**, Hemsley.
Kohleria schiedeana, Hanst. in Linnæa, xxix. pp. 518 et 561.
Gesnera schiedeana, Hook. Bot. Mag. t. 4152.
 MEXICO; COSTA RICA? Hb. Kew.
15. **Isoloma seemannii**, Hemsley.
Kohleria seemanni, Hanst. in Linnæa, xxvi. p. 203, et xxix. pp. 519 et 559, et xxxiv. p. 441.
Gesnera seemanni, Hook. Bot. Mag. t. 4504.
 PANAMA (*Seemann*). Hb. Kew.
16. **Isoloma spicatum**, Dcne. in Rev. Hort. 1848, p. 465.
Kohleria spicata, Hanst. in Linnæa, xxix. pp. 520 et 561, et xxxiv. p. 441.
Gesnera spicata, H. B. K. Nov. Gen. et Sp. ii. p. 393, t. 188.
 SOUTH MEXICO, region of Orizaba (*Botteri*, 792)?—COLOMBIA; VENEZUELA. Hb. Kew.
17. **Isoloma strictum**, Hemsley.
Brachyloma strictum, Ærst. in Danske Vidensk. Selsk. Skrift. v. t. 9. figg. 9–18 (reprint, p. 29).
Cryptoloma strictum, Hanst. in Linnæa, xxix. pp. 538 et 585.
 COSTA RICA, Aguacate (*Ersted*).

18. **Isoloma tetragonum**, Hemsley.

Kohleria tetragona, Ærst. in Danske Vidensk. Selsk. Skrift. v. t. 9. figg. 25–29 (reprint, p. 27);
Hanst. in Linnæa, xxix. pp. 520 et 561.

COSTA RICA, Aguas Calientes (*Ærsted*).

19. **Isoloma tubiflorum**, Dcne. in Rev. Hort. 1848, p. 465.

Kohleria tubiflora, Hanst. in Linnæa, xxxiv. p. 442.

Gesnera tubiflora, Cav. Ic. vi. t. 584; DC. Prodr. vii. p. 527.

Brachyloma tubiflora, Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 31).

PANAMA.

11. CAMPANEA.

Campanea, Dcne. in Rev. Hort. 1849, p. 241, t. 13; Benth. et Hook. Gen. Plant. ii. p. 1003.

About six shrubby species, inhabiting Tropical America.

1. **Campanea grandiflora**, Dcne. in Rev. Hort. 1849, p. 241, t. 13; Hanst. in Linnæa, xxxiv. p. 291.

COSTA RICA (*Endres*, 197).—COLOMBIA; VENEZUELA. Hb. Kew.

2. **Campanea humboldtii**, Klotzsch, ex Hanst. in Linnæa, xxxiv. p. 291; Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 34).

Rhytidophyllum humboldtii, Klotzsch in Allg. Gartenz. xx. p. 17.

COSTA RICA (*Warscewicz*).

3. **Campanea ærstedii**, Klotzsch, ex Hanst. in Linnæa, xxxiv. p. 290; Ærst. in Danske Vidensk. Selsk. Skrift. v. tt. 1 et 2 (reprint, p. 34).

Rhytidophyllum ærstedii, Klotzsch in Allg. Gartenz. xx. p. 17.

COSTA RICA, between Candelaria and Cartago, 6000 to 7000 feet (*Ærsted*).

12. GESNERA.

Gesnera, Mart. Nov. Gen. et Sp. iii. p. 27, pro parte (non *Gesneria*, Linn.); Benth. et Hook. Gen. Plant. ii. p. 1003.

About fifty herbaceous species, spread over Tropical South America, but most numerous in Brazil. The species recorded from Mexico are doubtful.

1. **Gesnera? maculata**, DC. Prodr. vii. p. 532; Calques des Dess. Fl. Mex. 721.
SOUTH MEXICO, mountains of Tixtla (*Moçino & Sessé*).

2. **Gesnera sartorii**, Liebm. Ind. Sem. Hort. Havn. 1853; Ann. Sc. Nat. série 4, i. p. 330.

MEXICO.

3. **Gesnera? uniflora**, DC. Prodr. vii. p. 532; Calques des Dess. Fl. Mex. 725.
SOUTH MEXICO, mountains of Chilpancingo (*Moçino & Sessé*).

4. **Gesnera warscewiczii**, Bouché et Hanst. Ind. Sem. Hort. Bot. Berol. 1861, et Linnæa, xxxiv. p. 273.

MEXICO (*Karwinski*); GUATEMALA (*Warscewicz*).

5. **Gesnera**, sp. ?

SOUTH MEXICO, near Tehuantepec (*Andrieux*, 162). Hb. Kew.

13. SOLENOPHORA.

Solenophora, Benth. Pl. Hartw. p. 68; Benth. et Hook. Gen. Plant. ii. p. 1005.

A Mexican genus of shrubs.

1. **Solenophora coccinea**, Benth. Pl. Hartw. p. 68; Hanst. in Linnæa, xxxiv. p. 313.

SOUTH MEXICO, Chinantla (*Hartweg*). Hb. Kew.

2. **Solenophora endlicheriana**, Hanst. in Linnæa, xxxiv. p. 314.

Arctocalyx endlicherianus, Fenzl in Denkschr. Wien. Akad. i. (reprint, p. 3); Fl. des Serres, t. 546; Lindl. et Paxt. Fl. Gard. i. p. 95, fig. 69.

SOUTH MEXICO, Mirador (*Heller*).

3. **Solenophora insignis**, Hanst. in Linnæa, iv. p. 314.

Arctocalyx insignis, Fenzl in Denkschr. Wien. Akad. i. (reprint, p. 4).

Besleria insignis, Mart. et Gal. in Bull. Acad. Brux. ix. 2, p. 37.

Hippodamia insignis, Dcne. in Rev. Hort. 1848, p. 464.

SOUTH MEXICO, eastern Cordillera of Oaxaca, 3000 feet (*Galeotti*, 1910); COSTA RICA, Desengaño (*Wendland*). Hb. Kew.

4. **Solenophora obscura**, Hanst. in Linnæa, xxxiv. p. 315.

SOUTH MEXICO, Chinantla, Oaxaca (*Liebmann*). Hb. Kew.

14. PENTARHAPHIA.

Pentarhaphia, Lindl. in Bot. Reg. sub tab. 1110 (*Pentaraphia*); Benth. et Hook. Gen. Plant. ii. p. 1005.

Gesneria, Linn. Gen. Plant. n. 749.

Conradia, Mart. Nov. Gen. et Sp. iii. p. 38.

About forty shrubby species, mostly inhabiting the West Indies; a few in continental America, from Mexico to Colombia.

1. **Pentarhaphia cuneifolia**, Hanst. in Linnæa, xxxiv. p. 294.

Conradia cuneifolia, DC. Prodr. vii. p. 526; Calques des Dess. Fl. Mex. 723.

MEXICO (*Moçino & Sessé*).

2. **Pentarhaphia pedunculosa**, Dcne. in Ann. Sc. Nat. série 3, vi. p. 108;

Hanst. in Linnæa, xxxiv. p. 295.

Conradia pedunculosa, DC. Prodr. vii. p. 525.

MEXICO.

BIOL. CENTR.-AMER., Bot. Vol. II., April 1882.

3. **Pentarhaphia tenera**, Hanst. in Linnæa, xxxiv. p. 304.

Chorisanthera tenera, (Erst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 35).

COSTA RICA, Aguacate, 1200 feet (*Ersted*).

15. TUSSACIA.

Tussacia, Reichb. Icon. Exot. i. p. 28, t. 41; Benth. et Hook. Gen. Plant. ii. p. 1006.

Four or five herbaceous species, inhabiting the West Indies, Central America, and Colombia to Guiana.

1. **Tussacia friedrichsthaliana**, Hanst. in Linnæa, xxxiv. p. 337.

GUATEMALA (*Friedrichsthal*).

2. **Tussacia pulchella**, Reichb. Icon. Exot. i. p. 28, t. 41 (male); Hanst. in

Linnæa, xxxiv. p. 337; Erst. in Danske Vidensk. Selsk. Skrift. v. t. 10. figg. 14-19.

Besleria pulchella, Donn, Hort. Cantabr. p. 140; Bot. Mag. t. 1146; Lodd. Bot. Cab. t. 1028.

Skiophila pulchella, Hanst. in Linnæa, xxvi. p. 207.

PANAMA, on ruins at Mamei (*S. Hayes*, 188).—COLOMBIA; WEST INDIES. Hb. Kew.

16. EPISCIA.

Episcia, Mart. Nov. Gen. et Sp. iii. p. 39; Benth. et Hook. Gen. Plant. ii. p. 1006.

Herbs. About thirty described species, inhabiting Central America to Brazil and the West Indies.

1. **Episcia chontalensis**, Hook. Bot. Mag. t. 5925.

Cyrtodeira chontalensis, Seem. in Gard. Chron. 1867, p. 655.

NICARAGUA, Chontales (*Seemann*). Hb. Kew.

2. **Episcia congesta**, Hanst. in Linnæa, xxxiv. p. 347.

Trichodrymonia congesta, Erst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 38).

SOUTH MEXICO, near Chinantla, Oaxaca (*Liebmann*), Sierra San Pedro Nolasco &c. (*Jurgensen*, 650). Hb. Kew.

3. **Episcia cupreata**, Hanst. in Linnæa, xxxiv. p. 340.

Cyrtodeira cupreata, Hanst. in Linnæa, xxvi. p. 207.

Achimenes cupreata, Hook. Bot. Mag. t. 4312; Ann. de Gand, 1847, t. 156.

NICARAGUA, Chontales (*Tate*, 115).—COLOMBIA. Hb. Kew.

4. **Episcia lanceolata**, Hanst. in Linnæa, xxxiv. p. 346.

COSTA RICA, Rio Blanco (*Wendland*).

5. **Episcia lilacina**, Hanst. in Linnæa, xxxiv. p. 342.

COSTA RICA, in virgin forests near San Miguel (*Wendland*).

6. **Episcia punctata**, Hanst. in Linnæa, xxxiv. p. 342.

Drymonia punctata, Lindl. Bot. Reg. 1842, Misc. n. 77; Bot. Mag. t. 4089.

Alsobia punctata, Hanst. in Linnæa, xxvi. p. 207; Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 40).

GUATEMALA (*Hartweg*). Hb. Kew.

17. DRYMONIA.

Drymonia, Mart. Nov. Gen. et Sp. iii. p. 57, t. 224; Benth. et Hook. Gen. Plant. ii. p. 1007.

Trailing or climbing shrubs. Fourteen species enumerated in all, inhabiting Tropical America.

1. **Drymonia alloplectoides**, Hanst. in Linnæa, xxxiv. p. 358.

COSTA RICA (*Warscewicz*).

2. **Drymonia conchocalyx**, Hanst. in Linnæa, xxxiv. p. 360.

COSTA RICA, near Desengaño (*Wendland*).

3. **Drymonia mollis**, Ærst. in Danske Vidensk. Selsk. Skrift. v. t. 9. figg. 41–43 (reprint, p. 37); Hanst. in Linnæa, xxxiv. p. 357.

COSTA RICA, Ujaras (*Ærsted*).

4. **Drymonia mucronulosa**, Hanst. in Linnæa, xxxiv. p. 353.

GUATEMALA ?

5. **Drymonia ovata**, Hanst. in Linnæa, xxxiv. p. 355.

COSTA RICA, Virillo (*Hoffmann*).

6. **Drymonia parviflora**, Hanst. in Linnæa, xxxiv. p. 352.

COSTA RICA, Candelaria (*Hoffmann*).

7. **Drymonia spectabilis**, Mart. Nov. Gen. et Sp. iii. p. 59; Hanst. in Linnæa, xxxiv. p. 354; Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 37).

Besleria spectabilis, H. B. K. Nov. Gen. et Sp. ii. p. 400.

PANAMA, Veraguas (*Warscewicz*).—COLOMBIA.

8. **Drymonia turrialvæ**, Hanst. in Linnæa, xxxiv. p. 359.

COSTA RICA, Volcan de Turrialba (*Warscewicz*).

9. **Drymonia warscewicziana**, Hanst. in Linnæa, xxxiv. p. 352.

COSTA RICA (*Warscewicz*).

18. ALLOPLECTUS.

Alloplectus, Mart. Nov. Gen. et Sp. iii. p. 53, t. 223; Benth. et Hook. Gen. Plant. ii. p. 1008.

An exclusively Tropical-American genus, comprising about thirty shrubby and half-shrubby species, ranging from Central America and the West Indies to Brazil.

1. **Alloplectus coriaceus**, Hanst. in Linnæa, xxxiv. p. 363.
Erythranthus coriaceus, Ærst. in Danske Vidensk. Selsk. Skrift. v. t. 3 (reprint, p. 47).
COSTA RICA, Turrialba (*Ærsted*).
2. **Alloplectus? forseithii**, Hanst. in Linnæa, xxxiv. p. 375.
Prionoplectus forseithii, Ærst. in Danske Vidensk. Selsk. Skrift. v. t. 9. figg. 30–35 (reprint, p. 45).
CENTRAL AMERICA?
3. **Alloplectus? glaber**, DC. Prodr. vii. p. 546; Calques des Dess. Fl. Mex. 932; Hanst. in Linnæa, xxxiv. p. 425.
MEXICO, mountains of Mazatlan (*Moçino & Sessé*).
4. **Alloplectus ichthyoderma**, Hanst. in Linnæa, xxxiv. p. 372.
COSTA RICA (*Wendland*).
5. **Alloplectus macrophyllus**, Hemsley.
Caloplectus macrophyllus, Ærst. in Danske Vidensk. Selsk. Skrift. v. t. 9. figg. 44–46 (reprint, p. 45);
Linnæa, xxxiv. p. 425.
COSTA RICA, Naranjo, 4000 to 5000 feet (*Ærsted*).
6. **Alloplectus multiflorus**, Hanst. in Linnæa, xxxiv. p. 361.
Calanthus multiflorus, Ærst. in Danske Vidensk. Selsk. Skrift. v. t. 4 (reprint, p. 47).
COSTA RICA, Naranjo (*Ærsted, Warscewicz*).
7. **Alloplectus? parviflorus**, Hemsley.
Polythysania parviflora, Hanst. in Linnæa, xxvi. p. 209, et xxxiv. p. 428; Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 50).
COSTA RICA, Naranjo, 4000 to 5000 feet (*Ærsted*).
8. **Alloplectus peltatus**, Oliv. in Bot. Mag. t. 6333.
COSTA RICA (*Endres*). Hb. Kew.
9. **Alloplectus strigosus**, Hanst. in Linnæa, xxxiv. p. 374.
Saccoplectus strigosus, Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 44).
SOUTH MEXICO, Chinantla, Tepinapa, Tintalcingo, &c. (*Liebmann*).
10. **Alloplectus tetragonus**, Hanst. in Linnæa, xxxiv. p. 368.
Glossoloma tetragonum, Ærst. in Danske Vidensk. Selsk. Skrift. v. t. 7 (reprint, p. 41).
COSTA RICA, Turrialba (*Ærsted, Warscewicz*), Naranjo and Desengaño (*Wendland*).

19. COLUMNEA.

Columnnea, Linn. Gen. Plant. n. 792, pro parte; Benth. et Hook. Gen. Plant. ii. p. 1009.

Trailing or climbing shrubs and half-shrubs. About sixty species in Tropical America, ranging from Mexico and the West Indies to Brazil.

1. ***Columnea acuminata***, Benth. Pl. Hartw. p. 231; Hanst. in Linnæa, xxxiv. p. 393.

Ortholoma acuminata, Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 52).

NICARAGUA, Pantasmo (*Ærsted*)?—COLOMBIA.

[*C. bilabiata*, Seem. Bot. Voy. 'Herald,' p. 186, is inadvertently recorded from Panama by Hanstein.]

2. ***Columnea billbergiana***, Beurling in Kong. Vet. Handl. 1854, p. 135.

PANAMA, Portobello (*Billberg*).

3. ***Columnea consanguinea***, Hanst. in Linnæa, xxxiv. p. 383.

COSTA RICA, Turrialba (*Wendland*).

4. ***Columnea crassifolia***, Brongn. in Lemaire's Herb. Gén. Amat. sér. 2, v. cum ic.; Bot. Mag. t. 4330; Fl. des Serres, t. 286; Hanst. in Linnæa, xxxiv. p. 409.

MEXICO or CENTRAL AMERICA?

5. ***Columnea erythrophæa***, Dcne. in Rev. Hort. 1867, p. 172, cum ic. color.

SOUTH MEXICO, Chiapas (*Ghiesbreght*).

6. ***Columnea flaccida***, Seem. in Bot. Voy. 'Herald,' p. 186; Hanst. in Linnæa, xxxiv. p. 409.

PANAMA, Gualaca, Veraguas (*Seemann*, 1163). Hb. Kew.

7. ***Columnea flava***, Mart. et Gal. in Bull. Acad. Brux. ix. 2, p. 39; Hanst. in Linnæa, xxxiv. p. 415.

SOUTH MEXICO, Cordillera of Oaxaca, 3000 feet (*Galeotti*, 1915). Hb. Kew.

8. ***Columnea glabra***, Ærst. in Danske Vidensk. Selsk. Skrift. v. t. 11. figg. 18–23 (reprint, p. 62); Hanst. in Linnæa, xxxiv. p. 408.

COSTA RICA, mountains between Candelaria and Cartago, 6000 to 7000 feet (*Ærsted*).

9. ***Columnea heterophylla***, Hanst. in Linnæa, xxxiv. p. 390.

Stenanthus heterophyllus, Ærst. in Danske Vidensk. Selsk. Skrift. v. t. 5 (reprint, p. 48).

COSTA RICA, Naranjo (*Ærsted*), Desengaño (*Wendland*).

10. ***Columnea hirta***, Kl. et Hanst. in Linnæa, xxxiv. p. 403.

Columnea hirsuta, Kl. MSS., ex Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 61), nec Swartz.

COSTA RICA (*Warszewicz*, *Wendland*).

11. ***Columnea lepidocaula***, Hanst. in Linnæa, xxxiv. p. 411.

COSTA RICA (*Valentini*, *Wendland*).

12. ***Columnea linearis***, Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 59); Hanst. in Linnæa, xxxiv. p. 410.

COSTA RICA, at 6000 to 7000 feet (*Ærsted*).

13. ***Columnnea magnifica***, Klotzsch ; Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 60); Hanst. in Linnæa, xxxiv. p. 401.

COSTA RICA, Aguacate (*Hoffmann*), without locality (*Wendland*, *Warscewicz*).

14. ***Columnnea microcalyx***, Hanst. in Linnæa, xxxiv. p. 408.

COSTA RICA (*Wendland*).

15. ***Columnnea microphylla***, Kl. et Hanst., ex Ærst. in Danske Vidensk. Selsk. Skrift. v. t. 11. fig. 24 (reprint, p. 63); Hanst. in Linnæa, xxxiv. p. 407.

COSTA RICA (*Endres*, 175; *Wendland*, 912; *Warscewicz*). Hb. Kew.

16. ***Columnnea nervosa***, Kl. et Hanst. in Linnæa, xxxiv. p. 400.

Pentadenia nervosa, Kl., ex Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 57).

COSTA RICA (*Warscewicz*).

17. ***Columnnea nicaraguensis***, Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 62); Hanst. in Linnæa, xxxiv. p. 412.

NICARAGUA, forests on the San Juan river (*Ærsted*), without locality (*Warscewicz*, *Wendland*, *Friedrichsthal*).

18. ***Columnnea ochroleuca***, Kl. et Hanst. in Linnæa, xxxiv. p. 393.

Ortholoma ochroleucum, Kl., ex Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 51).

PANAMA, Veraguas (*Warscewicz*).

19. ***Columnnea ærstediana***, Kl., ex Ærst. in Danske Vidensk. Selsk. Skrift. v. t. 8 (reprint, p. 61); Hanst. in Linnæa, xxxiv. p. 407.

COSTA RICA, Naranjo, 4000 to 5000 feet (*Ærsted*).

20. ***Columnnea oxyphylla***, Hanst. in Linnæa, xxxiv. p. 405.

COSTA RICA (*Wendland*).

21. ***Columnnea pendula***, Kl. et Hanst. in Linnæa, xxxiv. p. 397.

Ortholoma pendulum, Kl., ex Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 52).

PANAMA, Veraguas (*Warscewicz*).

22. ***Columnnea prætexta***, Hanst. in Linnæa, xxxiv. p. 394.

COSTA RICA (*Warscewicz*).

23. ***Columnnea purpurata***, Hanst. in Linnæa, xxxiv. p. 386.

COSTA RICA (*Wendland*, *Warscewicz*, *Valentini*).

24. ***Columnnea querceti***, Ærst. in Danske Vidensk. Selsk. Skrift. v. t. 11. figg. 11–15 (reprint, p. 59); Hanst. in Linnæa, xxxiv. p. 410.

Columnnea erythrocalyx, Ærst. loc. cit.

COSTA RICA, at 6000 to 7000 feet (*Ærsted*).

25. ***Columnea sanguinolenta***, Hanst. in Linnæa, xxxiv. p. 389.
Stenanthus sanguinolentus et *S. squarrosus*, Kl., ex Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 49).
 COSTA RICA (*Wendland, Warscewicz*).
26. ***Columnea schiedeana***, Schl. in Linnæa, viii. p. 249; Bot. Mag. t. 4045; Hanst. in Linnæa, xxxiv. p. 413.
 SOUTH MEXICO, valley of Cordova (*Bourgeau*, 1967), Hacienda de la Laguna, Vera Cruz (*Linden*, 440), near Vera Cruz, at 3000 feet (*Galeotti*, 1906), Sierra San Pedro Nolasco &c. (*Jurgensen*, 720), Orizaba (*Bilimek*). Hb. Kew.
27. ***Columnea serrata***, Hanst. in Linnæa, xxxiv. p. 390.
Stenanthus serratus, Kl. ex Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 49).
 COSTA RICA (*Warscewicz*).
28. ***Columnea tenuis***, Kl. ex Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 63); Hanst. in Linnæa, xxxiv. p. 406.
 COSTA RICA (*Warscewicz*).
29. ***Columnea?* *tomentosa***, Ærst. in Danske Vidensk. Selsk. Skrift. v. t. 11. figg. 25–29 (reprint, p. 64); Hanst. in Linnæa, xxxiv. p. 405.
 NICARAGUA, forests on the San Juan river (*Ærsted*).
30. ***Columnea umbellata***, Bertol. Fl. Guat. p. 26; Hanst. in Linnæa, xxxiv. p. 427.
 GUATEMALA.
 Hanstein states that this is most likely a species of *Moussonia* (*Isoloma*).
31. ***Columnea warscewicziana***, Kl. et Hanst. in Linnæa, xxxiv. p. 392.
Ortholoma warscewiczianum et *O. vestitum*, Kl., ex Ærst. in Danske Vidensk. Selsk. Skrift. v. (reprint, p. 51).
 COSTA RICA (*Warscewicz*).
32. ***Columnea wendlandiana***, Hanst. in Linnæa, xxxiv. p. 402.
 COSTA RICA (*Wendland*).

20. HYPOCYRTA.

Hypocyrtia, Mart. Nov. Gen. et Sp. iii. p. 48, excl. sect. *Codonanthe*; Benth. et Hook. Gen. Plant. ii. p. 1010.

About ten herbaceous and half-shrubby species, with the following exception, natives of Brazil.

1. ***Hypocyrtia nummularia***, Hanst. in Linnæa, xxxiv. p. 381.
 COSTA RICA (*Endres*, 178; *Wendland*). Hb. Kew.

21. BESLERIA.

Besleria, Linn. Gen. Plant. n. 755 ; Benth. et Hook. Gen. Plant. ii. p. 1015.

Herbs, half-shrubs, or shrubs. Upwards of fifty species, inhabiting Tropical America from Mexico and the West Indies to Peru and Brazil.

1. **Besleria barbensis**, Hanst. in Linnæa, xxxiv. p. 319.

COSTA RICA, Volcan de Barba (*Hoffmann*).

2. **Besleria columneoides**, Hanst. in Linnæa, xxxiv. p. 322.

COSTA RICA (*Wendland*).

3. **Besleria costaricensis**, Hanst. in Linnæa, xxxiv. p. 330.

Parabesleria costaricensis, Ærst. in Danske Vidensk. Selsk. Skrift. v. t. 6. figg. 9-13 (reprint, p. 53).

COSTA RICA, Turrialba, at 3000 feet (*Ærsted*).

4. **Besleria cyrtanthemum**, Hanst. in Linnæa, xxxiv. p. 321.

Cyrtanthemum hirsutum, Ærst. in Danske Vidensk. Selsk. Skrift. v. t. 10. figg. 20-31 (reprint, p. 56).

SOUTH MEXICO, Santiago, Amatlan, Chinantla, &c., Oaxaca (*Liebmann*).

5. **Besleria deflexa**, Hanst. in Linnæa, xxxiv. p. 321.

Cyrtanthemum deflexum, Ærst. in Danske Vidensk. Selsk. Skrift. v. t. 10. figg. 32-39 (reprint, p. 56).

SOUTH MEXICO, Tintalcingo, Chinantla, &c., Oaxaca (*Liebmann*).

6. **Besleria glabra**, Hanst. in Linnæa, xxxiv. p. 325.

Gasteranthopsis glabra, Ærst. in Danske Vidensk. Selsk. Skrift. v. t. 10. figg. 1-8 (reprint, p. 55).

SOUTH MEXICO, Chinantla, Oaxaca (*Liebmann*).

7. **Besleria hirsuta**, Hanst. in Linnæa, xxxiv. p. 326.

Gasteranthopsis hirsuta, Ærst. in Danske Vidensk. Selsk. Skrift. v. t. 10. figg. 9-13 (reprint, p. 55).

SOUTH MEXICO, Tepinapa and Chinantla, Oaxaca (*Liebmann*).

8. **Besleria princeps**, Hanst. in Linnæa, xxxiv. p. 317.

COSTA RICA (*Wendland*).

9. **Besleria triflora**, Hanst. in Linnæa, xxxiv. p. 329.

Parabesleria triflora, Ærst. in Danske Vidensk. Selsk. Skrift. v. t. 6. figg. 1-8 (reprint, p. 53).

COSTA RICA, mountains of Naranjo, 4000 to 5000 feet (*Ærsted*).

10. **Besleria wendlandiana**, Hanst. in Linnæa, xxxiv. p. 318.

COSTA RICA (*Wendland*).

22. MITRARIA.

Mitraria, Cav. in Ann. Cienc. Nat. iii. p. 230, t. 31, et Ic. Pl. vi. t. 579 ; Benth. et Hook. Gen. Plant. ii. p. 1012.

Diplocalyx, Presl, Bot. Bemerk. p. 146.

One shrubby species in Chili, and the following, which may have been founded on varieties of the original species, and erroneously recorded as Mexican.

1. **Mitraria pallida**, Hanst. in Linnæa, xxxiv. p. 419.

Diplocalyx pallidus, Presl, Bot. Bemerk. p. 146.

MEXICO, western side (ex *Presl*).

2. **Mitraria tomentella**, Hanst. in Linnæa, xxxiv. p. 420.

Diplocalyx tomentella, Presl, Bot. Bemerk. p. 147.

MEXICO, western side (ex *Presl*).

23. KLUGIA.

Klugia, Schl. in Linnæa, viii. p. 248; Benth. et Hook. Gen. Plant. ii. p. 1019.

Herbs. One American and about four Tropical-Asian species.

1. **Klugia azurea**, Schl. in Linnæa, viii. p. 248; DC. Prodr. vii. p. 276.

SOUTH MEXICO, Sierra San Pedro Nolasco &c. (*Jurgensen*, 839), Monte Algodon (*Hahn*), Cuesta Grande de Chiconquiaco (*Schiede*); COSTA RICA (*Endres*). Hb. Kew.

24. ANETANTHUS.

Anetanthus, Hiern in Benth. et Hook. Gen. Plant. ii. p. 1025.

About four or five herbaceous species in tropical South America.

1. **Anetanthus parviflorus**, Benth. et Hook. Gen. Plant. ii. p. 1025.

Trevirana parviflora, Hook. et Arn. Bot. Beech. Voy. p. 302.

Dicyrta parviflora, Seem. in Bot. Voy. 'Herald,' p. 326, t. 69; Hanst. in Linnæa, xxxiv. p. 433.

MEXICO, without locality (*Beechey*); GUATEMALA, Alta Vera Paz, at 4300 feet (*Türckheim*, 344). Hb. Kew.

Türckheim's specimens are more hairy than the type, and the calyx-lobes are relatively much longer.

Order C. BIGNONIACEÆ.

Bignoniaceæ, Benth. et Hook. Gen. Plant. ii. p. 1026.

Trees or shrubs, often lofty climbers; very few herbaceous. Fifty-four genera, comprising about 450 species, generally diffused in tropical regions. A few occur in extratropical North and South America, South Africa, Australia, and Eastern and Central Asia; but the Order is unrepresented in Europe, the whole of the Mediterranean region, and New Zealand, and the species do not ascend very high in the mountains within the tropics.

1. BIGNONIA.

Bignonia, Linn. Gen. Plant. n. 759; Benth. et Hook. Gen. Plant. ii. p. 1033.

An exclusively American genus, comprising about 120 species, mostly tall climbing

shrubs. One species occurs in extratropical North America, and a few in extratropical Brazil; the rest inhabit the tropical regions. There are several apparently undescribed species in Kew herbarium, though only flowering specimens.

1. **Bignonia acutistipula**, Schl. in Linnæa, xxvi. p. 375; Walp. Ann. v. p. 521. *Doxantha acutistipula*, Miers in Proc. Hort. Soc. Lond. iii. p. 190.

MEXICO (ex *Schlechtendal*).

2. **Bignonia æquinoctialis**, Linn. Sp. Pl. p. 869; DC. Prodr. ix. p. 155; Seem. Bot. Voy. 'Herald,' p. 179.

Bignonia sarmentosa, Bertol. Fl. Guat. p. 25, fide Griseb. Fl. Brit. W. Ind. p. 448.

Cydista æquinoctialis, Miers in Proc. Hort. Soc. Lond. iii. p. 191.

GUATEMALA (*Velasquez, Frazer*); PANAMA (*Seemann*).—WEST INDIES to BRAZIL. Hb. Kew.

3. **Bignonia andrieuxii**, DC. Prodr. ix. p. 156.

SOUTH MEXICO, between Tehuantepec and the Pacific (*Andrieux, 223*). Hb. Kew.

4. **Bignonia buccinatoria**, Mairet, ex DC. Prodr. ix. p. 195.

Pithecoctenium buccinatorium, DC. loc. cit.

Bignonia cherere, Lindl. Bot. Reg. t. 1301, nec Aubl.

Phædranthus lindleyanus, *P. buccinatorum*, *P. exsertus* et *P. cinerascens*, Miers in Proc. Hort. Soc. Lond. iii. p. 182.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer, 695*); SOUTH MEXICO, Puebla (*Bilimek, 230*), without locality (*Graham, 272; Tate, and others*). Hb. Kew.

5. **Bignonia chica**, Humb. et Bonpl. Pl. Æquin. i. p. 107, t. 31; DC. Prodr. ix. p. 151.

Lundia chica, Seem. Bot. Voy. 'Herald,' p. 180.

PANAMA, Remedios, Veraguas (*Seemann*).—Southward to BRAZIL.

6. **Bignonia difficilis**, Cham. in Linnæa, vii. p. 714; DC. Prodr. ix. p. 150; Seem. Bot. Voy. 'Herald,' p. 179.

Cydista seemanni, Miers in Proc. Hort. Soc. Lond. iii. p. 192.

PANAMA, near the city of Panama (*Seemann, 397*), Bujio Station (*S. Hayes, 144*).—BRAZIL. Hb. Kew.

7. **Bignonia diversifolia**, H. B. K. Nov. Gen. et Sp. iii. p. 133; DC. Prodr. ix. p. 153.

Cydista diversifolia, Miers, in Proc. Hort. Soc. Lond. iii. p. 192.

SOUTH MEXICO, Campeachy (*Humboldt & Bonpland*).

8. **Bignonia floribunda**, H. B. K. Nov. Gen. et Sp. iii. p. 134; DC. Prodr. ix. p. 150.

SOUTH MEXICO, Campeachy (*Humboldt & Bonpland*).

9. **Bignonia ghiesbreghtii**, Heller in Linnæa, xxx. p. 45.
SOUTH MEXICO, Toluca, at 8200 feet (*Heller*).
10. **Bignonia lanuginosa**, Hemsley.
Doxantha lanuginosa, Miers in Proc. Hort. Soc. Lond. iii. p. 190, absque descriptione.
Specimen juvenile valde mancum, ramulis graciliusculis tuberculosus, foliis (nondum perfecte evolutis) bifoliolatis longiuscule petiolatis, tomentosus (probabiliter demum glabrescentibus), cirro deficiente, foliolis breviter petiolulatis ovato-oblongis 6–9 lineas longis, floribus circiter 2–2½ poll. longis paucis in apicibus ramulorum brevium lateralium aggregatis, pedicellis gracilibus puberulis infrapollicaribus, calyce glabro lato irregulariter lobato, corollæ lobis latis rotundatis ciliolatis.
SOUTH MEXICO, Sierra San Pedro Nolasco &c. (*Jurgensen*, 578). Hb. Kew.
11. **Bignonia laurifolia**, Vahl, Eclog. ii. p. 44; DC. Prodr. ix. p. 155; Griseb. Fl. Brit. W. Ind. p. 448.
Bignonia sinclairii, Benth. Bot. Voy. 'Sulphur,' p. 119, fide Griseb.
PANAMA, Cruces (*Seemann*, 400), without locality (*Sinclair*).—COLOMBIA; VENEZUELA; GUIANA; WEST INDIES. Hb. Kew.
12. **Bignonia lepidota**, Seem. Bot. Voy. 'Herald,' p. 197.
SOUTH MEXICO, near Vera Cruz (*Galeotti*, 1018, 1019; *Linden*, 219, 220); PANAMA, without locality (*Seemann*, 601), Paraiso (*S. Hayes*, 126). Hb. Kew.
13. **Bignonia litoralis**, H. B. K. Nov. Gen. et Sp. iii. p. 139; DC. Prodr. ix. p. 164.
SOUTH MEXICO, Acapulco (*Humboldt & Bonpland*).
14. **Bignonia? obovata**, Hook. et Arn. Bot. Beech. Voy. p. 439.
NICARAGUA, Realejo.
15. **Bignonia patellifera**, Schl. in Linnæa, viii. p. 516; DC. Prodr. ix. p. 149.
Petastoma patellifera, Miers in Proc. Hort. Soc. Lond. iii. p. 195.
SOUTH MEXICO, Hacienda de la Laguna (*Schiede*), woods near Vera Cruz, 1500 feet (*Galeotti*, 1020; *Linden*, 218). Hb. Kew.
16. **Bignonia priurei**, DC. Prodr. ix. p. 154; Seem. Bot. Voy. 'Herald,' p. 179.
PANAMA, Remedios, Veraguas (*Seemann*, 1128).—GUIANA. Hb. Kew.
17. **Bignonia? pubescens**, Linn. Sp. Pl. p. 870; DC. Prodr. ix. p. 161.
Petastoma pubescens, Miers in Proc. Hort. Soc. iii. p. 195.
SOUTH MEXICO, Campeachy.
18. **Bignonia subincana**, Hemsley.
Arrabidaea subincana, DC. Prodr. ix. p. 184; Seem. Bot. Voy. 'Herald,' p. 180.
PANAMA, near Santiago and the city of Panama (*Seemann*, 152).—COLOMBIA to BRAZIL. Hb. Kew.

19. **Bignonia unguis**, Linn. Sp. Pl. p. 869; DC. Prodr. ix. p. 146.

Doxantha unguis, Miers in Proc. Hort. Soc. Lond. iii. p. 190.

Doxantha mexicana, Miers, loc. cit. ?

MEXICO (*Coulter*, 1004).—WEST INDIES. Hb. Kew.

2. MACFADYENA.

Macfadyena, A. DC. Prodr. p. 179?; Miers, Seem. et auct.; Benth. et Hook. Gen. Plant. ii. p. 1034.

Tall climbing shrubs. About twenty (?) species inhabiting Tropical America, chiefly Brazil and Guiana.

1. **Macfadyena corymbosa**, Griseb. in Bonplandia, vi. p. 10, et Fl. Brit. W. Ind. p. 449; Seem. Journ. Bot. i. p. 227, t. 8.

Spathodea corymbosa, Vent. Choix, t. 40.

Macfadyena ovata, Miers in Proc. Hort. Soc. Lond. iii. p. 200 (absque descriptione) ?

PANAMA, Paraiso (*S. Hayes*, 222), without locality (*Cuming*, 1118).—TRINIDAD southward to BRAZIL. Hb. Kew.

2. **Macfadyena phellosperma**, Hemsley, n. sp.

Foliis iis *M. corymbosæ* simillimis sed vix lepidotis, floribus paucioribus minoribus, capsula fere oviformi, seminibus crassissimis suberosis.

Frutex vagans, glaber vel plus minus minute lepidotus, ramulis ultimis floriferis gracilibus, striolatis.

Folia longiuscule petiolata, 2-foliolata, ecirrosa; foliola longiuscule petiolulata, subcoriacea, late ovata, 2–4 poll. longa, abrupte acuminata, obtusiuscula, basi rotundata vel leviter cordata, supra nitida. *Flores* 2–2½ poll. longi, sæpius 2 in apicibus ramulorum aggregati; pedunculi 12–18 lineas longi, paulum infra flores articulati, geniculati, incrassati, et 2-bracteolati, bracteolis parvis, angustis; calyx glaber, usque ad basin spathaceo-fissus, apice postice cucullatus, recurvatus; corolla extus glabra, intus sparse pilosula; stamina inclusa, antheris divaricatis; staminodium parvum; discus parvus; ovarium puberulum; stylus filiformis; stigmatis lamellæ majusculæ, rhomboideæ, longe acuminatæ. *Capsula* compresso-oviformis, 2½–3 poll. longa, coriacea vel fere lignosa, lævis, septifrage dehiscens, septo crasso, subplano; semina pauca, crassissima, fibroso-suberosa (vel in vivis pulposa?), anguste alata, 1–1½ poll. diametro.

PANAMA, swamps of the Rio Grande (*S. Hayes*, 81). Hb. Kew.

3. **Macfadyena uncinata**, DC. Prodr. ix. p. 180; Seem. Bot. Voy. ‘Herald,’ p. 180.

Bignonia uncinata, Andrews, Bot. Rep. t. 530; Bot. Mag. t. 1511.

PANAMA, Chagres (*Fendler*, 207).—GUIANA; TRINIDAD. Hb. Kew.

3. ANEMOPÆGMA.

Anemopægma, Mart. in DC. Prodr. ix. p. 187; Benth. et Hook. Gen. Plant. ii. p. 1037.

Erect or climbing shrubs. About twenty species in Colombia, Guiana, and Brazil.

1. **Anemopægma orbiculatum**, DC. Prodr. ix. p. 190.

Bignonia orbiculata, Jacq. Amer. t. 180. fig. 79.

Pithecoctenium panamense, Benth. Bot. Voy. 'Sulphur,' p. 129.

PANAMA, near the city of Panama, Cruces, &c. (*Seemann*, 151; *S. Hayes*, 132; *Cuming*, 1110; *Sinclair*).—COLOMBIA. Hort. Kew.

4. PITHECOCTENIUM.

Pithecoctenium, Mart. in DC. Prodr. ix. p. 193; Benth. et Hook. Gen. Plant. ii. p. 1038.

Tall climbing shrubs. About twenty species, inhabiting Tropical America from Mexico to Brazil.

1. **Pithecoctenium cinereum**, DC. Prodr. ix. p. 195.

SOUTH MEXICO, Oaxaca (*Andrieux*, 221).

2. **Pithecoctenium hexagonum**, DC. Prodr. ix. p. 195.

SOUTH MEXICO, Chalco (*Andrieux*, 222). Hb. Kew.

3. **Pithecoctenium laxiflorum**, DC. Prodr. ix. p. 195.

SOUTH MEXICO, around Oaxaca (*Andrieux*, 220). Hb. Kew.

4. **Pithecoctenium muricatum**, Moç., ex DC. Prodr. ix. p. 194; Calques des Dess. Fl. Mex. 820.

Bignonia echinata, Jacq. Amer. t. 176. fig. 52.

SOUTH MEXICO, Zimapan (*Coulter*, 1006), rivulets of Oaxaca at 4000 feet (*Galeotti*, 1041).—COLOMBIA. Hb. Kew.

5. **Pithecoctenium**, sp. (**Pithecoctenium aubletii**, var.?).

COSTA RICA (*Endres*, 194). Hb. Kew.

5. AMPHILOPHIUM.

Amphilophium, Kunth, Rev. Bign. p. 7, in Journ. Phys. lxxxvii.; Benth. et Hook. Gen. Plant. ii. p. 1039.

Tall, climbing shrubs. Four or five species in Tropical America.

1. **Amphilophium molle**, Ch. et Schl. in Linnæa, v. p. 120; DC. Prodr. ix. p. 193; Bureau, Monogr. Bignon. t. 12.

SOUTH MEXICO, Mirador &c., Vera Cruz (*Galeotti*, 7060; *Linden*, 1100; *Schiede & Deppe*), Zimapan (*Coulter*, 1005). Hb. Kew.

2. **Amphilophium paniculatum**, H. B. K. Nov. Gen. et Sp. iii. p. 149; DC. ix. p. 193.

Bignonia paniculata, Jacq. Amer. t. 116.

HONDURAS, Gulf of Fonseca (*Sinclair*); NICARAGUA, Chontales (*Tate*, 436); COSTA RICA (*Endres*, 206); PANAMA, banks of the Rio Santa Maria (*Seemann*, 153).—COLOMBIA; PERU. Hb. Kew.

6. CALLICHLAMYS.

Callichlamys, Miq. in Linnæa, xviii. p. 254; Benth. et Hook. Gen. Plant. ii. p. 1039.

A monotypic lofty climbing shrub.

1. **Callichlamys riparia**, Miq. in Linnæa, xviii. p. 254; Walp. Rep. vi. p. 514.

Callichlamys rufinervis, *C. rubiginosa* et *C. splendida*, Miers in Proc. Hort. Soc. Lond. iii. p. 201, absque diagn.

Bignonia latifolia, Rich. in Act. Soc. Nat. Par. 1792, p. 110.

Delostoma latifolia, Splitg. Bign. Surin. p. 7, et DC. Prodr. ix. p. 198.

Tabebuia latifolia et *T. rufinervis*, DC. Prodr. ix. p. 213.

PANAMA, Empire Station (*S. Hayes*, 248).—COLOMBIA; VENEZUELA; GUIANA; BRAZIL; ST. VINCENT. Hb. Kew.

It is suggested by Bentham & Hooker (Gen. Plant. ii. p. 1039) that the Panama plant may be a distinct species; but we have been unable to find any distinctive characters.

7. CHILOPSIS.

Chilopsis, D. Don in Edinb. Phil. Journ. ix. p. 261; Benth. et Hook. Gen. Plant. ii. p. 1041.

An erect shrubby monotype.

1. **Chilopsis saligna**, D. Don in Edinb. Phil. Journ. ix. p. 261, et in G. Don's Gen. Syst. iv. p. 228; A. Gr. Synop. Fl. N. Am. ii. p. 320.

Chilopsis linearis, DC. Prodr. ix. p. 227.

Bignonia linearis, Cav. Ic. Pl. t. 269.

TEXAS to CALIFORNIA.—NORTH MEXICO, Sonora (*Schott*), Chihuahua, Saltillo, Monterey, Parras, &c. (*Gregg*, 208; *Palmer*, 1001). Hb. Kew.

8. TABEBUIA.

Tabebuia, Gomez, Obs. ii. p. 7, t. 2, ex DC. Prodr. ix. p. 212; Benth. et Hook. Gen. Plant. ii. p. 1042.

Trees or erect shrubs, inhabiting Tropical America. About sixty species are recorded, ranging from Mexico and the West Indies to Brazil. Two or three of the Mexican species are probably repeated under different names.

1. **Tabebuia æsculifolia**, Hemsley.

Tecoma æsculifolia, DC. Prodr. ix. p. 221.

Bignonia æsculifolia, H. B. K. Nov. Gen. et Sp. iii. p. 140.

SOUTH MEXICO, between Acapulco and Mescala (*Humboldt & Bonpland*).

2. **Tabebuia fuscata**, Hemsley.

Tecoma fuscata, DC. Prodr. ix. p. 218, et Calques des Dess. Fl. Mex. 823.

MEXICO (*Moçino*).

3. **Tabebuia guayacan**, Hemsley.

Tecoma guayacan, Seem. Bot. Voy. 'Herald,' p. 180.

PANAMA, around the village of Cruces (*Seemann*, 398). Hb. Kew.

[*Tecoma heteropoda*, DC. Prodr. ix. p. 219, may be a Mexican plant.]

4. **Tabebuia heterotricha**, Hemsley.

Tecoma heterotricha, DC. Prodr. ix. p. 219.

SALVADOR, Libertad (*S. Hayes*, 457); PANAMA, without locality (*Cuming*, 1261)?—VENEZUELA. Hb. Kew.

5. **Tabebuia leucoxylla**, DC. Prodr. ix. p. 212.

Bignonia leucoxylla, Vel. Fl. Flum. vi. t. 54 (non Linn.).

SOUTH MEXICO, near Tantoyuca (*Ervendberg*, 329)?—BRAZIL. Hb. Kew.

6. **Tabebuia mexicana**, Hemsley.

Tecoma mexicana, Mart. in DC. Prodr. ix. p. 218.

MEXICO (*Karwinski*).

7. **Tabebuia palustris**, Hemsley, n. sp.

Glabrescens, foliis in ramulis floriferis 1–3-foliolatis, foliolis oblongis utrinque attenuatis terminali majore petiolulo longiore, floribus candidis, cymis paucifloris, capsula oblonga vix coriacea lævi, seminibus tenuibus suborbicularibus.

Frutex erectus, 4–10-pedalis (*Hayesius*), glabrescens, ramulis floriferis graciliusculis, compressis, lepidotis. *Folia* in ramulis floriferis 3-foliolata (vel pauca suprema 1-foliolata), longiuscule graciliterque petiolata, undique præcipue subtus minute lepidota; foliola subcoriacea, anguste oblonga, utrinque attenuata acutaque, minute reticulata, venis primariis numerosis transversis sat conspicuis instructa, lateralia minora, subsessilia, terminale longiuscule petiolulatum (petiolulus 6–9 lineas longus), usque ad 6 poll. longum; petiolus teres, usque ad 1½ poll. longus. *Flores* candidi (*Hayesius*), fere 2 poll. longi, pauci (ad 6) aggregati, breviter pedicellati; calyx irregulariter 3-lobatus, lepidotus; corollæ tubus latus, intus barbatus; stamina inclusa, antheris divaricatis; discus crassus, pulvinatus; ovarium puberulum; stigmati lamellæ ovato-oblongæ, obtusæ. *Capsula* oblonga, ad 3 poll. longa, lævis, minute lepidota, loculicide dehiscens, valvis subcoriaceis navicularibus, septo tenui plano; semina in quoque loculo numerosa, 2-seriata, tenuia, suborbicularia, ad 10 lineas diametro.

PANAMA, swamps of the Rio Grande (*S. Hayes*, 80). Hb. Kew.

8. **Tabebuia pentaphylla**, Hemsley.

Tecoma pentaphylla, Juss. in DC. Prodr. ix. p. 217; Seem. Bot. Voy. 'Herald,' p. 180.

PANAMA, Nata (*Seemann*, 1126).—WEST INDIES. Hb. Kew.

9. **Tabebuia rosea**, DC. Prodr. ix. p. 215.

Tecoma rosea, Bertol. Fl. Guat. p. 25.

GUATEMALA, Esquintla (*Velasquez*).

9. GODMANIA.

Godmania, Hemsley, *Diag. Pl. Nov. pars altera*, p. 35.

Calyx hemisphæricus, 5-dentatus, dentibus brevibus obtusis. *Corolla* campanulata, ventricosa, intus barbata; limbus subbilabiatus, lobis latis rotundatis parum inæqualibus patentibus vel recurvis. *Stamina* 4, didynama, inclusa, prope basin corollæ inserta; antheræ pilosulæ, loculis oblongis divergentibus; filamenta filiformia. *Staminodium* capitatum. *Discus* annularis, integer. *Ovarium* subsessile; ovula in quaque placenta pluriseriata. *Capsula* cylindracea, circiter tripedalis, longitudinaliter 16-costata, loculicide dehiscens, valvis coriaceis, septo crasso tereti. *Semina* plano-compressa, utrinque longissime alata, alis hyalinis, tenuissimis.

1. ***Godmania macrocarpa***, Hemsley, loc. cit. (Tab. LXV.)

Arbor patula, 15–20-pedalis, ramulis, foliis floribusque puberulis. *Folia* opposita, longe petiolata, digitatim 7-foliolata; foliola petiolulata, obovato-oblonga, 4–6-pollicaria, acuminata, obtusa, basi cuneata, sæpius utrinque præcipue secus medium glandulosa, glabrescentia, petiolulis infrapollicaribus, petiolo 6-pollicari. *Flores* semipollicares, albidi, intus roseo guttati, et antice barbati, dense corymbosi, corymbis axillaribus. *Capsula* circiter tripedalis; semina cum appendicibus alatis, 4–6-pollicaria.—*Cybistax macrocarpa*, Benth. in Benth. et Hook. Gen. Pl. ii. p. 1043.

PANAMA, in woods near the city of Panama (*S. Hayes*, 61). Hb. Kew.

Fendler's 'Plantæ Venezuelæ,' n. 29, belongs to this genus, and possibly to *G. macrocarpa*.

EXPLANATION OF TAB. LXV.

Fig. 1, small gland from undersurface of leaf, magnified about 300; 2, vertical section of gland from upper surface of leaf, magnified about 200; 3, gland from upper surface of leaf, magnified about 200; 4, a flower, twice natural size; 5, a corolla laid open, enlarged; 6, calyx and pistil, enlarged; 7, pistil, enlarged; 8, seed-vessel, natural size; 9, cross section of the same showing terete septum; 10, a seed, natural size; 11, an embryo, enlarged; 12, a cross section of the same.

10. TECOMA.

Tecoma, Juss. Gen. Plant. p. 139, excl. *T. pentaphylla*, Benth. et Hook. Gen. Plant. ii. p. 1044.

Erect or climbing shrubs, rarely almost arboreous. About twenty-four species widely dispersed in subtropical regions both north and south, rarer within the tropics.

1. ***Tecoma mollis***, H. B. K. Nov. Gen. et Sp. iii. p. 144; DC. Prodr. ix. p. 224.

Bignonia tecomoides, DC. Prodr. ix. p. 166.

Tecoma sorbifolia, H. B. K. Nov. Gen. et Sp. iii. p. 144.

Tecoma stans γ . *velutina*, DC. Prodr. ix. p. 224.

Stenolobium molle, Seem. Journ. Bot. i. p. 90.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 696); SOUTH MEXICO, around Guanajuato, at about 6450 feet (*Humboldt & Bonpland*), Chalco (*Andrieux*, 224), mountains west of Oaxaca, 7000 feet (*Galeotti*, 1021), Guadalupe (*Bourgeau*, 36); GUATEMALA, Volcan de Fuego, 5000 feet (*Salvin*).—COLOMBIA; PERU; CHILI. Hb. Kew.

2. **Tecoma stans**, Juss. Gen. Plant. p. 139; DC. Prodr. ix. p. 224, excl. γ . *velutina*; Bot. Mag. t. 3191; A. Gr. Synop. Fl. N. Am. ii. p. 319.

Bignonia stans, Linn. Sp. Pl. p. 871.

Stenolobium stans, Seem. Journ. Bot. i. p. 88; Bureau, Monogr. t. 13.

TEXAS to ARIZONA.—NORTH MEXICO, Sierra Madre (*Seemann*, 2116), Sonora (*Wright*), Coahuila (*Palmer*, 1003); SOUTH MEXICO, region of Orizaba (*Bourgeau*, 2480; *Müller*, 1109, 1110), Zimapan (*Coulter*, 1009); COSTA RICA (*Endres*); PANAMA (*Seemann*, 558).—COLOMBIA to PERU, and in the WEST INDIES. Hb. Kew.

3. **Tecoma viminalis**, Hemsley.

Bignonia viminalis, H. B. K. Nov. Gen. et Sp. iii. p. 132; DC. Prodr. ix. p. 144.

Astianthus longifolius, D. Don in Edinb. Phil. Journ. ix. p. 262; DC. Prodr. ix. p. 177; Seem. in Bonplandia, 1862, t. 13, et in Ann. Nat. Hist. ser. 3, x. p. 31.

SOUTH MEXICO, Gonacatepec (*Andrieux*, 219), Vera Cruz, at 1000 feet (*Galeotti*, 1017); GUATEMALA (*Skinner*). Hb. Kew.

11. TOURRETIA.

Tourretia, Juss. Gen. Plant. p. 139; Benth. et Hook. Gen. Plant. ii. p. 1049.

A monotypical herbaceous or half-shrubby climber.

1. **Tourretia lappacea**, Willd. Sp. Pl. p. 263; DC. Prodr. ix. p. 236; Bot. Mag. t. 3749; Bureau, Monogr. 31.

MEXICO?; GUATEMALA, Santa Maria (*Hartweg*), Volcan de Fuego, 5000 feet (*Salvin*).—COLOMBIA to PERU. Hb. Kew.

12. JACARANDA.

Jacaranda, Juss. Gen. Plant. p. 138; Benth. et Hook. Gen. Plant. p. 1050.

Trees. About thirty species, restricted to Tropical America.

1. **Jacaranda copaia**, Don in Edinb. Phil. Journ. 1823, p. 264; DC. Prodr. ix. p. 229.

Bignonia copaia, Aubl. Pl. Guian. ii. p. 650, tt. 262 et 265.

PANAMA, slopes of hills, Paraiso (*S. Hayes*, 627).—GUIANA. Hb. Kew.

2. **Jacaranda filicifolia**, Don in Edinb. Phil. Journ. 1823, p. 266; DC. Prodr. ix. p. 229.

PANAMA, David, Veraguas (*Seemann*, 1127), near Paraiso (*S. Hayes*).—GUIANA. Hb. Kew.

13. PARMENTIERA.

Parmentiera, DC. Prodr. ix. p. 244; Benth. et Hook. Gen. Plant. ii. p. 1051.

A Mexican and Central-American genus of trees; the number of species variously estimated.

1. **Parmentiera alata**, Miers in Trans. Linn. Soc. xxvi. p. 166.

Crescentia alata, H. B. K. Nov. Gen. et Sp. iii. p. 158; DC. Prodr. ix. p. 247; Hook. Kew Journ. Bot. vi. p. 275; Trans. Linn. Soc. xxiii. p. 21; Parad. Vindob. ii. t. 87.

Crescentia trifolia, Blanco, Fl. Filip. p. 489.

SOUTH MEXICO, common on the western coast from Mazatlan to Acapulco (*Humboldt & Bonpland*; *Gregg*; *Seemann*); CENTRAL AMERICA, without locality (*Wendland*); PANAMA, Veraguas, cultivated (*Seemann*). Hb. Kew.

Introduced in the Philippine Islands and elsewhere.

2. **Parmentiera cereifera**, Seem. Bot. Voy. 'Herald,' p. 182, t. 32; Trans. Linn. Soc. xxiii. p. 17.

PANAMA, near the villages of Cruces, Gorgona, and San Juan (*Seemann*). Hb. Kew.

3. **Parmentiera edulis**, DC. Prodr. ix. p. 244, et Calques des Dess. Fl. Mex. 830; Trans. Linn. Soc. xxiii. p. 18.

Parmentiera aculeata, Seem. Bot. Voy. 'Herald,' p. 183.

Crescentia aculeata, H. B. K. Nov. Gen. et Sp. iii. p. 158.

Crescentia edulis, Desv. Journ. Bot. iv. p. 112; DC. Prodr. ix. p. 246.

Crescentia musacarpa, Zaldivar; Heller, Reisen in Mexico, p. 414.

Parmentiera foliolosa et *P. lanceolata*, Miers in Trans. Linn. Soc. xxvi. pp. 166 et 167.

SOUTH MEXICO, Zimapan (*Coulter*), Gonacatepec (*Andrieux*, 225), Campeachy (*Humboldt & Bonpland*). Hb. Kew.

14. CRESCENTIA.

Crescentia, Linn. Gen. Plant. n. 762; Benth. et Hook. Gen. Plant. ii. p. 1053; Miers in Trans. Linn. Soc. xxvi. pp. 159-180, tt. 7-9.

An exclusively Tropical-American genus of trees. Miers defines fifteen species from very scanty material.

1. **Crescentia cucurbitina**, Linn. Mant. p. 250; DC. Prodr. ix. p. 246; Seem. in Trans. Linn. Soc. xxiii. p. 19.

Crescentia latifolia, Lam. Dict. i. p. 558.

Crescentia obovata, Benth. Bot. Voy. 'Sulphur,' p. 130, t. 46.

Crescentia lethifera et *C. toxicaria*, Tussac, Fl. des Antill. iv. p. 50, t. 17.

Crescentia ovata, Burm. Fl. Ind. p. 132.

PANAMA, Chagres (*Fendler*, 210), without locality (*Seemann*).—DARIEN; WEST INDIES. Hb. Kew.

2. **Crescentia cujete**, Linn. Sp. Pl. p. 872; DC. Prodr. ix. p. 246; Seem. in Trans. Linn. Soc. xxiii. p. 20; Bot. Mag. t. 3430; Vell. Fl. Flum. vi. t. 103; Tussac, Fl. des Antill. ii. p. 80, t. 19.

Crescentia cuneifolia, Gardn. in Hook. Journ. Bot. ii. p. 422.

Crescentia acuminata, H. B. K. Nov. Gen. et Sp. iii. p. 157.

GUATEMALA (*Friedrichsthal*); PANAMA (*Seemann*).—COLOMBIA to PERU and BRAZIL, and in the WEST INDIES. Hb. Kew.

Generally cultivated in warm countries.

3. **Crescentia macrophylla**, Seem. in Hook. Kew Journ. Bot. vi. p. 274, et in Trans. Linn. Soc. xxiii. p. 20; Bot. Mag. t. 4822.

SOUTH MEXICO, Teapa, Tabasco (*Linden*, 1608). Hb. Kew.

Order CI. PEDALINEÆ.

Pedalineæ, Benth. et Hook. Gen. Plant. ii. p. 1054.

Herbs. Twelve genera, comprising about fifty species, generally diffused in warm countries, though very rare in Asia and Australia. Their greatest concentration is in Africa.

1. MARTYNIA.

Martynia, Linn. Gen. Plant. n. 753; Benth. et Hook. Gen. Plant. ii. p. 1055.

About ten species, inhabiting America from the Southern States of North America southward to Monte Video.

1. **Martynia altheæfolia**, Benth. Bot. Voy. 'Sulphur,' p. 37; A. Gr. Synop. Fl. N. Am. ii. p. 321.

Martynia arenaria, Engelm. Pl. Wisliz. p. 100; Torr. Bot. U.S. & Mex. Bound. Surv. p. 110.

Proboscidea altheæfolia, Dcne. in Ann. Sc. Nat. série 5, iii. p. 324.

TEXAS to ARIZONA and LOWER CALIFORNIA.—NORTH MEXICO, along the Rio Grande (*Bigelow*; *Parry*), Sonora (*Thurber*).

2. **Martynia botterii**, Hemsley.

Proboscidea botterii, Dcne. in Ann. Sc. Nat. série 5, iii. p. 327.

SOUTH MEXICO, Orizaba (*Botteri*, 797). Hb. Kew.

3. **Martynia diandra**, Glox. Obs. p. 14, t. 1; DC. Prodr. ix. p. 253; Jacq. Hort. Schœnb. t. 289; Andr. Bot. Rep. t. 575; Bot. Reg. t. 2001.

Martynia angulosa, Lam. Ill. t. 237. fig. 1; Ehret, Ic. t. i. fig. 1; Reliq. Houst. t. 10; Martyn, Hist. Pl. Rar. p. 42, cum ic. color.

SOUTH MEXICO, Vera Cruz (*Houston*), Yucatan and Tabasco (*Johnson*, 77). Hb. Kew.

4. **Martynia fragrans**, Lindl. Bot. Reg. 1841, t. 6; A. Gr. Synop. Fl. N. Am. ii. p. 321; Bot. Mag. t. 4292.

Martynia violacea, Engelm. Pl. Wisliz. p. 101.

Proboscidea fragrans et *P. violacea*, Dcne. in Ann. Sc. Nat. série 5, iii. pp. 325 et 326.

TEXAS; NEW MEXICO.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 697), Chihuahua (*Thurber*), Encinillas (*Wislizenus*); SOUTH MEXICO, Vera Cruz (*Linden*, 217). Hb. Kew.

5. **Martynia proboscidea**, Glox. Obs. p. 14; DC. Prodr. ix. p. 253; A. Gr. Synop. Fl. N. Am. ii. p. 321; Bot. Mag. t. 1056; Mill. Ic. t. 286.

Martynia annua, Linn. Sp. Pl. p. 852, excl. syn. et patr.

Proboscidea jussiei, Schmidel, Icon. p. 49, tt. 12 et 13; Dcne. in Ann. Sc. Nat. série 5, iii. p. 324.

NEW MEXICO.—MEXICO.

6. **Martynia triloba**, Ch. et Schl. in Linnæa, v. p. 121; DC. Prodr. ix. p. 253.

Proboscidea triloba, Dcne. in Ann. Sc. Nat. série 5, iii. p. 326.

SOUTH MEXICO, near Vera Cruz (*Schiede*).

[*Sesamum indicum*, Linn., an Asiatic member of the Order, often cultivated for the oil yielded by its seeds, is naturalized in some parts of Mexico.]

Order CII. ACANTHACEÆ.

Acanthaceæ, Benth. et Hook. Gen. Plant. ii. p. 1060.

Herbs, half-shrubs, rarely shrubs or trees. About 125 genera and 1500 species, generally diffused in warm countries, rare in temperate and absent from cold regions.

1. MENDONCIA.

Mendoncia, Vell. in Vand. Fl. Lusit. et Bras. p. 43, t. 3. fig. 22; Benth. et Hook. Gen. Plant. ii. p. 1072.

About twenty shrubby and half-shrubby species, inhabiting Tropical America from Nicaragua to Brazil.

1. **Mendoncia costaricana**, Ærst. in Vidensk. Meddel. 1854, p. 113; Walp. Ann. iii. p. 209.

COSTA RICA, Aguacate and Cartago (*Ærsted*).

2. **Mendoncia**, sp. (*M. costaricana*?).

NICARAGUA, Chontales (*Tate*, 435); PANAMA, Mamei station (*S. Hayes*, 169). Hb. Kew.

We have seen no authenticated specimen of *M. costaricana*; and Ærsted's description was drawn up from imperfect specimens; so that we are unable to determine whether this is a different species.

[*Thunbergia alata*, Bojer; Hook. Exot. Fl. t. 177, an African plant, is now naturalized in Mexico and Central America.]

2. ELYTRARIA.

Elytraria, Vahl, Enum. i. p. 106; Benth. et Hook. Gen. Plant. ii. p. 1073.

About four herbaceous species, divided into fourteen by some authors. They are all Tropical-American, and one that is rare in America is widely dispersed in Tropical Asia and Africa.

1. **Elytraria tridentata**, Vahl, Enum. i. p. 106; DC. Prodr. xi. p. 64; Griseb. Fl. Brit. W. Ind. p. 451; A. Gr. Synop. Fl. N. Am. ii. p. 324.

Elytraria frondosa, *E. ramosa* et *E. fasciculata*, H. B. K. Nov. Gen. et Sp. ii. pp. 234 et 235.

Elytraria bromoides et *E. microstachya*, Ærst. in Vidensk. Meddel. 1854, pp. 114 et 115, t. 3. figg. 1-6.

Elytraria pachystachya, Ærst. loc. cit. p. 116, t. 3. figg. 9-16?

Elytraria caulescens, Ledeb. Ind. Sem. Hort. Dorp. 1820; DC. Prodr. xi. p. 63.

Verbena squamosa, Jacq. Hort. Schœnb. i. p. 3, t. 5, fide Nees.

Elytraria apargiæfolia, Nees in DC. Prodr. xi. p. 65.

ARIZONA; NEW MEXICO.—MEXICO and CENTRAL AMERICA, common.—Southward to BUENOS AYRES, and in TRINIDAD and CUBA. Hb. Kew.

3. NELSONIA.

Nelsonia, R. Br. Prodr. Fl. Nov. Holl. p. 480; Benth. et Hook. Gen. Plant. ii. p. 1073.

One herbaceous species:—

1. **Nelsonia campestris**, R. Br. Prodr. Fl. Nov. Holl. p. 481; Benth. Fl. Austr. iv. p. 543; Endl. Iconogr. t. 79.

Nelsonia rotundifolia, R. Br. loc. cit.

Nelsonia tomentosa, Dietr., *N. canescens*, Nees, *N. pohlii*, Nees, et *N. nummulariæfolia*, R. et S. in DC. Prodr. pp. 65-67, cum synonymis omnibus, fide Bentham loc. supr. cit.

Nelsonia villosa, Ærst. in Vidensk. Meddel. 1854, p. 118, t. 4. figg. 3-6.

Almost everywhere in the TROPICS, including CENTRAL AMERICA. Hb. Kew.

4. HYGROPHILA.

Hygrophila, R. Br. Prodr. Fl. Nov. Holl. p. 479; Benth. et Hook. Gen. Plant. ii. p. 1075.

Herbs or half-shrubs. About fifteen species, widely dispersed in the tropics. Bentham and Hooker regard some or all of the following forms as varieties of *H. salicifolia*, Nees, a species that is common in Tropical Asia and Australia; but we are not clear which; therefore we leave them under the names given by Nees in DeCandolle's 'Prodromus.'

1. **Hygrophila costata**, Nees in DC. Prodr. xi. p. 88; Seem. Bot. Voy. 'Herald,' p. 178.

SOUTH MEXICO, Orizaba (*Botteri*, 628); GUATEMALA, Mazatenango (*Bernoulli*); NICARAGUA, Chontales (*Tate*, 213); PANAMA, Chagres (*Fendler*, 198, 202), banks of rivers (*Seemann*, 411).—Southward to BRAZIL. Hb. Kew.

2. **Hygrophila lacustris**, Nees in DC. Prodr. xi. p. 86; A. Gr. Synop. Fl. N. Am. ii. p. 324.

Ruellia lacustris, Ch. et Schl. in Linnæa, v. p. 96.

FLORIDA; LOUISIANA; TEXAS.—MEXICO, Jalapa (*Schiede & Deppe*).

3. **Hygrophila longifolia**, Nees in DC. Prodr. xi. p. 86.

SOUTH MEXICO, Vera Cruz to Orizaba (*Müller*, 948), Consoquitla, Vera Cruz (*Linden*, 126).—BRAZIL. Hb. Kew.

4. **Hygrophila rivularis**, Nees in DC. Prodr. xi. p. 87.

Ruellia rivularis, Schl. in Linnæa, vii. p. 396.

SOUTH MEXICO, Cuesta Grande de Chiconquiaco (*Schiede & Deppe*).—COLOMBIA. Hb. Kew.

5. CALOPHANES.

Calophanes, D. Don in Sweet's Brit. Fl. Gard. ser. 2, t. 181; Benth. et Hook. Gen. Plant. ii. p. 1077.

Herbs or half-shrubs. About thirty species, inhabiting Tropical and North America, Tropical and South Africa, and Tropical Asia. Several of the following may have to be reduced.

1. **Calophanes angustifolia**, Hemsley, n. sp.

C. ovata affinis, differt foliis subsessilibus lineari-lanceolatis, floribus majoribus etc.

Frutex vel *herba* lignescens, stricta, plus minusve villosa-hirsuta, ramis obscure tetragonis rectis.

Folia rigidiuscula, scabrida, subsessilia, lineari-lanceolata, $1\frac{1}{2}$ – $2\frac{1}{2}$ poll. longa, 3–5 lineas lata, integra, subacuta, discoloria, venis utrinque 4 vel 5 conspicuis apicem versus excurrentibus.

Flores axillares, subsessiles, pauci, aggregati, dense cymosi, cymis bracteatis brevissime pedunculatis; bracteæ angustæ, calycem æquantibus; calyx scabridus, lobis longe setaceo-subulatis tubum corollæ fere æquantibus; corolla distincte bilabiata, puberula, circiter 1 poll. longa, tubo latiusculo incurvo, limbi lobis rotundatis; antherarum loculi basi breviter mucronati; ovarium glabrum, loculis 2-ovulatis. *Capsulam* maturam non vidi.

SOUTH MEXICO, Oaxaca (*Ghiesbreght*). Hb. Kew.

2. **Calophanes bilabiatus**, Seem. in Bot. Voy. 'Herald,' p. 324, t. 65.

NORTH MEXICO, Cerro de Pinal (*Seemann*, 1513); SOUTH MEXICO, Cuernavaca (*Bourgeau*, 1262). Hb. Kew.

3. **Calophanes capitatus**, Ærst. in Vidensk. Meddel. 1854, p. 131; Walp. Ann.

v. p. 647.

SOUTH MEXICO, Oaxaca (*Liebmann*).

4. **Calophanes decumbens**, A. Gr. Synop. Fl. N. Am. ii. p. 325.

Calophanes oblongifolia, Torr. Bot. U.S. & Mex. Bound. Surv. p. 122, non Don.

TEXAS to ARIZONA.—NORTH MEXICO, Sonora (*Wright*, *Thurber*), Sierra Madre (*Palmer*, 2033), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 699), Bolaños (*Coulter*, 1178), near San Luis Potosi (*Schaffner*). Hb. Kew.

5. **Calophanes hirsutissima**, Nees in DC. Prodr. xi. p. 109.

SOUTH MEXICO, Hacienda de Guadalupe (*Ehrenberg*).

6. **Calophanes jasminum-mexicanum**, Nees in DC. Prodr. xi. p. 110.
SOUTH MEXICO, Zimapan (*Coulter*, 1210), Aguas Calientes (*Hartweg*, 1017), near the city of Mexico (*Alaman*, *Mairet*). Hb. Kew.
7. **Calophanes linearis**, A. Gr. Synop. Fl. N. Am. ii. p. 324.
Dipteracanthus (*Calophanes*) *linearis*, Torr. & Gray, Pl. Lindl. i. p. 50.
Ruellia (*Calophanes*) *ovata*, Benth. Pl. Hartw. p. 89, quoad plantam Texanam, non *Ruellia ovata*, Cav.
Calophanes oblongifolia, var. *texensis*, Torr. Bot. U.S. & Mex. Bound. Surv. p. 122.
TEXAS; NEW MEXICO.—NORTH MEXICO (ex *A. Gray*).
8. **Calophanes microphylla**, Nees in DC. Prodr. xi. p. 113.
Ruellia microphylla, Cav. Ic. Pl. vi. p. 63, t. 586. fig. 2.
MEXICO ?
9. **Calophanes ovata**, Benth. Pl. Hartw. p. 89; DC. Prodr. xi. p. 108.
Ruellia ovata, Cav. Ic. Pl. iii. p. 28, t. 254.
SOUTH MEXICO, Oaxaca (*Ghiesbreght*), Vera Cruz to Orizaba (*Müller*, 1098); GUATEMALA, Zumpango (*Hartweg*, 605), without locality (*Skinner*). Hb. Kew.
10. **Calophanes quadrangularis**, Ærst. in Vidensk. Meddel. 1854, p. 120; Walp. Ann. v. p. 647.
SOUTH MEXICO, Consoquitla (*Liebmann*).
11. **Calophanes quitensis**, Nees in DC. Prodr. xi. p. 110.
Ruellia quitensis, H. B. K. Nov. Gen. et Sp. ii. p. 240.
SOUTH MEXICO, Cordillera of Vera Cruz, at 3000 feet (*Galeotti*, 934).—ECUADOR.
Hb. Kew.
12. **Calophanes schiedeana**, Nees in DC. Prodr. xi. p. 111.
Ruellia quitensis?, Ch. et Schl. in Linnæa, v. p. 96.
SOUTH MEXICO, Jalapa (*Schiede & Deppe*), Regla (*Ehrenberg*).

6. RUELLIA.

Ruellia, Linn. Gen. Plant. n. 784; Benth. et Hook. Gen. Pl. ii. p. 1077.

Herbs and shrubs. About 150 species, for the greater part indigenous in Tropical America, a few inhabiting extratropical North and South America, Tropical and South Africa, Tropical and Subtropical Asia and Australia.

1. **Ruellia? achimeniflorum**, Hemsley.
Arrhoxylon achimeniflorum, Ærst. in Vidensk. Meddel. 1854, p. 131; Walp. Ann. v. p. 651.
COSTA RICA, Aguacate, 1600 feet (*Ærsted*).
2. **Ruellia albicaulis**, Bertero; Spreng. Syst. ii. p. 822.
Dipteracanthus hænkei, Nees in DC. Prodr. xi. p. 141, pro parte.

GUATEMALA (*Friedrichsthal*); NICARAGUA, Granada &c. (*Ersted*); PANAMA (*Cuming*).
—North part of SOUTH AMERICA. Hb. Kew.

[*Dipteracanthus angustus*, Griseb. in Bonplandia, 1858, p. 10, from Panama, is most likely a *Ruellia*.]

3. ***Ruellia (Ophthalmacanthus) bourgæi***, Hemsley, Diag. Pl. Nov. pars altera, p. 35. (Tab. LXVI.)

Frutex vel *herba* robusta, glanduloso-hirsuta, viscosa, radice crassa, tuberosa; caules vel rami crassiusculi, tetragoni, nodis tumidis. *Folia* petiolata, mollia, late ovata, absque petiolo usque ad 7 poll. longa et 6 poll. lata, acuminata, acuta, basi rotundata vel breviter cuneata, crenato-dentata, venis primariis lateralibus conspicuis; petiolus 1–2½ poll. longus. *Flores* speciosi, 3–4 poll. longi, longiuscule pedunculati, in axillis bractearum et foliorum superiorum solitarii, basi 2-bracteolati; pedunculi 1½–2½ poll. longi, crassiusculi, arcuatim adscendentes; bracteolæ lineari-oblongæ, circiter 1 poll. longæ; calyx 1–1½ poll. longus, 5-partitus, segmentis lineari-oblongis, obtusiusculis, erectis, persistentibus; corolla basi cylindrico-tubulosa, infra medium subito oblique ventricoso-inflata, limbi lobis latis, rotundatis, patentibus; stamina exserta; discus carnosus, pulvinatus; ovarium glabrum, loculis 8–10-ovulatis. *Capsulam* maturam non vidi.

SOUTH MEXICO, mountains near Guadalupe, valley of Mexico (*Bourgeau*, 885; *Hahn*).
Hb. Kew.

A very fine species, allied to *R. pulcherrima*.

4. ***Ruellia campestris***, Hemsley.

Gymnacanthus campestris, *Erst.* in Vidensk. Meddel. 1854, p. 126; Walp. Ann. v. p. 639.

COÛTA RICA, Guanacaste (*Ersted*). Hb. Kew?

[*Ruellia concavifolia*, Ortega, *R. ocymoides*, Cav. Ic. Pl. t. 416, is recorded as a Mexican plant; but Nees, in DC. Prodr. xi. p. 127, reduces it to *Dipteracanthus patulus*, an Asiatic plant.]

5. ***Ruellia dipteracanthus***, Hemsley.

Cryphiacanthus dipteracanthus, Nees in DC. Prodr. xi. p. 199.

SOUTH MEXICO, Cordillera of Vera Cruz, at 2000 feet (*Galeotti*, 933). Hb. Kew.

6. ***Ruellia gemmipara***, Nees in DC. Prodr. xi. p. 220.

Ophthalmacanthus gemmiparus, Nees, loc. cit.

MEXICO (*Hænke*).

7. ***Ruellia densiflora***, Hemsley, n. sp.

Foliis amplis, floribus brevissime pedicellatis in apicibus ramulorum congestis, calyce brevi 5-partito, corolla fere recta tubuloso-infundibulari, tubo infra medium gracili dein subito ampliato.

Frutex?, ramis crassiusculis, subtetragonis, canaliculatis, minute lepidotis. *Folia* tenuia, longe petiolata, oblongo-lanceolata vel ovato-lanceolata, cum petiolo usque ad 10 poll. longa et 3½ poll. lata, utrinque attenuata, apice obtusa, subtus minute lepidota simul in venis primariis puberula, supra sub epidermide minute et densissime lineolata, venis primariis transversis conspicuis. *Flores* brevissime pedicellati (pedicellis vix lineam longis), ad apices ramulorum brevium axillarium et terminalium arcte congesti (rhachi incrassata 4–8 lineas longa pleio-

sticha); calyx lepidotus, latiusculus, fere ad basin 5-partitus, segmentis linearibus, acutis, 2-3 lineas longis; corolla extus puberula, simul primum minutissime lepidota, tubuloso-infundibularis, fere recta, $2\frac{1}{2}$ -3 poll. longa, tubo sursum usque ad medium gracili ($1\frac{1}{2}$ -2 lineas diametro), dein subito ampliato (usque ad 9 lineas diametro), limbi lobis 5, subæqualibus, latis, rotundatis; stamina 4 inclusa; discus crassus, pulvinatus; ovarium minute puberulum, loculis pauci (4?)-ovulatis; stylus undique pilosulus. *Capsulam* non vidi.—*Dipteracanthus tubiflorus*, Seem. Bot. Voy. 'Herald,' p. 178, nec Nees.

PANAMA, San Lorenzo, Veraguas (*Seemann*, 1162). Hb. Kew.

Dr. Seemann referred his specimens to *Dipteracanthus tubiflorus*, Nees (*Ruellia tubiflora*, H. B. K.), which is described as having solitary, axillary flowers; and at the same time suggested that *D. leucanthus*, Nees, was the same species. We have the type of the latter before us; and it offers most striking differences in its large calyx and corolla.

8. **Ruellia geminiflora**, H. B. K. Nov. Gen. et Sp. ii. p. 240; Griseb. Fl. Brit. W. Ind. p. 451.

Dipteracanthus geminiflorus, Nees in Mart. Fl. Bras. fasc. vii. p. 40, et DC. Prodr. xi. p. 136.

Gymnacanthus geminiflorus, Erst. in Vidensk. Meddel. 1854, p. 127.

MEXICO (*Hænke*).—Southward to PERU and BRAZIL; CUBA and TRINIDAD.

9. **Ruellia hirsuto-glandulosa**, Hemsley.

Dipteracanthus hirsuto-glandulosus, Erst. in Vidensk. Meddel. 1854, p. 123; Walp. Ann. v. p. 648.

SOUTH MEXICO, Hacienda de Buena Vista, Vera Cruz, and Tehuacan (*Liebmann*).

Probably the same as *R. rosea*.

10. **Ruellia hookeriana**, Hemsley.

Dipteracanthus hookerianus, Nees in DC. Prodr. xi. p. 130.

SOUTH MEXICO, Sierra San Pedro Nolasco &c. (*Jurgensen*, 598). Hb. Kew.

11. **Ruellia humifusa**, Hemsley.

Dipteracanthus humifusus, Erst. in Vidensk. Meddel. 1854, p. 125; Walp. Ann. v. p. 648.

SOUTH MEXICO, Vera Cruz (*Liebmann*).

[*Dipteracanthus humilis*, Seem. Bot. Voy. 'Herald,' p. 178, is different from the Brazilian plant.]

12. **Ruellia? hygrophiloides**, Hemsley.

Dipteracanthus hygrophiloides, Nees in DC. Prodr. xi. p. 121.

MEXICO (*Hænke*).

13. **Ruellia jussieuoides**, Hemsley.

Arrhoxylon jussieuoides, Nees in DC. Prodr. xi. p. 212.

SOUTH MEXICO, Colipa, Vera Cruz (*Liebmann*), Sierra San Pedro Nolasco &c. (*Jurgensen*, 942). Hb. Kew.

14. **Ruellia lactea**, Cav. Ic. Pl. iii. p. 28, t. 255.

Cryphiacanthus lacteus et *C. macrosiphon*, Nees in DC. Prodr. xi. p. 198.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 703); BIOL. CENTR.-AMER., Bot., Vol. II., April 1882. 3 t

SOUTH MEXICO, around Oaxaca (*Andrieux*, 132), valley of Mexico (*Bourgeau*, 355), between Acatlan and Chila, Puebla (*Andrieux*, 134), Zimapan (*Coulter*, 1184, 1185). Hb. Kew.

β. **acaulis**, Nees in DC. Prodr. xi. p. 198.

SOUTH MEXICO, barren plains of Oaxaca, 5000 feet (*Galeotti*, 913), without locality (*Christy*). Hb. Kew.

Perhaps a distinct species.

15. **Ruellia? lanato-viscosa**, Hemsley.

Dipteracanthus lanato-viscosus, Nees in DC. Prodr. xi. p. 130.

SOUTH MEXICO, Puebla (*Ehrenberg*).

16. **Ruellia longepetiolata**, Hemsley.

Dipteracanthus longepetiolatus, Erst. in Vidensk. Meddel. 1854, p. 124; Walp. Ann. v. p. 648.

SOUTH MEXICO, Papantla (*Liebmann*). Hb. Kew.

17. **Ruellia macrophylla**, Vahl, Symb. ii. p. 72, t. 39.

Stemonacanthus macrophyllus, Nees in DC. Prodr. xi. p. 205; Bot. Mag. t. 4448.

SOUTH MEXICO, Oaxaca (*Ghiesbreght*)?—COLOMBIA; VENEZUELA; GUIANA; WEST INDIES. Hb. Kew.

[*Dipteracanthus macrophyllus*, Erst. in Vidensk. Meddel. 1854, p. 125; Walp. Ann. v. p. 648, a Mexican plant, is different from the last; but we have seen no authenticated specimen.]

18. **Ruellia? ovalifolia**, Hemsley.

Cryphiacanthus ovalifolius, Erst. in Vidensk. Meddel. 1854, p. 129; Walp. Ann. v. p. 651.

SOUTH MEXICO, Oaxaca (*Liebmann*).

19. **Ruellia paniculata**, Linn. Sp. Pl. p. 885.

Dipteracanthus paniculatus, Nees in DC. Prodr. xi. p. 142; Griseb. Fl. Brit. W. Ind. p. 451.

SOUTH MEXICO, between Laguna Verde and Actopan (*Schiede*); NICARAGUA, Segovia (*Ersted*), Acota (*Tate*, 293, 299).—COLOMBIA to NORTH BRAZIL and in the WEST INDIES. Hb. Kew.

[*R. parviflora*, Hort., *Justicia parviflora*, Ort. Dec. i. p. 1, *Dipteracanthus parviflorus*, Nees in DC. Prodr. xi. p. 123, seems to be *Hemigraphis elegans*, Nees, an Asiatic plant, and not Mexican.]

20. **Ruellia parva**, Hemsley.

Ophthalmacanthus parvus, Nees in DC. Prodr. xi. p. 220.

SOUTH MEXICO, Teocomulco (*Karwinski*), Zimapan (*Coulter*, 1179)? Hb. Kew.

21. **Ruellia pilosa**, Pav., ex Nees.

Dipteracanthus pilosus, Nees in DC. Prodr. xi. p. 127; Benth. Pl. Hartw. p. 293.

SOUTH MEXICO, Leon (*Hartweg*). Hb. Kew.

22. **Ruellia pulcherrima**, T. Anderson, MSS. in hb. Kew.
Ophthalmacanthus speciosus, Nees in DC. Prodr. xi. p. 220.
 SOUTH MEXICO, Tehuacan, Puebla, 5500 feet (*Galeotti*, 1042), Zimapan (*Coulter*, 1187), valley of Mexico (*Bourgeau*, 703). Hb. Kew.
23. **Ruellia rosea**, Hemsley.
Ophthalmacanthus roseus, Nees in DC. Prodr. xi. p. 220.
 SOUTH MEXICO, cactiferous mountains near Tehuacan, 5000 feet (*Galeotti*, 915), Zimapan (*Coulter*, 1186). Hb. Kew.
24. **Ruellia rubicaulis**, Cav. Ic. Pl. v. p. 10, t. 417.
Ruellia foetida, Willd. Enum. Pl. Hort. Berol. ii. p. 656; H. B. K. Nov. Gen. et Sp. ii. p. 240.
Dipteracanthus rubicaulis, Nees in DC. Prodr. xi. p. 116.
 SOUTH MEXICO, Acapulco (*Humboldt & Bonpland*; *Sinclair*), San Augustin (*Liebmann*). Hb. Kew.
25. **Ruellia schlechtendaliana**, Hemsley.
Dipteracanthus schlechtendalianus, Nees in DC. Prodr. xi. p. 133.
Gymnacanthus schlechtendalianus, Ærst. in Vidensk. Meddel. 1854, p. 126; Walp. Ann. v. p. 639.
Dipteracanthus procumbens, Nees, loc. cit. ?
 SOUTH MEXICO, Hacienda de la Laguna (*Schiede*).
 Bourgeau's 2663 from Orizaba, and a specimen in Kew herbarium, from Pavon's herbarium, labelled "*Ruellia pilosa*, de Mexico," may belong to this species.
26. **Ruellia stemonacanthoides**, Hemsley.
Arrhoxylum stemonacanthoides, Ærst. in Vidensk. Meddel. 1854, p. 130; Walp. Ann. v. p. 651.
 COSTA RICA, Aguacate and Jaris, 1600 to 3000 feet (*Ærsted*).
27. **Ruellia subcapitata**, Hemsley.
Dipteracanthus subcapitatus, Nees in DC. Prodr. xi. p. 723.
 NICARAGUA, Realejo (*Sinclair*). Hb. Kew.
28. **Ruellia tuberosa**, Linn. Sp. Pl. ii. p. 635; Descourt. Fl. Antill. ii. t. 113; Griseb. Fl. Brit. W. Ind. p. 452; A. Gr. Synop. Fl. N. Am. ii. p. 325.
Cryphiacanthus barbadensis, Nees in DC. Prodr. xi. p. 197.
Cryphiacanthus viscosus, Ærst. in Vidensk. Meddel. 1854, p. 128 ?
Ruellia clandestina, Linn.; Dill. Hort. Elth. p. 328, t. 248.
 TEXAS.—MEXICO, Mirador (*Linden*, 197 bis), Vera Cruz (*Hahn*, *Bourgeau*, *Gouin*).
 —COLOMBIA TO PERU and GUIANA and in the WEST INDIES. Hb. Kew.
29. **Ruellia tubiflora**, H. B. K. Nov. Gen. et Sp. ii. p. 241.
Dipteracanthus tubiflorus, Nees in DC. Prodr. xi. p. 128; Seem. Bot. Voy. 'Herald,' p. 178.
 PANAMA, San Lorenzo, Veraguas (*Seemann*, 1162).—COLOMBIA. Hb. Kew.
 This is probably *Dipteracanthus leucanthus*, Nees, and not *D. tubiflorus*. *Cryphiacanthus tubiflorus*, Ærst. in Vidensk. Meddel. 1854, p. 129, is unknown to us. It is a Mexican plant.

30. **Ruellia tweediana**, Griseb. Symb. ad Fl. Arg. p. 259 ?
Cryphiacanthus angustifolius, Nees in DC. Prodr. xi. p. 199, saltem pro parte.
 SOUTH MEXICO, Jalapa (*Galeotti*). Hb. Kew.
 The Argentine plant may be a different species.

7. BLECHUM.

Blechum, P. Br. Hist. Jam. p. 261; Benth. et Hook. Gen. Plant. ii. p. 1082.

Herbs. According to Bentham and Hooker there are only four species, all indigenous in Tropical America, and one of them, *B. brownei*, occurring in the Philippine Islands and elsewhere, though probably introduced. We can only enumerate the published names.

1. **Blechum angustifolium**, R. Br. Prodr. Fl. Nov. Holl. p. 478; DC. Prodr. xi. p. 467; Griseb. Fl. Brit. W. Ind. p. 453.

Ruellia angustifolia, Sw. Fl. Ind. Occ. ii. p. 1070.

PANAMA, banks of rivers (*Seemann*, 410).—ANTILLES. Hb. Kew.

2. **Blechum brownei**, Juss. in Ann. Mus. Par. ix. p. 270; DC. Prodr. xi. p. 466; *Ærst.* in Vidensk. Meddel. 1854, p. 168.

MEXICO; GUATEMALA; HONDURAS; PANAMA.—Southward to ECUADOR and in the WEST INDIES. Hb. Kew.

3. **Blechum costaricense**, *Ærst.* in Vidensk. Meddel. 1854, p. 168; Walp. Ann. v. p. 665.

COSTA RICA, Aguacate (*Ersted*).

4. **Blechum grandiflorum**, *Ærst.* in Vidensk. Meddel. 1854, p. 168; Walp. Ann. v. p. 665.

NICARAGUA, mountains of Pantasmo, Segovia (*Ersted*).

5. **Blechum hænkei**, Nees in DC. Prodr. xi. p. 467.

MEXICO (*Hænke*).

6. **Blechum laxiflorum**, Juss. in Ann. Mus. Par. ix. p. 270; DC. Prodr. xi. p. 467.

PANAMA, Chagres (*Fendler*, 200).—JAMAICA. Hb. Kew.

7. **Blechum linnæi**, Nees in DC. Prodr. xi. p. 465; *Ærst.* in Vidensk. Meddel. 1854, p. 167.

MEXICO; NICARAGUA; PANAMA. Hb. Kew.

8. **Blechum mexicanum**, *Ærst.* in Vidensk. Meddel. 1854, p. 169; Walp. Ann. v. p. 665.

SOUTH MEXICO, Vera Cruz (*Liebmann*).

8. SCLEROCALYX.

Sclerocalyx, Nees in Benth. Bot. Voy. 'Sulphur,' p. 145; Benth. et Hook. Gen. Plant. ii. p. 1083.
One shrubby species.

1. **Sclerocalyx mexicana**, Nees in Benth. Bot. Voy. 'Sulphur,' p. 145; DC. Prodr. xi. p. 219.

SOUTH MEXICO, Acapulco (*Hinds*), Oaxaca (*Ghiesbreght*). Hb. Kew.

9. TRICHANTHERA.

Trichanthera, Kunth in H. B. K. Nov. Gen. et Sp. ii. p. 243; Benth. et Hook. Gen. Plant. ii. p. 1084.

One arboreous species.

1. **Trichanthera gigantea**, Kunth; DC. Prodr. xi. p. 218.

Ruellia gigantea, Humb. & Bonpl. Pl. Æquin. p. 75, t. 102.

PANAMA, near Cruces (*Seemann*, 399), Empire station (*S. Hayes*, 505).—COLOMBIA to PERU and GUIANA. Hb. Kew.

10. BRAVAISIA.

Bravaisia, DC. Rev. Bign. p. 16; Prodr. ix. p. 239; Benth. et Hook. Gen. Plant. ii. p. 1084.

Onychacanthus, Nees in DC. Prodr. xi. p. 217.

One arboreous species.

1. **Bravaisia floribunda**, DC. Prodr. ix. p. 240.

Onychacanthus cumingii et *O. berlandierianus*, Nees in DC. Prodr. xi. p. 217.

Onychacanthus speciosus, Erst. in Vidensk. Meddel. 1854, p. 131; Walp. Ann. v. p. 652.

SOUTH MEXICO, Sierra San Pedro Nolasco &c. (*Jurgensen*, 96), Tampico (*Berlandier*), Tlacotalpan (*Hahn*); GUATEMALA (*Skinner*); NICARAGUA (*Tate*); COSTA RICA, near Puntarenas (*Ersted*).—COLOMBIA to PERU and in TRINIDAD. Hb. Kew.

11. ANDROCENTRUM.

Androcentrum, Lemaire in Fl. des Serres, 1847, Juin, Misc. n. 12; Benth. et Hook. Gen. Plant. ii. p. 1084.

An obscure plant.

1. **Androcentrum multiflorum**, Lemaire in Fl. des Serres, 1847, Juin, Misc. n. 12.

MEXICO (*Galeotti*).

12. BARLERIA.

Barleria, Linn. Gen. Plant. n. 785; Benth. et Hook. Gen. Plant. ii. p. 1091.

About sixty herbaceous and shrubby species, the greater number inhabiting Asia and

Tropical and South Africa; the American species are almost confined to Mexico and the country southward to Colombia.

1. **Barleria discolor**, Nees in Benth. Bot. Voy. 'Sulphur,' p. 146, et DC. Prodr. xi. p. 224.

Barleriopsis discolor, Erst. in Vidensk. Meddel. 1854, p. 134.

SOUTH MEXICO, Consoquitla (*Liebmann*), Cuernavaca (*Bilimek*, 339); COSTA RICA, Nicoya (*Sinclair*). Hb. Kew.

2. **Barleria micans**, Nees in Benth. Bot. Voy. 'Sulphur,' p. 146, et DC. Prodr. xi. p. 223.

Barleriopsis micans, Erst. in Vidensk. Meddel. 1854, p. 134.

Barleriopsis glandulosa, Erst. loc. cit.?

SOUTH MEXICO, Mirador (*Linden*, 188), Zacuapan and Oaxaca (*Liebmann*), Cuernavaca (*Bourgeau*, 1395); GUATEMALA (*Skinner*); COSTA RICA, Cartago &c. (*Ersted*); PANAMA, Empire station (*S. Hayes*, 605), near Cruces (*Seemann*, 415).—COLOMBIA. Hb. Kew.

13. BERGINIA.

Berginia, Harv.; Benth. et Hook. Gen. Plant. ii. p. 1096.

A diminutive shrubby monotype.

1. **Berginia virgata**, Harv.; Benth. et Hook. Gen. Plant. ii. p. 1097; A. Gr. Synop. Fl. N. Am. ii. p. 327.

ARIZONA or NORTH MEXICO (*Coulter*, 603). Hb. Kew.

14. STENANDRIUM.

Stenandrium, Nees in Lindl. Introd. Nat. Syst. ed. 2, p. 444; Benth. et Hook. Gen. Plant. ii. p. 1095.

About eighteen herbaceous species, ranging from Mexico to Chili and Buenos Ayres.

1. **Stenandrium chamæranthemoideum**, Erst. in Vidensk. Meddel. 1854, p. 139; Walp. Ann. v. p. 655.

SOUTH MEXICO, near Colipa and Hacienda de Santa Barbara, Vera Cruz (*Liebmann*).

2. **Stenandrium dulce**, Nees in DC. Prodr. xi. p. 282; A. Gr. Synop. Fl. N. Am. ii. p. 327.

Ruellia dulcis, Cav. Ic. Pl. vi. p. 62, t. 585. fig. 2.

Crossandra? *fascicularis*, Benth. Pl. Hartw. p. 22.

FLORIDA (var. *floridanum*, A. Gr.).—NORTH MEXICO, Lerios, east of Saltillo, at 10,000 feet (*Palmer*, 2030), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 703, in part); SOUTH MEXICO, Lagos (*Hartweg*).—COLOMBIA to CHILI. Hb. Kew.

15. STROBILACANTHUS.

Strobilacanthus, Griseb. in Bonplandia, vi. p. 10; Benth. et Hook. Gen. Plant. ii. p. 1096.

A shrubby monotype.

1. **Strobilacanthus lepidospermus**, Griseb. in Bonplandia, vi. (1858) p. 10.
PANAMA (*Duchassaing*).

16. ERANTHEMUM.

Eranthemum, Linn. Gen. Plant. n. 23; Benth. et Hook. Gen. Plant. ii. p. 1097.

Shrubs and undershrubs. About thirty species, inhabiting Tropical and South Africa, Tropical Asia, Australia, Pacific Islands, and Tropical America.

1. **Eranthemum alatum**, Nees in DC. Prodr. xi. p. 450.
SOUTH MEXICO, Tlacolula (*Ehrenberg*).
2. **Eranthemum cordatum**, Nees in DC. Prodr. xi. p. 450.
PANAMA, San Lorenzo, Veraguas (*Seemann*, 1161).—COLOMBIA. Hb. Kew.
3. **Eranthemum cuspidatum**, Nees in Benth. Pl. Hartw. p. 148, et DC. Prodr. xi. p. 451.
Thyrsacanthus lindenianus, Nees in DC. Prodr. xi. p. 326, fide Benth. et Hook. Gen. Plant. ii. p. 1119.
SOUTH MEXICO, Mirador (*Liebmann*); COSTA RICA (*Ersted*).—VENEZUELA; COLOMBIA; PERU. Hb. Kew.
4. **Eranthemum (Siphoneranthemum) fasciculatum**, Ærst. in Vidensk. Meddel. 1854, p. 166; Walp. Ann. v. p. 664.
SOUTH MEXICO, Mirador (*Liebmann*).
5. **Eranthemum hispidulum**, Nees in DC. Prodr. xi. p. 450.
SOUTH MEXICO, woods near Vera Cruz (*Galeotti*, 929). Hb. Kew.
6. **Eranthemum præcox**, Benth. Pl. Hartw. p. 291.
SOUTH MEXICO, Santa Rosa, near Guanajuato (*Hartweg*).
7. **Eranthemum**, sp.?
SOUTH MEXICO, valley of Cordova (*Bourgeau*, 2112). Hb. Kew.

17. LEPIDAGATHIS.

Lepidagathis, Willd. Sp. Pl. iii. p. 400; Benth. et Hook. Gen. Plant. ii. p. 1101.

Herbs or shrubs. About fifty species, the greater number inhabiting India, the Malayan Peninsula, and Tropical Africa; two only in America.

1. **Lepidagathis alopecuroidea**, R. Br., ex Griseb. Fl. Brit. W. Ind. p. 453.

Teliostachya alopecuroidea, Nees in Fl. Bras. fasc. vii. p. 72; DC. Prodr. xi. p. 263.

NICARAGUA, Chontales (*Tate*); PANAMA, Empire station (*S. Hayes*, 508), Chagres (*Fendler*, 225).—And generally diffused in TROPICAL AMERICA and the WEST INDIES. Hb. Kew.

18. APHELANDRA.

Aphelandra, R. Br. Prodr. Fl. N. Holl. p. 475; Benth. et Hook. Gen. Plant. ii. p. 1102.

An exclusively American genus of shrubs and herbs, numbering about fifty species, which are diffused from Mexico to Argentina.

1. **Aphelandra acutifolia**, Nees in DC. Prodr. xi. p. 299.

SOUTH MEXICO, Sierra San Pedro Nolasco &c. (*Jurgensen*, 648); COSTA RICA (*Endres*).—COLOMBIA to PERU and GUIANA. Hb. Kew.

2. **Aphelandra aurantiaca**, Lindl. Bot. Reg. xxxi. t. 12; Bot. Mag. 4224;

DC. Prodr. xi. p. 298.

Hemisandra aurantiaca, Schiedw. in Bull. Acad. Brux. 1842, i. p. 23.

SOUTH MEXICO, Comaltepec (*Liebmann*), forests of Teapa, Tabasco (*Linden*, 177). Hb. Kew.

3. **Aphelandra deppeana**, Ch. et Schl. in Linnæa, v. p. 96; DC. Prodr. xi. p. 298.

SOUTH MEXICO, Hacienda de la Laguna (*Schiede & Deppe*), Consoquitla, near Mirador (*Liebmann*)? Hb. Kew.

4. **Aphelandra hænkeana**, Nees in DC. Prodr. xi. p. 298.

SOUTH MEXICO, Mirador (*Linden*, 189), Cordillera of Vera Cruz, 2800 feet (*Galeotti*, 909), Comaltepec (*Liebmann*); CENTRAL AMERICA, without locality (*Barclay*).—COLOMBIA. Hb. Kew.

5. **Aphelandra hydromestus**, Hemsley.

Lagochilium hydromestus, Nees in DC. Prodr. xi. p. 291.

Hydromestus maculatus, Schiedw. in Otto and Dietr. Allg. Gartenz. 1842, p. 285; Bot. Mag. t. 4556.

Strobilorrhachis glabra, Kl. in Link, Kl. & Otto, Ic. Pl. Rar. p. 117, t. 48.

MEXICO.

6. **Aphelandra pectinata**, Willd., ex Nees in DC. Prodr. xi. p. 297.

SOUTH MEXICO, Zacuapan (*Liebmann*), Acapulco (*Hinds*), Chiapas (*Ghiesbreght*); GUATEMALA (*Friedrichsthal*); NICARAGUA, near Granada (*Ærsted*); COSTA RICA, Nicoya (*Sinclair*); PANAMA, Paraiso (*S. Hayes*, 538), Isle of Taboga (*Sinclair*), Santiago (*Seemann*, 237).—COLOMBIA to GUIANA and PERU, and in the WEST INDIES. Hb. Kew.

7. **Aphelandra pulcherrima**, H. B. K. Nov. Gen. et Sp. ii. p. 236; DC. Prodr. xi. p. 295.

SOUTH MEXICO, Acapulco (*Hænke*).—COLOMBIA.

8. **Aphelandra schiedeana**, Ch. et Schl. in Linnæa, v. p. 95; DC. Prodr. xi. p. 297.

Lagochilium schideanum, Nees in Fl. Bras. fasc. vii. p. 87.

SOUTH MEXICO, Hacienda de la Laguna and Barranca de Tioselo (*Schiede & Deppe*), Orizaba (*Botteri*, 800; *Bourgeau*, 3099; *Bilimek*, 341). Hb. Kew.

9. **Aphelandra sinclairiana**, Nees in Benth. Bot. Voy. 'Sulphur,' p. 146, t. 47; DC. Prodr. xi. p. 296.

PANAMA, Chagres (*Fendler*, 209), San Juan (*Seemann*, 408).—DARIEN. Hb. Kew.

10. **Aphelandra** (§ **Platychila**) **tridentata**, Hemsley, n. sp.

Plus minus villosa-hirsuta, bracteis angustis quam flores triente brevioribus, corollæ labiis subæqui-longis, postico integro, antico brevissime tridentato.

Frutex vel *herba* undique plus minus hirsuta, ramis junioribus dense villosis. *Folia* tenuia, longiuscule petiolata, ovato-oblonga, utrinque longe attenuata, acuta, cum petiolo usque ad 6 poll. longa, utrinque sparse pilosa, venis primariis transversis conspicuis. *Flores* circiter 20 lineas longi, in spicas breves simplices dispositi; bracteæ villosæ, anguste oblongæ, acute acuminatæ, sæpius utrinque 2-3-dentatæ, 15-18 lineas longæ; bracteolæ angustissimæ, calycem æquantés; calycis puberuli segmenta æqualia, acutissima, striolata; corolla villosula, recta, alte 2-labiata; labium posticum paullo brevius, integrum; labium anticum latius, brevissime 3-dentatum; stamina vix exserta; antheræ 1-loculares, basi mucronulatæ; filamenta plana, puberula; discus parvus; ovarium glabrum, loculis 2-ovulatis; stylus puberulus. *Capsulam* non vidi.

COSTA RICA (*Endres*, 236, in part). Hb. Kew.

This is very distinct from any other that we have examined, in the lower lip of the corolla being very shortly three-toothed.

11. **Aphelandra verticillata**, Nees in DC. Prodr. xi. p. 281, sub *Crossandra hænceana*.

MEXICO (*Hænke*).

19. HOLOGRAPHIS.

Holographis, Nees in DC. Prodr. xi. p. 728; Benth. et Hook. Gen. Plant. ii. p. 1104.

A shrubby monotype.

1. **Holographis ehrenbergiana**, Nees in DC. Prodr. xi. p. 728.

SOUTH MEXICO, Hacienda de Guadela (*Ehrenberg*), Zimapan (*Coulter*, 1211). Hb. Kew.

20. HABRACANTHUS.

Habracanthus, Nees in DC. Prodr. xi. p. 312; Benth. et Hook. Gen. Plant. ii. p. 1106.

Three or four shrubby species, inhabiting Mexico, Central America, and Colombia.

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1. **Habracanthus sylvaticus**, Nees in DC. Prodr. xi. p. 312.

SOUTH MEXICO, Sierra San Pedro Nolasco (*Jurgensen*, 902), between San Bartolo and Pueblo Nuevo, Chiapas (*Linden*, 181); COSTA RICA, Turrialva (*Ersted*). Hb. Kew.

21. GLOCKERIA.

Glockeria, Nees in DC. Prodr. xi. p. 728; Benth. et Hook. Gen. Plant. ii. p. 1106.

Galeottia, Nees, loc. cit. p. 311, non A. Rich.

Half-shrubs or herbs, restricted to Mexico and Central America.

1. **Glockeria glandulosa**, Ærst. in Vidensk. Meddel. 1854, p. 141; Walp. Ann. v. p. 657.

NICARAGUA, mountains of Pantasma, Segovia (*Ersted*).

2. **Glockeria gracilis**, Nees in DC. Prodr. xi. p. 728. (Tab. LXVII. figg. 6-14.)
Galeottia gracilis, Nees, loc. cit. p. 311.

SOUTH MEXICO, Mirador (*Linden*, 197; *Liebmann*), Orizaba (*Botteri*, 1097), Cordillera of Vera Cruz, 2000 feet (*Galeotti*, 7050), valley of Cordova (*Bourgeau*, 2000). Hb. Kew.

EXPLANATION OF TAB. LXVII. FIGG. 6-14.

Fig. 6, a flowering branch, natural size; 7, a flower; 8, corolla, laid open; 9, a stamen; 10, upper portion of style and stigma; 11, a young fruit; 12, a ripe fruit; 13, a cross section through the placentas; 14, a seed: all enlarged.

3. **Glockeria hæmatodes**, Ærst. in Vidensk. Meddel. 1854, p. 141, t. 5. fig. 21; Walp. Ann. v. p. 657.

Habracanthus hæmatodes, Nees in DC. Prodr. xi. p. 312.

Justicia hæmatodes, Schl. in Linnæa, vii. p. 394.

SOUTH MEXICO, Cuesta Grande de Chiconquiaco (*Schiede*), Huitamalco (*Liebmann*). Hb. Kew.

4. **Glockeria sessilifolia**, Ærst. in Vidensk. Meddel. 1854, p. 141; Walp. Ann. v. p. 657.

COSTA RICA, Volcan de Barba, 6000 feet (*Ersted*).

22. RAZISEA.

Razisea, Ærst. in Vidensk. Meddel. 1854, p. 142; Benth. et Hook. Gen. Plant. ii. p. 1106.

An herbaceous monotype.

1. **Razisea spicata**, Ærst. in Vidensk. Meddel. 1854, p. 142, t. 5. fig. 22; Walp. Ann. v. p. 640.

COSTA RICA, Aguacate (*Ersted*).

23. HANSTEINIA.

Hansteinia, Ærst. in Vidensk. Meddel. 1854, p. 142; Benth. et Hook. Gen. Plant. ii. p. 1107.

A half-shrubby monotype.

1. **Hansteinia gracilis**, Ærst. in Vidensk. Meddel. 1854, p. 143, t. 5. figg. 23–26; Walp. Ann. v. p. 640.

COSTA RICA, mountains of Jaris (*Ærsted*). Hb. Kew.

24. CHÆTOTHYLAX.

Chætothylax, Nees, in Fl. Bras. ix. p. 153, t. 26, et in DC. Prodr. xi. p. 313; Benth. et Hook. Gen. Plant. ii. p. 1107.

About four or five half-shrubby and herbaceous species, ranging from Central America to South Brazil.

1. **Chætothylax micrantha**, Benth. et Hook. Gen. Plant. ii. p. 1107.

Chætothylopsis micrantha, Ærst. in Vidensk. Meddel. 1854, p. 163, t. 3. figg. 5–9; Walp. Ann. v. p. 643.

NICARAGUA, Segovia (*Ærsted*). Hb. Kew.

2. **Chætothylax phyllostachyus**, Nees in DC. Prodr. xi. p. 313.

SOUTH MEXICO, Teapa, Tabasco (*Linden*, 188). Hb. Kew.

25. JUSTICIA.

Justicia, Linn. Gen. Plant. n. 27; Benth. et Hook. Gen. Plant. ii. p. 1108.

Upwards of 100 herbaceous and shrubby species, widely diffused in warm countries, but by far most numerous in the Old World.

1. **Justicia furcata**, Jacq. Hort. Schœnb. i. p. 2, t. 3.

Adhatoda furcata, Nees in DC. Prodr. xi. p. 398 (varietates).

SOUTH MEXICO, around Tehuantepec (*Andrieux*, 133), Cordillera of Oaxaca (*Galeotti*, 917). Hb. Kew.

2. **Justicia? pacifica**, Hemsley.

Adhatoda pacifica, Ærst. in Vidensk. Meddel. 1854, p. 164; Walp. Ann. v. p. 664.

SOUTH MEXICO, Oaxaca (*Liebmann*).

3. **Justicia rostrata**, Bertol. Fl. Guat. p. 6.

Sarotheca rostrata, Nees in DC. Prodr. xi. p. 383.

GUATEMALA, Esquintla (*Velasquez*).

4. **Justicia salviæflora**, H. B. K. Nov. Gen. et Sp. ii. p. 233.

Sarotheca salviæflora, Nees in DC. Prodr. xi. p. 382; Seem. Bot. Voy. 'Herald,' p. 325, t. 67.

NORTH MEXICO, Sierra Madre (*Seemann*, 2113); SOUTH MEXICO, Cuernavaca (*Bilimek*, 342). Hb. Kew.

26: SIPHONOGLOSSA.

Siphonoglossa, Ærst. in Vidensk. Meddel. 1854, p. 159; Benth. et Hook. Gen. Plant. ii. p. 1110.

Undershrubs. In addition to the following there are two South-African species, one of which is very similar to *S. pilosella*.

1. ***Siphonoglossa longiflora***, A. Gr. Synop. Fl. N. Am. ii. p. 328.

Adhatoda? longiflora, Torr. Bot. U.S. & Mex. Bound. Surv. p. 125.

ARIZONA.—NORTH MEXICO, between Zuñi and Sonora Alta, within the old boundary (*Schott*).

2. ***Siphonoglossa pilosella***, Torr. Bot. U.S. & Mex. Bound. Surv. p. 124; A. Gr. Synop. Fl. N. Am. ii. p. 328.

Adhatoda dipteracantha, Nees in DC. Prodr. xi. p. 396.

Monechma pilosella, Nees in DC. Prodr. xi. p. 412.

TEXAS; NEW MEXICO.—NORTH MEXICO, Monterey (*Edwards*), Sierra Madre, Coahuila (*Palmer*, 1011), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 701½); SOUTH MEXICO, Zimapan (*Coulter*, 1213). Hb. Kew.

3. ***Siphonoglossa ramosa***, Ærst. in Vidensk. Meddel. 1854, p. 160, t. 5. figg. 34, 35; Walp. Ann. v. p. 641.

SOUTH MEXICO, Tehuacan (*Liebmann*).

27. BELOPERONE.

Beloperone, Nees in Wall. Pl. Asiat. Rar. iii. p. 76, et in DC. Prodr. xi. p. 413; Benth. et Hook. Gen. Plant. ii. p. 1110.

Shrubs. About thirty species have been enumerated. They inhabit Tropical America, from Mexico to Brazil.

1. ***Beloperone comosa***, Nees in DC. Prodr. xi. p. 416.

Justicia fulvicoma, Ch. et Schl. in Linnæa, vi. p. 369.

NORTH MEXICO, Monterey (*Edwards & Eaton*); SOUTH MEXICO, Tampico (*Berlandier*, 123), Regla, 6000 feet (*Galeotti*, 936), Tlacolula (*Ghiesbreght*), Papantla (*Schiede & Deppe*; *Liebmann*). Hb. Kew.

2. ***Beloperone fimbriata***, Nees in DC. Prodr. xi. p. 416.

SOUTH MEXICO, forests of Teapa, Tabasco (*Linden*, 178). Hb. Kew.

3. ***Beloperone macrantha***, Benth. et Hook. Gen. Plant. ii. p. 1111.

Beloperonides macrantha, Ærst. in Vidensk. Meddel. 1854, p. 162, t. 5. fig. 36; Walp. Ann. v. p. 642.

SOUTH MEXICO, Lobani, Oaxaca (*Liebmann*). Hb. Kew.

4. **Beloperone violacea**, Planch. et Lind. in Hort. Lind. i. p. 5, t. 3; Bot. Mag. t. 5244.

Adhatoda carthaginensis, Nees in DC. Prodr. xi. p. 403 (varietates).

Justicia carthaginensis, Linn.; Jacq. Amer. t. 5; Bot. Reg. t. 797.

SOUTH MEXICO (*Sumichrast*); GUATEMALA, Volcan de Fuego, 5000 feet (*Godman & Salvin*), without locality (*Skinner*); HONDURAS, Gulf of Fonseca (*Sinclair*); PANAMA (*S. Hayes*, 546; *Seemann*, 416).—COLOMBIA to PERU. Hb. Kew.

28. DIANTHERA.

Dianthera, Linn. Gen. Plant. n. 28; Benth. et Hook. Gen. Plant. ii. p. 1113.

Rhytiglossa, Nees in DC. Prodr. xi. p. 335, pro maxima parte.

Herbs or rarely shrubs. About eighty species, whereof two or three inhabit Tropical Africa and Asia; all the rest are American, some of them extending into extratropical regions, both north and south. We have bracketed a number of names under this and the next genus, because we are unwilling to transfer and give them names without being able to examine authenticated specimens.

1. *Dianthera anagallis*, Hemsley.

Rhytiglossa anagallis, Nees in DC. Prodr. xi. p. 337.

SOUTH MEXICO, Mirador (*Linden*, 187), Cordillera of Vera Cruz, 3000 feet (*Galeotti*, 908).—BRAZIL and URUGUAY. Hb. Kew.

[*Justicia barbata*, Bertol. Fl. Guat. p. 5, *Rhytiglossa barbata*, Nees in DC. Prodr. xi. p. 355, and *J. corymbulosa*, Bertol. loc. cit. p. 4, *Rhytiglossa corymbulosa*, Nees, loc. cit., both from Guatemala, probably belong to this genus, and perhaps to species here enumerated.]

2. *Dianthera breviflora*, Hemsley.

Rhytiglossa breviflora, Nees in DC. Prodr. xi. p. 352.

SOUTH MEXICO, Chiapas (*Linden*, 184). Hb. Kew.

3. *Dianthera candelariæ*, Hemsley.

Rhytiglossa (Strobiloglossa) candelariæ, Ærst. in Vidensk. Meddel. 1854, p. 158; Walp. Ann. v. p. 662.

Rhytiglossa (Strobiloglossa) microphylla, Ærst. loc. cit. p. 159?

COSTA RICA, mountains of Candelaria, 6000 to 7000 feet (*Ærsted*).

4. *Dianthera candicans*, Benth. et Hook. Gen. Plant. ii. p. 1113.

Adhatoda candicans, Nees in DC. Prodr. xi. p. 396.

SOUTH MEXICO, Cordillera of Oaxaca, at 5000 feet (*Galeotti*, 911). Hb. Kew.

[*Rhytiglossa caracasana*, Nees in Fl. Bras. fasc. vii. p. 127, et DC. Prodr. xi. p. 352, is recorded from Mexico.]

5. **Dianthera ciliata**, Benth. et Hook. Gen. Plant. ii. p. 1114.

Jacobinia ciliata, Nees in DC. Prodr. xi. p. 333; Seem. Bot. Voy. 'Herald,' p. 178.

Beloperone ciliata, Hook. Bot. Mag. t. 5888.

COSTA RICA (*Endres*); PANAMA, Paraiso (*S. Hayes*, 536), near Santiago (*Seemann*, 240).—Southward to CHILI. Hb. Kew.

6. **Dianthera comata**, Linn. Sp. Pl. ed. 2, p. 24; Griseb. Fl. Brit. W. Ind. p. 456.

Leptostachya comata, Nees in DC. Prodr. xi. p. 381.

Justicia comata, Swartz, Obs. p. 14.

Rhytiglossa acuminata, Nees in DC. Prodr. xi. p. 354.

SOUTH MEXICO, Yucatan and Tabasco (*Johnson*, 17), Tabasco (*Linden*, 1633); NICARAGUA, Greytown (*Tate*).—Generally dispersed in the WEST INDIES and TROPICAL SOUTH AMERICA. Hb. Kew.

7. **Dianthera glabra**, Benth. et Hook. Gen. Plant. ii. p. 1114.

Chiloglossa glabra, Ærst. in Vidensk. Meddel. 1854, p. 60; Walp. Ann. v. p. 641.

COSTA RICA, Candelaria, 5000 feet (*Ærsted*); PANAMA, Boquete (*Seemann*, 1608). Hb. Kew.

[*Rhytiglossa hyssopus*, Nees in DC. Prodr. xi. p. 345, from the banks of the Moctezuma, near las Ajuntas (*Ehrenberg*), is unknown to us.]

8. **Dianthera inæqualis**, Benth. et Hook. Gen. Plant. ii. p. 1113.

Justicia inæqualis, Benth. Pl. Hartw. p. 80.

Rhytiglossa inæqualis, Nees in DC. Prodr. xi. p. 349.

GUATEMALA (*Hartweg*; *Salvin & Godman*). Hb. Kew.

9. **Dianthera latifolia**, Benth. et Hook. Gen. Plant. ii. p. 1113.

Rhytiglossa latifolia, Nees in DC. Prodr. xi. p. 353.

SOUTH MEXICO, forests of Teapa, Tabasco (*Linden*, 179). Hb. Kew.

10. **Dianthera lindeniana**, Hemsley.

Rhytiglossa lindeniana, Nees in DC. Prodr. xi. p. 349.

SOUTH MEXICO, stony banks of the Rio Teapa, Tabasco (*Linden*, 182; *Johnson*, 5). Hb. Kew.

11. **Dianthera mexicana**, Benth. et Hook. Gen. Plant. ii. p. 1114.

Rhytiglossa mexicana, Ærst. in Vidensk. Meddel. 1854, p. 157; Walp. Ann. v. p. 661.

SOUTH MEXICO, Hacienda de Joya (*Liebmann*); COSTA RICA, Candelaria (*Ærsted*). Hb. Kew.

[*Rhytiglossa nana*, Nees in DC. Prodr. xi. p. 346, from San Sebastian, Mexico (*Ehrenberg*), we have not seen.]

12. **Dianthera parvifolia**, Benth. et Hook. Gen. Plant. ii. p. 1114; A. Gr. Synop. Fl. N. Am. ii. p. 330.

Schaueria parvifolia, Torr. Bot. U.S. & Mex. Bound. Surv. p. 122.

TEXAS; NEW MEXICO.—NORTH MEXICO, Monterey (*Eaton & Edwards*, 91). Hb. Kew.

13. **Dianthera pectoralis**, Murr., ex Griseb. Fl. Brit. W. Ind. p. 455.

Rhytiglossa pectoralis, Nees in DC. Prodr. xi. p. 352.

SOUTH MEXICO, Mirador (*Liebmann*); PANAMA, Empire station (*S. Hayes*, 200, 506), Chagres (*Fendler*, 204), ruins of Old Panama (*Seemann*, 412). Hb. Kew.

14. **Dianthera secunda**, Griseb. Fl. Brit. W. Ind. p. 455.

Rhytiglossa secunda, Nees in DC. Prodr. xi. p. 340.

Justicia secunda, Vahl, Symb. Bot. ii. p. 7; Bot. Mag. t. 2060.

PANAMA, Chagres (*Fendler*, 228), Empire station (*S. Hayes*, 305), near San Juan (*Seemann*, 239).—COLOMBIA to GUIANA and in the WEST INDIES. Hb. Kew.

29. NEOHALLIA.

Neohallia, Hemsley, Justicearum? genus novum.

Calyx tubulosus, fere æqualiter breviterque 5-dentatus, dentibus mucronulatis. *Corollæ* tubus limbo paullo longior, leviter curvatus, sursum haud vel vix ampliatus; limbus 2-labiatus, labio postico suberecto, emarginato, labio antico brevissime 3-dentato, recurvo. *Stamina* 2, labio postico paullo longiora; antheræ 2-loculares, loculis discretis, basi appendiculis parvis obtusis albis instructis, altera altius affixa. *Discus* maximus, carnosus, cupulatus. *Ovarium* glabrum, loculis 2-ovulatis. *Capsula* . . . *Frutex?* *Folia* ampla, glabra. *Flores* majusculi, 2-3 in involucri amplis cupuliformibus crasso-coriaceis axillaribus pedunculatis sessiles.

1. **Neohallia borreræ**, Hemsley, n. sp.

Frutex? undique glaber, ramis crassiusculis, in apicibus dense foliiferis. *Folia* petiolata, subcoriacea, nitida, oblanceolata, usque ad 10 poll. longa, deorsum gradatim attenuata. *Involucra* integra? ad 1½ poll. longa et 9 lineas lata, pedunculis 1-2 poll. longis. *Flores* 2½-3 poll. longi; bractea unica parva subtendens.

SOUTH MEXICO, Chiapas &c. (*Ghiesbreght*, 722). Hb. Kew.

This genus is remarkable for the large, leathery or fleshy, cup-shaped involucre, which enclose two or three large, sessile flowers. Its exact affinity we have been unable to determine.

It is gratefully dedicated to Mrs. Eardley Hall (a daughter of the late W. Borrer), of Barrow Hill, Henfield, Sussex, through whose kind help the author was enabled to follow his inclination for the study of botany.

30. JACOBINIA.

Jacobinia, Moric. Pl. Nouv. d'Am. p. 156, t. 92; Benth. et Hook. Gen. Plant. ii. p. 1114.

About thirty herbaceous and shrubby species, inhabiting Tropical America, from Mexico to Bolivia and Brazil.

1. **Jacobinia aschenborniana**, Hemsley.

Sericographis aschenborniana, Nees in DC. Prodr. xi. p. 362.

Sericographis haplostachya, Nees, loc. cit.?

MEXICO (*Aschenborn*), near Minaschotla (*Ehrenberg*).

2. **Jacobinia aurea**, Hemsley, Diag. Pl. Nov. pars altera, p. 35. (Tab. LXVIII.)

Fruticosa, puberula, ramis subtetragonis sæpissime crassiusculis, foliis valde variabilibus, lamina sæpissime ampla et in petiolo longo decurrente, thyrso sæpissime maximo denso multifloro, floribus aureis, corolla alte bilabiata, labio postico integro complicato incurvo staminibus subæquilongo, labio antico plus minusve trifido.

Frutex usque ad 10–12-pedalis, plus minusve puberulus, ramis subtetragonis, sæpissime crassiusculis.

Folia forma et amplitudine valde variabilia; lamina sæpissime ampla (6–12 poll. longa et 3–8 poll. lata) et in petiolo longo decurrens, lanceolata, ovata, elliptica, vel interdum fere rotundata, basi gradatim attenuata, rotundata vel truncata, apice acuminata, obtusa, margine integra, subtus præcipue luteo-puberula, venis lateralibus arcuatim divergentibus prominentibus; petiolus 1–4 poll. longus. *Flores* aurei, circiter 2-pollicares, thyrsoidi, breviter pedicellati; thyrsus 3–10 poll. longus, bracteis bracteolisque linearibus; calyx parvus, lobis lineari-lanceolatis, acutis. *Corolla* alte bilabiata, labio postico integro, complicato, staminibus subæquilongo, labio antico plus minusve trifido.—*Cyrtanthera aurea*, Nees in DC. Prodr. xi. p. 329; *C. catalpæfolia*, Nees in Bot. Mag. t. 4444; *C. densiflora*, Erst. in Vidensk. Meddel. 1854, p. 147; *C. umbrosa*, Nees in DC. Prodr. xi. p. 329; *Justicia umbrosa*, Benth. Pl. Hartw. p. 79?

SOUTH MEXICO, region of Orizaba (*Bourgeau*, 2817; *Botteri*, 798; *Müller*, 1689), Oaxaca (*Ghiesbreght*), Sierra San Pedro Nolasco, &c. (*Jurgensen*, 795), Coscomatepec (*Liebmann*); GUATEMALA, Chuipache (*Hartweg*), Dueñas, &c. (*Salvin*), Mazatenango (*Bernoulli*, 1191); COSTA RICA, Aguacate, &c. (*Ersted*). Hb. Kew.

As here limited, this is a very variable species in the size and shape of the leaves and the size of the inflorescence; but the differences appear to be due to soil and situation, and the extreme forms are connected by intermediate ones.

3. **Jacobinia chrysostephana**, Benth. et Hook. Gen. Plant. ii. p. 1115.

Cyrtanthera chrysostephana, Hook. f. Bot. Mag. t. 5887.

MEXICO. Cultivated specimens only in Kew herbarium.

4. **Jacobinia ghiesbreghtiana**, Hemsley.

Sericographis ghiesbreghtiana, Nees in DC. Prodr. xi. p. 730; Regel's Gartenfl. t. 98.

Justicia ghiesbreghtiana, Seem. in Fl. des Serres, 1847, Misc. n. 7.

MEXICO.

5. **Jacobinia heterophylla**, Hemsley.

Justicia heterophylla, Ch. et Schl. in Linnæa, v. p. 95.

Sericographis heterophylla, Nees in DC. Prodr. xi. p. 365.

SOUTH MEXICO, Cerro Colorado (*Schiede & Deppe*).

6. **Jacobinia incana**, Hemsley.

Sericographis incana, Nees in DC. Prodr. xi. p. 361.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 704); SOUTH MEXICO, Vera Cruz (*Linden*, 1079), Zimapan (*Coulter*, 1194), Orizaba (*Botteri*, 885). Hb. Kew.

7. **Jacobinia? longiflora**, Benth. et Hook. Gen. Plant. ii. p. 1108, sub *Chætothyloce*.

Heinzelia longiflora, Nees in DC. Prodr. xi. p. 314.

SOUTH MEXICO, near Las Ajuntas (*Ehrenberg*).

8. **Jacobinia macrantha**, Benth. et Hook. Gen. Plant. ii. p. 1116.

Cyrtantherella macrantha, Ærst. in Vidensk. Meddel. 1854, p. 148, t. 3. figg. 10, 11.

Cyrtanthera macrantha, Nees in DC. Prodr. xi. p. 330.

Justicia macrantha, Benth. Pl. Hartw. p. 78.

GUATEMALA, Rancho del Palo Hueco (*Hartweg*); COSTA RICA, San José (*Ersted*). Hb. Kew.

9. **Jacobinia macrophylla**, Benth. et Hook. Gen. Plant. ii. p. 1115.

Sericographis macrophylla, Ærst. in Vidensk. Meddel. 1854, p. 149.

SOUTH MEXICO, Mirador and Santa Maria, Tlapacoya, Vera Cruz (*Liebmann*).

10. **Jacobinia mexicana**, Seem. Bot. Voy. 'Herald,' p. 325, t. 66.

Adhatoda sericea, Nees, fide Benth. et Hook. Gen. Plant. ii. p. 1115.

NORTH MEXICO, Sierra Madre (*Seemann*, 2115); SOUTH MEXICO, Cordillera of Oaxaca, 5000 feet (*Galeotti*, 911), Tehuacan (*Liebmann*). Hb. Kew.

11. **Jacobinia mohintli**, Hemsley.

Sericographis mohintli, Nees in DC. Prodr. xi. p. 361; Linnæa, xx. p. 715 (*moctli*).

Drejera willdenowiana, Nees in DC. Prodr. xi. p. 334.

Justicia spicigera, Schl. in Linnæa, vii. p. 395.

Justicia atramentaria, Benth. Pl. Hartw. p. 69.

SOUTH MEXICO, Tantoyuca (*Ervendberg*), valley of Cordova (*Bourgeau*, 2239), Pital, Vera Cruz (*Liebmann*), Chiapas (*Linden*, 185), Tonagua (*Hartweg*). Hb. Kew.

[*Sericographis mollis*, *S. neglecta*, and *S. verrucosa*, Ærst. in Vidensk. Meddel. 1854, pp. 149-151; Walp. Ann. v. pp. 662, 663, from the province of Vera Cruz, Mexico, and all collected by Liebmann, most likely belong to *Jacobinia*.]

12. **Jacobinia? neesiana**, Benth. et Hook. Gen. Plant. ii. p. 1115.

Cardiakanthus neesianus, Schauer in DC. Prodr. xi. p. 331.

SOUTH MEXICO (*Ehrenberg*; *Aschenborn*).

13. **Jacobinia nutans**, Hemsley.

Pachystachys nutans, Nees in DC. Prodr. xi. p. 320.

SOUTH MEXICO, near Las Ajuntas (*Ehrenberg*).

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14. **Jacobinia paniculata**, Ærst. in Vidensk. Meddel. 1854, p. 153; Walp. Ann. v. p. 660.

SOUTH MEXICO, Colipa and Mirador (*Liebmann*). Hb. Kew.

15. **Jacobinia tinctoria**, Hemsley.

Sericographis tinctoria, Ærst. in Vidensk. Meddel. 1854, p. 150, t. 3. figg. 15, 16; Walp. Ann. v. p. 663.

GUATEMALA (*Skinner*; *Friedrichsthal*); COSTA RICA, Cartago (*Ærsted*, 170). Hb. Kew.

16. **Jacobinia? virgata**, Hemsley.

Drejera virgata, Ærst. in Vidensk. Meddel. 1854, p. 154; Walp. Ann. v. p. 660.

SOUTH MEXICO, Acatlan and Ejutla (*Liebmann*). Hb. Kew.

31. HOVERDENIA.

Hoverdenia, Nees in DC. Prodr. xi. p. 330; Benth. et Hook. Gen. Plant. ii. p. 1116.

A shrubby monotype.

1. **Hoverdenia speciosa**, Nees in DC. Prodr. xi. p. 331.

SOUTH MEXICO, Caracol de Atotonicapa (*Moritz*).

Probably not a Mexican but a Colombian plant.

32. ANISACANTHUS.

Anisacanthus, Nees in Linnæa, xvi. p. 307, et in DC. Prodr. xi. p. 444; Benth. et Hook. Gen. Plant. ii. p. 1117.

Shrubs, with one exception from the Rio Parana, restricted to the Texano-Mexican region.

1. **Anisacanthus greggii**, A. Gr. Synop. Fl. N. Am. ii. p. 328.

Drejera greggii, Torr. Bot. U.S. & Mex. Bound. Surv. p. 124.

NORTH MEXICO, Paso del Gallinero (*Gregg*).

2. **Anisacanthus? juncea**, Hemsley.

Drejera juncea, Torr. Bot. U.S. & Mex. Bound. Surv. p. 124.

NORTH MEXICO, La Peña, Coahuila (*Thurber*).

3. **Anisacanthus pumilus**, Nees in DC. Prodr. xi. p. 445, non Seem. Bot. Voy. 'Herald,' p. 325, nec Ærst. in Vidensk. Meddel. 1854, p. 165, quoad plantam Liebmannianam, nec A. Gr. Synop. Fl. N. Am. ii. p. 328.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 706½); MEXICO, without locality (*Bates*; *Jurgensen*, 496; *Gregg*, 587). Hb. Kew.

Dr. Gray suggests that this may be the same as *A. virgularis*; but he had probably no authenticated specimens before him, for it is a very distinct species. *A. thurberi*, of which we have seen no specimens, is nearer this, though quite distinct, if the calyxlobes be correctly described as equalling the capsule in length.

4. **Anisacanthus thurberi**, A. Gr. Synop. Fl. N. Am. ii. p. 328.

Drejera thurberi, Torr. Bot. U.S. & Mex. Bound. Surv. p. 124.

NEW MEXICO; ARIZONA.—NORTH MEXICO, Sonora (*Thurber*; *Schott*).

5. **Anisacanthus virgularis**, Nees in DC. Prodr. xi. p. 445.

Justicia virgularis, Salisb. Parad. Lond. t. 50.

Justicia coccinea, Cav. Ic. Pl. ii. t. 199.

Justicia quadrifida, Vahl, Enum. i. p. 124; H. B. K. Nov. Gen. et Sp. ii. p. 231.

Drejera puberula, Torr. Bot. U.S. & Mex. Bound. Surv. p. 123?

NORTH MEXICO, mountains east of Saltillo (*Palmer*, 1016), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 706); SOUTH MEXICO, Zimapan and Cordillera of Oaxaca, at 5000 feet (*Galeotti*, 912, 937), Tehuacan (*Liebmann*), Sierra San Pedro Nolasco &c. (*Jurgensen*, 620). Hb. Kew.

6. **Anisacanthus wrightii**, A. Gr. Synop. Fl. N. Am. ii. p. 328.

Drejera wrightii, Torr. Bot. U.S. & Mex. Bound. Surv. p. 123.

TEXAS.—NORTH MEXICO, Monterey (*Eaton & Edwards*, 89), Sierra Madre (*Seemann*, 2111); SOUTH MEXICO, Tehuacan (*Liebmann*). Hb. Kew.

33. THYRSACANTHUS.

Thyrsacanthus, Nees in Fl. Bras. ix. p. 97, t. 13, et in DC. Prodr. xi. p. 323; Benth. et Hook. Gen. Plant. ii. p. 1119.

An exclusively Tropical-American genus, comprising about twenty species of shrubs and herbs.

1. **Thyrsacanthus callistachyus**, Nees in DC. Prodr. xi. p. 326.

Justicia callistachya, Ch. et Schl. in Linnæa, vi. p. 370.

Thyrsacanthus lilacinus, Lindl. in Lindl. & Paxt. Fl. Gard. ii. t. 53.

SOUTH MEXICO, Mirador (*Linden*, 192; *Liebmann*), Misantla (*Schiede & Deppe*), valley of Cordova (*Bourgeau*, 1689), Cordillera of Vera Cruz, 3000 feet (*Galeotti*, 926), Sierra San Pedro Nolasco &c. (*Jurgensen*, 407, 877). Hb. Kew.

2. **Thyrsacanthus cuspidatus**, Nees in DC. Prodr. xi. p. 323.

SOUTH MEXICO, Teapa, Tabasco (*Linden*, 180; *Johnson*, 7), Sierra San Pedro Nolasco &c. (*Jurgensen*, 894, 895). Hb. Kew.

3. **Thyrsacanthus flagellum**, Ærst. in Vidensk. Meddel. 1854, p. 146, et in L'Amér. Centr. p. 18, t. 16.

COSTA RICA, Turrialva (*Ærsted*).

4. **Thyrsacanthus? foliaceo-bracteatus**, Ærst. in Vidensk. Meddel. 1854, p. 146; Walp. Ann. v. p. 658.

SOUTH MEXICO, Mirador (*Liebmann*).

5. **Thyrsacanthus longifolius**, Ærst. in Vidensk. Meddel. 1854, p. 145; Walp. Ann. v. p. 657.

NICARAGUA, neighbourhood of Tortuga (*Ærsted*).

6. **Thyrsacanthus pantasmensis**, Ærst. in Vidensk. Meddel. 1854, p. 144; Walp. Ann. v. p. 658.

NICARAGUA, Pantasmo, north of Ségovia, at 4000 feet (*Ærsted*).

7. **Thyrsacanthus strictus**, Nees in DC. Prodr. xi. p. 324.

BRITISH HONDURAS (*Armstrong*). Hb. Kew.

8. **Thyrsacanthus tubæformis**, Nees in DC. Prodr. xi. p. 324.

Justicia tubæformis, Bertol. Fl. Guat. p. 5.

GUATEMALA, Esquintla (*Velasquez*).

34. CHILERANTHEMUM.

Chileranthemum, Ærst. in Vidensk. Meddel. 1854, p. 166; Benth. et Hook. Gen. Plant. ii. p. 1119.

A shrubby monotype.

1. **Chileranthemum trifidum**, Ærst. in Vidensk. Meddel. 1854, p. 167, t. 3. figg. 30–33; Walp. Ann. v. p. 643. (Tab. LXVII. figg. 1–5.)

SOUTH MEXICO, Orizaba (*Botteri*, 936). Hb. Kew.

EXPLANATION OF TAB. LXVII. FIGG. 1–5.

Fig. 1, a flowering branch, natural size; 2, a flower; 3 and 4, corollas, laid open; 5, a stamen and a staminode: all enlarged.

35. DICLIPTERA.

Dicliptera, Juss. in Ann. Mus. Par. ix. p. 267; Benth. et Hook. Gen. Plant. ii. p. 1120.

Herbs. About fifty species, generally dispersed in tropical regions.

1. **Dicliptera acuminata**, Juss. in Ann. Mus. Par. ix. p. 268.

γ. **spicata**, Nees in DC. Prodr. xi. p. 487.

SOUTH MEXICO, Mirador (*Linden*, 196), Cordillera of Vera Cruz (*Galeotti*, 928). Hb. Kew.

2. **Dicliptera assurgens**, Juss. in Ann. Mus. Par. ix. p. 269; DC. Prodr. xi. p. 489; A. Gr. Synop. Fl. N. Am. ii. p. 331.

FLORIDA.—MEXICO, Yucatan and Tabasco (*Johnson*, 10).—WEST INDIES. Hb. Kew.

3. **Dicliptera hænkeana**, Nees in DC. Prodr. xi. p. 487.

MEXICO (*Hænke*).

4. **Dicliptera mollis**, Nees in DC. Prodr. xi. p. 490.

SOUTH MEXICO, Cordillera of Vera Cruz, 3000 feet (*Galeotti*, 930), Mirador (*Lieb-*

mann), valley of Cordova (*Bourgeau*, 2185), Zacuapan (*Linden*, 1081), Cordillera of Oaxaca, 5000 to 6000 feet (*Galeotti*, 928). Hb. Kew.

5. ***Dicliptera multiflora***, Juss. in Ann. Mus. Par. ix. p. 268; DC. Prodr. xi. p. 486.

Dianthera multiflora, Ruiz et Pav. Fl. Peruv. i. t. 14. fig. b.

SOUTH MEXICO, near Leon (*Mendez*), Sierra San Pedro Nolasco &c. (*Jurgensen*, 859). Hb. Kew.

6. ***Dicliptera peduncularis***, Nees in DC. Prodr. xi. p. 488, α et β .

SOUTH MEXICO, near Los Baños (*Ehrenberg*).

7. ***Dicliptera resupinata***, Juss. in Ann. Mus. ix. p. 268; DC. Prodr. xi. p. 474; A. Gr. Synop. Fl. N. Am. ii. p. 331.

Justicia resupinata, Vahl, Enum. i. p. 114.

Justicia sexangularis, Cav. Ic. Pl. iii. t. 203.

ARIZONA; CALIFORNIA.—NORTH MEXICO, Sonora (*Thurber*).—WEST INDIES? Hb. Kew.

8. ***Dicliptera sexangularis***, Juss. in Ann. Mus. Par. ix. p. 269; DC. Prodr. xi. p. 479.

SOUTH MEXICO, Vera Cruz.—JAMAICA.

This is probably the same as *D. assurgens*.

9. ***Dicliptera trifurcata***, CErst. in Vidensk. Meddel. 1854, p. 172; Walp. Ann. v. p. 666.

COSTA RICA, between Cartago and Candelaria, 6000 to 7000 feet (*Ersted*). Hb. Kew.

10. ***Dicliptera unguiculata***, Nees in Benth. Bot. Voy. 'Sulphur,' p. 149; CErst. in Vidensk. Meddel. 1854, p. 171.

COSTA RICA, Cartago, 5000 feet (*Ersted*).—ECUADOR.

36. TETRAMERIUM.

Tetramerium, Nees in Benth. Bot. Voy. 'Sulphur,' p. 147; Benth. et Hook. Gen. Plant. ii. p. 1121.

About half a dozen herbaceous or half-shrubby species, inhabiting the Texano-Mexican region, Central America, Ecuador, and the Galapagos.

1. ***Tetramerium hispidum***, Nees in DC. Prodr. xi. p. 468; A. Gr. Synop. Fl. N. Am. ii. p. 330.

Tetramerium nervosum, var., Torr. Bot. U.S. & Mex. Bound. Surv. p. 125.

TEXAS; ARIZONA.—NORTH MEXICO, region of San Luis Potosi (*Parry & Palmer*, 700), Soledad, Coahuila (*Palmer*, 1089), Chihuahua (*Bigelow*), Zacatecas (*Coulter*, 1206); SOUTH MEXICO, Mirador (*Linden*, 191), Cuernavaca (*Bourgeau*, 1261), Oaxaca (*Liebmann*); NICARAGUA (*Tate*). Hb. Kew.

2. **Tetramerium nervosum**, Nees in Benth. Bot. Voy. 'Sulphur,' p. 148, t. 48, et in DC. Prodr. xi. p. 468 (*β. angustifolium*).

SOUTH MEXICO, Tepic (*Sinclair*). Hb. Kew.

The type is from Ecuador.

3. **Tetramerium ovalifolium**, CErst. in Vidensk. Meddel. 1854, p. 170; Walp. Ann. v. p. 666.

SOUTH MEXICO, Chapulco, Puebla (*Liebmann*). Hb. Kew.

4. **Tetramerium ovatum**, CErst. in Vidensk. Meddel. 1854, p. 169; Walp. Ann. v. p. 665.

MEXICO (*Liebmann*).

5. **Tetramerium polystachyum**, Nees in Benth. Bot. Voy. 'Sulphur,' p. 147; DC. Prodr. xi. p. 468; Seem. Bot. Voy. 'Herald,' t. 68.

NORTH MEXICO, Sierra Madre (*Seemann*, 2112); HONDURAS, Gulf of Fonseca (*Sinclair*). Hb. Kew.

[*T. platystegium*, Torr. Bot. U.S. & Mex. Bound. Surv. p. 126, was collected near Rio Grande city, on the north bank of the river.]

6. **Tetramerium scorpioides**, Hemsley.

Henrya insularis et *H. barclayana*, Nees in Benth. Bot. Voy. 'Sulphur,' p. 149, t. 49.

Henrya scorpioides, Nees in DC. Prodr. xi. p. 491.

Dicliptera scorpioides, Juss. in Ann. Mus. Par. ix. 269.

Justicia scorpioides, Linn. Sp. Pl. i. p. 21.

Justicia, Banks, Reliq. Houst. p. 3, t. 1.

SOUTH MEXICO, Mirador (*Linden*, 190), Vera Cruz (*Hahn*), Jalisco (*Beechey*); GUATEMALA (*Friedrichsthal*); NICARAGUA (*Ersted*); PANAMA, island off Veraguas (*Sinclair*). Hb. Kew.

[The *Myoporineæ* are a small order, comprising five genera and about eighty species, whereof two genera and sixty-eight species are Australian; one genus extends from New Zealand to the Pacific, Mascarene and Malayan Islands, China and Japan; another, of two species, is peculiar to South Africa; and the monotypic *Bontia* (*β. daphnoides*, L.; Griseb. Fl. Brit. W. Ind. p. 503) inhabits Trinidad, Antigua, Hayti, and other islands in the West Indies. The *Selagineæ* number eight genera and about 140 species. Six of the genera and about 120 of the species are peculiar to South Africa, with the exception of one species found in Madagascar. Of the two remaining genera, one inhabits the Mediterranean region, including the Canary Islands, and the other Central and North Asia.]

Order CIII. VERBENACEÆ.

Verbenaceæ, Benth. et Hook. Gen. Plant. ii. p. 1131.

Herbs, shrubs, or trees. There are fifty-nine genera, comprising about 700 species, generally dispersed in warm countries, rare in temperate regions, especially in the north, and absent from the arctic and alpine regions. The species are greatly in need of revision, especially (as far as the Mexican are concerned) of the genera *Lantana*, *Lippia*, and *Verbena*.

1. LANTANA.

Lantana, Linn. Gen. Plant. n. 765; Benth. et Hook. Gen. Plant. ii. p. 1142.

Shrubs or rarely herbs. About fifty species have been described, some of them probably under more than one name. The greater part inhabit Tropical and Subtropical America, a few Asia and Africa.

1. ***Lantana camara***, Linn. Sp. Pl. p. 874; DC. Prodr. xi. p. 598; A. Gr. Synop. Fl. N. Am. ii. p. 340.

Lantana aculeata, Linn.; Bot. Mag. t. 96.

Lantana scabrida, Ait. Hort. Kew. ed. 1, ii. p. 352; Lodd. Bot. Cab. t. 1171.

Lantana polyacantha, Schauer in DC. Prodr. xi. p. 597?

GEORGIA; FLORIDA; TEXAS.—MEXICO, Acatlan (*Andrieux*), Mazatlan (*Seemann*, 1501), valley of Cordova (*Bourgeau*, 1506); GUATEMALA, Volcan de Fuego (*Salvin*); HONDURAS, Gulf of Fonseca (*Sinclair*); PANAMA (*Seemann*; *S. Hayes*).—Generally dispersed in Tropical SOUTH AMERICA and the WEST INDIES. Hb. Kew.

2. ***Lantana canescens***, H. B. K. Nov. Gen. et Sp. ii. p. 259; DC. Prodr. xi. p. 607.

Lantana lamiifolia, Otto & Dietr. Allg. Gartenz. ix. p. 372.

Lippia pallescens, Benth. Pl. Hartw. p. 245.

NORTH MEXICO, Santa Rosa, Coahuila (*Bigelow*), without locality (*Berlandier*; *Ehrenberg*).—VENEZUELA; COLOMBIA; GUIANA; BRAZIL. Hb. Kew.

3. ***Lantana hirsuta***, Mart. et Gal. in Bull. Acad. Brux. xi. p. 326; DC. Prodr. xi. p. 599.

SOUTH MEXICO, Jalapa, Mirador, and Zacuapan, at 2000 to 4000 feet (*Galeotti*, 749), Acatlan, Puebla (*Andrieux*, 136), Jalapa (*Linden*, 140), Chiapas (*Ghiesbreght*), valley of Cordova (*Bourgeau*); NICARAGUA, Greytown (*Tate*). Hb. Kew.

4. ***Lantana hispida***, H. B. K. Nov. Gen. et Sp. ii. p. 260; DC. Prodr. xi. p. 603.

Lantana geroldiana, Otto & Dietr. Allg. Gartenz. ix. p. 372.

Lantana teucrifolia, Otto & Dietr. Allg. Gartenz. ix. p. 371.

Lantana hirta, Grah. in Edinb. N. Phil. Journ. ii. p. 186?

SOUTH MEXICO, near Jalapa, at 4200 feet (*Humboldt & Bonpland*), Oaxaca (*Andrieux*, 137), region of Orizaba (*Bourgeau*, 2625 bis), Chiapas (*Ghiesbreght*, 632). Hb. Kew.

5. **Lantana horrida**, H. B. K. Nov. Gen. et Sp. ii. p. 261; DC. Prodr. xi. p. 597, α et β .

NORTH MEXICO, Matamoros (*Berlandier*); SOUTH MEXICO, Chapultepec, at about 7000 feet (*Humboldt & Bonpland*). Hb. Kew.

6. **Lantana involucrata**, Linn. Amœn. Acad. iv. p. 319; A. Gr. Synop. Fl. N. Am. ii. p. 603.

Lantana odorata, var. *berlandieri*, Torr. Bot. U.S. & Mex. Bound. Surv. p. 128.

Lantana odorata, Linn.; Jacq. Hort. Schoenb. t. 360; Griseb. Fl. Brit. W. Ind. p. 496.

TEXAS.—MEXICO, Ramos (*Thurber*); HONDURAS (ex *Grisebach*).—North part of SOUTH AMERICA and the WEST INDIES.

7. **Lantana macropoda**, Torr. Bot. U.S. & Mex. Bound. Surv. p. 127; A. Gray, Synop. Fl. N. Am. ii. p. 339.

TEXAS.—NORTH MEXICO, Saltillo (*Gregg*), Parras, Coahuila (*Palmer*, 1027). Hb. Kew.

8. **Lantana mollis**, Grah. in Edinb. New Phil. Journ. 1829, p. 184; DC. Prodr. xi. p. 608.

MEXICO.

9. **Lantana multicolor**, Lemaire, Fl. des Serres, iii. Misc. n. 5.

MEXICO.

10. **Lantana tiliæfolia**, Cham. in Linnæa, vii. p. 122; DC. Prodr. xi. p. 600.

MEXICO? Apparently a widely dispersed species in South America.

11. **Lantana trifolia**, Linn. Sp. Pl. p. 873; DC. Prodr. xi. p. 606; Bot. Mag. t. 1449.

GUATEMALA, Esquipulas (*Bernoulli*, 768); PANAMA, Boquete (*Seemann*, 1602).—WEST INDIES and Tropical SOUTH AMERICA. Hb. Kew.

12. **Lantana velutina**, Mart. et Gal. in Bull. Acad. Brux. xi. p. 325; DC. Prodr. xi. p. 605.

NORTH MEXICO, Sierra Madre (*Seemann*, 2086), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 709); SOUTH MEXICO, Cordillera of Vera Cruz, 2000 feet (*Galeotti*, 750), region of Orizaba (*Bourgeau*, 2717; *Botteri*, 657), Zimapan (*Coulter*, 1155).—COLOMBIA. Hb. Kew.

2. LIPPIA.

Lippia, Linn. Gen. Plant. n. 781; Benth. et Hook. Gen. Plant. ii. p. 1142.

Shrubs, undershrubs, or herbs. About ninety species are described, for the greater part American, ranging from the Southern States of North America to Chili and Buenos Ayres; a few African. Two of the American species are also widely dispersed in the Old World.

1. **Lippia americana**, Linn. Sp. Pl. p. 833; DC. Prodr. xi. p. 579.
Lippia hyptoides, Benth. Pl. Hartw. p. 122.
 PANAMA (*Seemann*).—COLOMBIA; ECUADOR. Hb. Kew.
2. **Lippia berlandieri**, Schauer in DC. Prodr. xi. p. 575.
 SOUTH MEXICO, Oaxaca (*Andrieux*, 166), Zimapan (*Coulter*, 1162), near San Bartolo (*Ehrenberg*). Hb. Kew.
3. **Lippia betulæfolia**, H. B. K. Nov. Gen. et Sp. ii. p. 264; DC. Prodr. xi. p. 583.
Cryptocalyx nepetæfolia, Benth. in Ann. Nat. Hist. ii. p. 446.
 NICARAGUA, Granada (*Ersted*).—COLOMBIA; GUIANA; TRINIDAD; BRAZIL. Hb. Kew.
4. **Lippia callicarpæfolia**, H. B. K. Nov. Gen. et Sp. ii. p. 268; DC. Prodr. xi. p. 591.
Lippia calocephala, Zucc. Ind. Sem. Hort. Monac. 1846.
Lippia bicolor, Kth. Ind. Sem. Hort. Berol. 1845.
Lantana bracteosa, Mart. et Gal. in Bull. Acad. Brux. xi. p. 326.
 SOUTH MEXICO, near the city of Mexico, at about 10,000 feet (*Humboldt & Bonpland*), Tehuacan, at 6500 feet (*Galeotti*, 761), near Tantoyuca (*Ervendberg*); PANAMA, Boquete (*Seemann*, 1155).—VENEZUELA. Hb. Kew.
5. **Lippia cardiostegia**, Benth. Bot. Voy. 'Sulphur,' p. 153.
 HONDURAS, Gulf of Fonseca (*Sinclair*). Hb. Kew.
6. **Lippia dulcis**, Trevir. in Act. Acad. Nat. Cur. xiii. 1, p. 187; DC. Prodr. xi. p. 583.
Lippia asperifolia, Reichb. Iconogr. Exot. t. 169.
 SOUTH MEXICO, Oaxaca (*Galeotti*, 753), without locality (*Parkinson*), Orizaba (*Botteri*, 625), valley of Cordova (*Bourgeau*, 1814); COSTA RICA (*Endres*); PANAMA (*Seemann*).—COLOMBIA. Hb. Kew.
7. **Lippia geminata**, H. B. K. Nov. Gen. et Sp. ii. p. 266; DC. Prodr. xi. p. 582; A. Gr. Synop. Fl. N. Am. ii. p. 338.
Lippia panamensis, Turcz. in Bull. Soc. Nat. Mosc. 1863, ii. p. 201.
Lantana lippioides, Hook. et Arn. Bot. Beech. Voy. p. 305.
 TEXAS.—NORTH MEXICO, around Matamoros (*Berlandier*); SOUTH MEXICO, Guadaluajara, 3000 feet (*Galeotti*, 788), Vera Cruz (*Gouin*), Oaxaca (*Ghiesbreght*), Acapulco (*Beechey*); NICARAGUA, Greytown (*Tate*), Realejo (*Sinclair*); COSTA RICA (*Endres*, 50); PANAMA, Chagres (*Fendler*, 220).—And widely spread in SOUTH AMERICA and the WEST INDIES. Hb. Kew.
8. **Lippia graveolens**, H. B. K. Nov. Gen. et Sp. ii. p. 266; DC. Prodr. xi. p. 575.
Lantana origanoides, Mart. et Gal. in Bull. Acad. Brux. xi. p. 327.
 NORTH MEXICO, Monclova, Coahuila (*Palmer*, 1026); SOUTH MEXICO, region of Orizaba

and valley of Cordova (*Bourgeau*, 2983, 1471; *Müller*, 1753), Mirador, 3000 feet, and Tanetze, 4000 feet (*Linden*, 752, 770), Campeachy (*Humboldt & Bonpland*). Hb. Kew.

9. ***Lippia hirsuta***, Mutis in Linn. f. Suppl. p. 288; DC. Prodr. xi. p. 580.

Lippia sphacelifolia, Benth. Pl. Hartw. p. 245.

MEXICO?, Cuernavaca (*Bourgeau*, 1217), Hacienda de las Naranjas (*Seemann*, 1499).—COLOMBIA. Hb. Kew.

The Mexican specimens may belong to a different species.

10. ***Lippia lanata***, Walp. Rep. iv. p. 43.

MEXICO.

11. ***Lippia lanceolata***, Michx. Fl. Bor.-Am. ii. p. 15; DC. Prodr. xi. p. 584; A. Gr. Synop. Fl. N. Am. ii. p. 339.

Lippia queretarensis, H. B. K. Nov. Gen. et Sp. ii. p. 264.

PENNSYLVANIA to ILLINOIS and MISSOURI, south to FLORIDA and TEXAS.—MEXICO, Queretaro (*Humboldt & Bonpland*).

12. ***Lippia lycioides***, Steud. Nomencl. Bot. ed. 2; Fl. Bras. ix. t. 36; DC. Prodr. xi. p. 574; A. Gr. Synop. Fl. N. Am. ii. p. 338.

Aloysia lycioides, Cham. in Linnæa, vii. p. 237.

Aloysia floribunda, Mart. et Gal. in Bull. Acad. Brux. xi. p. 320.

Verbena ligustrina, Lag. Nov. Gen. et Sp. p. 18.

TEXAS to ARIZONA.—NORTH MEXICO, Chihuahua, Coahuila, and Nuevo Leon (*Wright*), Monterey (*Eaton & Edwards*), mountains of Saltillo (*Palmer*, 1037), Sonora Alta (*Coulter*, 1166), Sierra Madre (*Seemann*, 2085); SOUTH MEXICO, tableland Tehuacan, 5000 feet (*Galeotti*, 774). Hb. Kew.

13. ***Lippia myriocephala***, Ch. et Schl. in Linnæa, v. p. 98; DC. Prodr. xi. p. 580.

SOUTH MEXICO, near Jalapa and Papantla (*Schiede & Deppe*), Orizaba (*Sallé*; *Bilimek*, 390), Tantoyuca (*Ervendberg*), Vera Cruz, 2000 feet (*Galeotti*, 775). Hb. Kew.

14. ***Lippia nodiflora***, Michx.; DC. Prodr. xi. p. 585; A. Gr. Synop. Fl. N. Am. ii. p. 339.

Zapania nodiflora, Lam. Ill. t. 17. fig. 3.

Verbena nodiflora, Linn.; Sibth. Fl. Græc. t. 553.

GEORGIA and TEXAS to CALIFORNIA.—MEXICO; CENTRAL AMERICA.—And in nearly all tropical and subtropical countries. Hb. Kew.

One of the very commonest of weeds in warm countries.

15. ***Lippia organoides***, H. B. K. Nov. Gen. et Sp. ii. p. 267; DC. Prodr. xi. p. 575.

Lippia elegans, Cham. in Linnæa, vii. p. 225.

SOUTH MEXICO, Yucatan and Tabasco (*Johnson*).—COLOMBIA; BRAZIL. Hb. Kew.

16. **Lippia purpurea**, Jacq. f. Eclog. i. p. 126, t. 85; DC. Prodr. xi. p. 581.

NORTH MEXICO, Sierra Madre (*Seemann*, 2198); SOUTH MEXICO, Cordillera of Oaxaca, 5000 feet (*Galeotti*, 762; *Ghiesbreght*), Cuernavaca (*Bourgeau*, 1259), region of Orizaba (*Galeotti*, 2795), Zimapan (*Coulter*, 1156); GUATEMALA, Vera Paz (*Bernoulli*, 1038). Hb. Kew.

17. **Lippia reptans**, H. B. K. Nov. Gen. et Sp. ii. p. 263; DC. Prodr. xi. p. 584; Griseb. Fl. Brit. W. Ind. p. 495.

Lippia strigulosa, Mart. et Gal. in Bull. Acad. Brux. xi. p. 319.

SOUTH MEXICO, near Vera Cruz (*Galeotti*, 748), Tampico and elsewhere (*Berlandier*).—WEST INDIES to BRAZIL and PERU. Hb. Kew.

Dr. A. Gray doubtfully refers this to *L. lanceolata*.

18. **Lippia substrigosa**, Turcz. in Bull. Soc. Nat. Mosc. 1863, ii. p. 202.

SOUTH MEXICO, pine-forest of Chiapas (*Linden*, 147); GUATEMALA, Zunil (*Hartweg*), Volcan de Agua (*Salvin & Godman*), without locality (*Skinner*). Hb. Kew.

19. **Lippia umbellata**, Cav. Ic. Pl. ii. p. 75, t. 194; DC. Prodr. xi. p. 591.

SOUTH MEXICO, mountains near Guichilapa (*Berlandier*), San Nicolas (*Bourgeau*, 968), valley of Mexico (*Schaffner*, 409). Hb. Kew.

20. **Lippia wrightii**, A. Gr. in Am. Journ. Sc. ser. 2, xvi. p. 98; Synop. Fl. N. Am. ii. p. 338; Torr. Bot. U.S. & Mex. Bound. Surv. p. 126.

TEXAS to ARIZONA.—NORTH MEXICO, Sonora and Chihuahua (*Thurber*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 712½). Hb. Kew.

3. BOUCHEA.

Bouchea, Cham. in Linnæa, vii. p. 252; Benth. et Hook. Gen. Plant. ii. p. 1144.

About sixteen or seventeen species, inhabiting warm regions of America, Africa, and North-west India.

1. **Bouchea ehrenbergii**, Cham. in Linnæa, vii. p. 253; DC. Prodr. xi. p. 558; A. Gr. Synop. Fl. N. Am. ii. p. 334.

Verbena prismatica, Linn.; Jacq. Ic. Rar. t. 208.

Stachytarpheta bifurca, Benth. Pl. Hartw. p. 21.

ARIZONA.—NORTH MEXICO, Sonora (*Thurber*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 716); SOUTH MEXICO, Aguas Calientes (*Hartweg*, 178), Orizaba (*Sallé*), Oaxaca (*Ghiesbreght*), Zacoalco (*Bourgeau*, 545), Yucatan (*Linden*, 157); GUATEMALA, Jocotenango (*Bernoulli*, 337).—COLOMBIA. Hb. Kew.

4. STACHYTARPHETA.

Stachytarpheta, Vahl, Enum. i. p. 205; Benth. et Hook. Gen. Plant. ii. p. 1145.

About forty herbaceous and shrubby species, inhabiting the tropical and subtropical parts of America, one of them also widely diffused in Asia and Africa.

1. **Stachytarpheta acuminata**, DC. Prodr. xi. p. 570.
SOUTH MEXICO, around Oaxaca (*Andrieux*, 140). Hb. Kew.
2. **Stachytarpheta albiflora**, DC. Prodr. xi. p. 567.
SOUTH MEXICO, around Oaxaca (*Andrieux*, 141), Zimapan (*Coulter*, 1151). Hb. Kew.
3. **Stachytarpheta cayennensis**, Vahl, Enum. i. p. 208; DC. Prodr. xi. p. 562;
Griseb. Fl. Brit. W. Ind. p. 494.
SOUTH MEXICO, Papantla (*Schiede*); COSTA RICA (*Ersted*).—Southward to BRAZIL and
in the WEST INDIES. Hb. Kew.
4. **Stachytarpheta frantzii**, Polak. in Linnæa, xli. p. 593.
COSTA RICA, roadsides near Barba (*Polakowsky*).
5. **Stachytarpheta jamaicensis**, Vahl, Enum. i. p. 206; DC. Prodr. xi. p. 564;
A. Gr. Synop. Fl. N. Am. ii. p. 334.
Verbena jamaicensis, Linn.; Descourt. Fl. Ant. viii. t. 392.
FLORIDA.—MEXICO; CENTRAL AMERICA.—Southward to BRAZIL, and common in the
WEST INDIES. Hb. Kew.
6. **Stachytarpheta mutabilis**, Vahl, Enum. i. p. 209; DC. Prodr. xi. p. 565;
Bot. Mag. t. 976.
Verbena mutabilis, Jacq. Ic. Rar. t. 207; Andr. Bot. Rep. t. 435.
Cymburas mutabilis, Salisb. Parad. Lond. t. 49.
MEXICO, Acapulco (*Sinclair*), Zitacuaro (*Hartweg*, 370).—CUBA to TRINIDAD and
GUIANA. Also widely diffused (naturalized?) in Tropical AFRICA and ASIA. Hb.
Kew.

5. PRIVA.

Priva, Adans. Fam. ii. p. 505; Benth. et Hook. Gen. Plant. ii. p. 1145.

About nine herbaceous species, widely diffused in warm countries.

1. **Priva aspera**, H. B. K. Nov. Gen. et Sp. ii. p. 278; DC. Prodr. xi. p. 534.
Priva crenata, Schrad. Ind. Sem. Hort. Gœtt. 1831, ex Linnæa, viii. Literat.-Bl. p. 24.
Priva trachelioides, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 8).
SOUTH MEXICO, between Ario and Aguasarca, 4800 feet (*Humboldt & Bonpland*),
Jalapa (*Schiede*), near Morelia, at 6000 feet (*Galeotti*, 792). Hb. Kew.
2. **Priva echinata**, Juss. in Ann. Mus. vii. p. 69; DC. Prodr. xi. p. 534.
Verbena lappulacea, Linn.; Jacq. Obs. t. 24.
Priva lamiiifolia, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 9)?
FLORIDA.—NORTH MEXICO, Monterey (*Eaton & Edwards*); SOUTH MEXICO, Zimapan
(*Coulter*, 1141), Cordillera of Vera Cruz (*Galeotti*, 7098), Orizaba (*Botteri*, 618);
PANAMA (*Seemann*).—Generally diffused in the warmer parts of SOUTH AMERICA and
the WEST INDIES. Hb. Kew.

3. **Priva hispida**, Juss. in Ann. Mus. vii. p. 69; DC. Prodr. xi. p. 534.

Verbena mexicana, Linn. Syst. p. 66.

Zapania mexicana, Lam. Ill. t. 6. fig. 1.

Blairia mexicana, Gært. Fruct. i. p. 265, t. 56. fig. 1.

Priva mexicana, Pers. Syn. ii. p. 139.

SOUTH MEXICO, region of Orizaba (*Bourgeau*, 2950; *Botteri*, 619, 620), Vera Cruz (*Galeotti*, 2613), near Tacubaya (*Schaffner*); GUATEMALA, Volcan de Fuego, 5300 feet (*Salvin*). Hb. Kew.

6. VERBENA.

Verbena, Linn. Gen. Plant. n. 32; Benth. et Hook. Gen. Plant. ii. p. 1146.

About eighty herbaceous and half-shrubby species, mostly American, ranging from Canada to Chili. One species, *V. officinalis*, is also very widely diffused in the Old World; another, *V. bonariensis*, is naturalized in many parts of Africa and Asia; and *V. supina* is the only one that is restricted to the Old World, where it is dispersed from the Canaries to Asia Minor.

1. **Verbena andrieuxii**, Schauer in DC. Prodr. xi. p. 553.

SOUTH MEXICO, between Puebla and Oaxaca (*Andrieux*, 138). Hb. Kew.

2. **Verbena aubletia**, Linn. Suppl. p. 86; DC. Prodr. xi. p. 554; A. Gr. Synop. Fl. N. Am. ii. p. 337; Jacq. Hort. Vindob. t. 176; Bot. Mag. t. 308; Bot. Reg. t. 294.

Verbena lamberti, Sims, Bot. Mag. t. 2200.

Verbena lamberti, var. *rosea*, Don in Sweet's Brit. Fl. Gard. ser. 2, t. 363.

ILLINOIS and ARKANSAS to FLORIDA and TEXAS.—MEXICO.

3. **Verbena barbata**, Grah. in Edinb. New Phil. Journ. 1827, p. 176; DC. Prodr. xi. p. 555.

MEXICO.

[*Verbena bonariensis*, Linn., occurs in Mexico as an introduced plant.]

4. **Verbena bracteosa**, Michx. Fl. Bor.-Am. ii. p. 13; DC. Prodr. xi. p. 549; A. Gr. Synop. Fl. N. Am. ii. p. 336; Bot. Mag. t. 2910.

Verbena bracteata, Lag. et Rodr. in Ann. de Cienc.

WISCONSIN and OREGON, southward to ARIZONA and FLORIDA.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 715). Hb. Kew.

5. **Verbena canescens**, H. B. K. Nov. Gen. et Sp. ii. p. 274, t. 136; DC. Prodr. xi. p. 548; A. Gr. Synop. Fl. N. Am. ii. p. 336.

Verbena remota, Benth. Pl. Hartw. p. 21.

Verbena gracilis, Desf. Cat. Hort. Par. ed. 3, p. 393.

TEXAS to CALIFORNIA.—MEXICO, common (*Galeotti*, 778; *Hartweg*, 174, 177; *Bourgeau*, 546; *Coulter*, 1146; *Gregg*, 99; *Müller*, 1215; *Berlandier*, 2054, 2247). Hb. Kew.

6. **Verbena caroliniana**, Linn. Sp. Pl. p. 29; Schauer in DC. Prodr. xi. p. 5 6. *Verbena recta*, *V. polystachya*, *V. biserrata* et *V. veronicæfolia*, H. B. K. Nov. Gen. et Sp. ii. pp. 274, 275 et 277.

Verbena paucifolia, Mart. et Gal. in Bull. Acad. Brux. xi. p. 324.

Verbena hirsuta, Mart. et Gal. loc. cit. p. 321, et *V. mollis*, p. 323.

CAROLINA TO FLORIDA.—MEXICO; GUATEMALA. Hb. Kew.

We have been obliged to follow Schauer, though most likely more than one species is included under this name. Dr. Gray gives *V. caroliniana* a more restricted definition.

7. **Verbena ciliata**, Benth. Pl. Hartw. p. 21; DC. Prodr. xi. p. 553; A. Gr. Synop. Fl. N. Am. ii. p. 337.

TEXAS TO ARIZONA and CALIFORNIA.—NORTH MEXICO, Chihuahua (*Potts*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 719); SOUTH MEXICO, Vera Cruz to Orizaba (*Müller*, 1319), Cordillera of Vera Cruz, at 5000 feet (*Galeotti*, 736), valley of Mexico (*Schaffner*), Leon (*Hartweg*), Zimapan (*Coulter*, 1149, in part). Hb. Kew.

8. **Verbena delicatula**, Mart. et Zucc. in Otto & Dietr. Allg. Gartenz. n. 245; DC. Prodr. xi. p. 555.

SOUTH MEXICO, Tehuantepec (*Karwinski*).

9. **Verbena ehrenbergiana**, Schauer in Linnæa, xx. p. 477; DC. Prodr. xi. p. 548.

SOUTH MEXICO, near Los Reyes (*Ehrenberg*).

10. **Verbena elegans**, H. B. K. Nov. Gen. et Sp. ii. p. 273; DC. Prodr. xi. p. 554.

"*Verbena moranensis*, H. B. K. loc. cit.," ex Schauer in DC. Prodr. loc. cit.

SOUTH MEXICO, between Moran and Regla, at 7800 feet (*Humboldt & Bonpland*), Villalpando (*Mendez*).

11. **Verbena exilis**, Schauer in DC. Prodr. xi. p. 553.

SOUTH MEXICO, Huaxalote (*Ehrenberg*).

12. **Verbena littoralis**, H. B. K. Nov. Gen. et Sp. ii. p. 276, t. 137; DC. Prodr. xi. p. 542.

Verbena affinis, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 6).

SOUTH MEXICO, Orizaba (*Botteri*, 659, 660), Morelia, at 6000 feet, and Regla, at 5000 feet (*Galeotti*, 781, 783), Tacubaya (*Graham*, 291), near Mexico (*Bourgeau*, 360); GUATEMALA (*Bernoulli*, 128); PANAMA, Boquete (*Seemann*, 1154).—The same species apparently extends southward to PERU, BRAZIL, and URUGUAY. Hb. Kew.

13. **Verbena longifolia**, Mart. et Gal. in Bull. Acad. Brux. xi. p. 323; DC. Prodr. xi. p. 555.

SOUTH MEXICO, Ario, Michoacan, at 4000 feet (*Galeotti*, 791).

14. **Verbena officinalis**, Linn. Sp. Plant. p. 29; DC. Prodr. xi. p. 547; A. Gr. Synop. Fl. N. Am. ii. p. 335; Fl. Dan. t. 628; Lam. Ill. t. 17.

Verbena setosa, Mart. et Gal. in Bull. Acad. Brux. xi. p. 321.

Verbena menthaefolia, Benth. Pl. Hartw. p. 21.

NEW JERSEY to TEXAS, ARIZONA, and CALIFORNIA.—NORTH MEXICO, Sonora (*Smith*); SOUTH MEXICO, Leon (*Hartweg*), Orizaba (*Botteri*, 661), Real del Monte (*Coulter*, 1142).—This is very widely dispersed in the Old World, and it is now very common in some parts of North America; but Dr. Gray regards it as an introduced plant. Hb. Kew.

15. **Verbena rhinanthifolia**, Mart. et Gal. in Bull. Acad. Brux. xi. p. 323; DC. Prodr. xi. p. 555.

SOUTH MEXICO, Santa Maria, near Morelia, Michoacan, at 6500 feet (*Galeotti*, 794).

16. **Verbena teucრიifolia**, Mart. et Gal. in Bull. Acad. Brux. xi. p. 323; DC. Prodr. xi. p. 555.

SOUTH MEXICO, peak of Orizaba, at 10,500 feet (*Galeotti*, 777). Hb. Kew.

17. **Verbena trifida**, H. B. K. Nov. Gen. et Sp. ii. p. 273; DC. Prodr. xi. p. 539.

SOUTH MEXICO, between the village of Totonilco el Grande and the bridge of the Holy Virgin, at 5400 feet (*Humboldt & Bonpland*).

18. **Verbena urticæfolia**, Linn. Hort. Ups. p. 9; DC. Prodr. xi. p. 546; Griseb. Fl. Brit. W. Ind. p. 493; A. Gr. Synop. Fl. N. Am. ii. p. 335.

CANADA to TEXAS.—MEXICO (ex *Grisebach*).—WEST INDIES.

19. **Verbena xutha**, Lehm. Ind. Sem. Hort. Hamb. 1834; Linnæa, x. Literat.-Bl. p. 115; A. Gr. Synop. Fl. N. Am. ii. p. 335.

Verbena cærulea, Vatke in App. Ind. Sem. Hort. Berol. 1876.

LOUISIANA and TEXAS to CALIFORNIA.—MEXICO (ex *A. Gray*).

7. TAMONEA.

Tamonea, Aubl. Pl. Guian. ii. p. 659, t. 268; Benth. et Hook. Gen. Plant. ii. p. 1147.

Four herbaceous or half-shrubby species, inhabiting Tropical America, from Mexico to Brazil.

1. **Tamonea scabra**, Ch. et Schl. in Linnæa, v. p. 99; DC. Prodr. xi. p. 529.

SOUTH MEXICO, between Mesachica and Mapilque (*Schiede & Deppe*), woods near Zacuapan, at 3000 feet (*Galeotti*, 747). Hb. Kew.

8. PETRÆA.

Petræa, Linn. Gen. Plant. n. 764; Benth. et Hook. Gen. Plant. ii. p. 1149.

Twining shrubs or small trees. About twelve species, inhabiting Tropical America from Mexico and the West Indies to Bolivia and Brazil.

1. **Petræa arborea**, H. B. K. Nov. Gen. et Sp. ii. p. 282; Griseb. Fl. Brit. W. Ind. p. 498.

Petræa mexicana, Willd., ex Schauer in DC. Prodr. xi. p. 619.

Petræa erecta, Lodd. Bot. Cab. t. 1606.

Petræa ovata, Mart. et Gal. in Bull. Acad. Brux. xi. p. 329.

SOUTH MEXICO, Cordillera of Vera Cruz, 6000 feet (*Galeotti*, 795; *Linden*, 18; *Jurgensen*, 28), valley of Cordova (*Bourgeau*, 2125), Zimapan (*Coulter*, 1174), Actopan (*Schiede*), Tampico (*Berlandier*; *Palmer*).—VENEZUELA; TRINIDAD. Hb. Kew.

2. **Petræa volubilis**, Jacq. Amer. p. 180, t. 114; DC. Prodr. xi. p. 618; Griseb. Fl. Brit. W. Ind. p. 498; Bot. Mag. t. 628.

PANAMA, Lion-Hill station (*S. Hayes*), near Panama (*Seemann*, 594).—Southward to BRAZIL, and in the WEST INDIES. Hb. Kew.

3. **Petræa**, sp.

SOUTH MEXICO, Yucatan and Tabasco (*Johnson*, 106). Hb. Kew.

Perhaps not different from *P. volubilis*; specimen imperfect.

9. CITHAREXYLUM.

Citharexylum, Linn. Gen. Plant. n. 760; Benth. et Hook. Gen. Plant. ii. p. 1149.

About twenty arboreous and shrubby species, inhabiting Tropical America from Mexico to Bolivia and Brazil.

Probably half of the following names are synonyms.

1. **Citharexylum affine**, D. Don in Edinb. New Phil. Journ. 1831, p. 238; DC. Prodr. xi. p. 611.

SOUTH MEXICO, Chalco (*Andrieux*, 135), Zimapan (*Coulter*, 1173), without locality (*Moçino & Sessé*). Hb. Kew.

2. **Citharexylum caudatum**, Linn. Sp. Pl. p. 872; DC. Prodr. xi. p. 612.

Citharexylum erectum, Jacq. Ic. Rar. t. 501.

Citharexylum lucidum, Ch. et Schl. in Linnæa, v. p. 97.

SOUTH MEXICO, Mirador (*Linden*, 32), Jalapa, 2500 feet (*Galeotti*, 7051); PANAMA, Chagres (*Fendler*, 290).—JAMAICA; CUBA. Hb. Kew.

Grisebach (Fl. Brit. W. Ind. p. 497) regards *C. caudatum*, Linn., and *C. lucidum*, Ch. et Schl., as distinct species, recording the former as from Jamaica only.

3. **Citharexylum ellipticum**, Sessé et Moç., ex D. Don in Edinb. New Phil. Journ. 1831, p. 238; DC. Prodr. xi. p. 614.

MEXICO.

4. **Citharexylum incanum**, Sessé et Moç., ex D. Don in Edinb. New Phil. Journ. 1831, p. 238; DC. Prodr. xi. p. 614.

MEXICO (*Moçino & Sessé*).

5. **Citharexylum lycioides**, D. Don in Edinb. New Phil. Journ. 1831, p. 237; DC. Prodr. xi. p. 614.

MEXICO (*Moçino & Sessé*).

6. **Citharexylum moçini**, D. Don in Edinb. New Phil. Journ. 1831, p. 238; DC. Prodr. xi. p. 614.

MEXICO (*Moçino & Sessé*).

7. **Citharexylum reticulatum**, H. B. K. Nov. Gen. et Sp. ii. p. 257; DC. Prodr. xi. p. 613.

Citharexylum scariosum, Sessé et Moç. ex D. Don in Edinb. New Phil. Journ. 1831, p. 238.

Citharexylum affine, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 12).

SOUTH MEXICO, near Vera Cruz (*Linden*, 11, 71; *Schiede*, 127; *Galeotti*, 7097).—COLOMBIA; PERU. Hb. Kew.

8. **Citharexylum rugendasii**, Cham. in Linnæa, vii. p. 120; DC. Prodr. xi. p. 612.

SOUTH MEXICO, near Jalapa (*Schiede*).

9. **Citharexylum scabrum**, Moç. et Sessé, ex D. Don in Edinb. New Phil. Journ. 1831, p. 238; DC. Prodr. xi. p. 614.

MEXICO (*Moçino & Sessé*).

10. **Citharexylum sessei**, D. Don in Edinb. New Phil. Journ. 1831, p. 238; DC. Prodr. xi. p. 614.

MEXICO (*Moçino & Sessé*).

11. **Citharexylum villosum**, Jacq. Ic. Rar. t. 118; DC. Prodr. xi. p. 610; A. Gr. Synop. Fl. N. Am. ii. p. 340.

FLORIDA.—MEXICO (ex *A. Gray*).—WEST INDIES.

There are several very distinct unnamed species in Kew herbarium, which may belong to some of the foregoing; but the descriptions are very incomplete, and in the absence of the specimens upon which they were founded it is impossible to identify them.

10. DURANTA.

Duranta, Linn. Gen. Plant. n. 786; Benth. et Hook. Gen. Plant. ii. p. 1150.

Four or five shrubby species, inhabiting Tropical America from Mexico and the West Indies to Bolivia.

1. **Duranta plumieri**, Jacq. Amer. t. 176. fig. 76, et Ic. Rar. t. 502; Bot. Reg. t. 244; DC. Prodr. xi. p. 615; A. Gr. Synop. Fl. N. Am. ii. p. 340.

Duranta ellisia, Jacq. Amer. t. 176. fig. 77; Jacq. Hort. Schœnb. iii. t. 99; Bot. Mag. t. 1759.

Duranta spinosa et *D. inermis*, Linn. Sp. Pl. p. 637.

Duranta xalapensis, H. B. K. Nov. Gen. et Sp. ii. p. 255.

FLORIDA.—SOUTH MEXICO, region of Orizaba (*Müller*, 131, 1222; *Bourgeau*, 2483; BIOL. CENTR.-AMER., Bot. Vol. II., *June* 1882.

Botteri, 607), Jalapa (*Coulter*, 1164, 1165; *Linden*, 138; *Galeotti*, 745), valley of Cordova (*Bourgeau*, 2244); PANAMA, Rio Grande station (*S. Hayes*, 68).—Southward to BRAZIL and PERU and in the WEST INDIES. Hb. Kew.

11. CALLICARPA.

Callicarpa, Linn. Gen. Plant. n. 135; Benth. et Hook. Gen. Plant. ii. p. 1150.

About thirty shrubby and arboreous species are known. They are most numerous in Asia, especially in Eastern temperate and subtropical Asia, extending to Australia and Polynesia. There are one in North America and four or five in Mexico, Central America, Colombia, and the West Indies.

1. ***Callicarpa acuminata***, H. B. K. Nov. Gen. et Sp. ii. p. 252; DC. Prodr. xi. p. 644.

Callicarpa subintegerrima, H. B. K. loc. cit.

SOUTH MEXICO, Papantla (*Schiede*).—COLOMBIA.

2. ***Callicarpa parvifolia***, Hook. et Arn. Bot. Beech. Voy. p. 305; DC. Prodr. xi. p. 646.

MEXICO (*Beechey*).

12. ÆGIPHILA.

Ægiphila, Jacq. Obs. Bot. ii. p. 3, t. 27; Benth. et Hook. Gen. Plant. ii. p. 1151.

About thirty shrubby and arboreous species, inhabiting Tropical America from Mexico and the West Indies to Brazil.

1. ***Ægiphila arborescens***, Vahl, Eclog. i. p. 15, t. 10; DC. Prodr. xi. p. 649.

GUATEMALA (*Skinner*).—VENEZUELA to PERU, GUIANA, TRINIDAD, and BRAZIL. Hb. Kew.

2. ***Ægiphila brachiata***, Ch. et Schl. in Linnæa, vi. p. 371; DC. Prodr. xi. p. 654; Seem. Bot. Voy. 'Herald,' p. 189.

Ægiphila deppeana, Steud. Nomencl. Bot. ed. 2.

SOUTH MEXICO, near Estero (*Schiede*); PANAMA, David, Veraguas (*Seemann*, 1202). Hb. Kew.

3. ***Ægiphila***, sp.

SOUTH MEXICO, Vera Cruz to Orizaba (*Müller*, 1471). Hb. Kew.

4. ***Ægiphila***, sp.

COSTA RICA (*Endres*, 220). Hb. Kew.

13. PETITIA.

Petitia, Jacq. Amer. p. 14, t. 182; Benth. et Hook. Gen. Plant. ii. p. 1151.

Three shrubby or arboreous species, inhabiting the West Indies and Mexico.

1. **Petitia oleina**, Benth. et Hook. Gen. Plant. ii. p. 1152.

Sclerocoon oleinum, Benth. in Bot. Reg. 1843, Misc. p. 65.

MEXICO. Cultivated in England from seed sent home by Hartweg. Hb. Kew.

14. CORNUTIA.

Cornutia, Linn. Gen. Plant. n. 766; Benth. et Hook. Gen. Plant. ii. p. 1153.

Tall shrubs. Six species are enumerated; and they are spread nearly all over Tropical America.

1. **Cornutia grandifolia**, Schauer, in DC. Prodr. xi. p. 682.

Hosta grandifolia, Ch. et Schl. in Linnæa, v. p. 97.

Hosta grandiflora, A. Dietr. Sp. Pl. i. p. 252.

SOUTH MEXICO, near Jalapa (*Schiede & Deppe*).

2. **Cornutia longifolia**, Spreng. Syst. Veg. i. p. 39; DC. Prodr. xi. p. 682.

Hosta longifolia, H. B. K. Nov. Gen. et Sp. ii. p. 247.

MEXICO ?

3. **Cornutia pyramidata**, Linn. Sp. Pl. p. 875; DC. Prodr. xi. p. 681.

Hosta latifolia, H. B. K. Nov. Gen. et Sp. ii. p. 248.

SOUTH MEXICO, region of Orizaba (*Müller*, 977; *Bourgeau*, 2504), Totutla (*Linden*, 141), Cordillera of Vera Cruz, at 4000 feet (*Galeotti*, 757); GUATEMALA, Volcan de Fuego, 3800 feet (*Salvin*), near Ingenio de Ayarza (*Hartweg*), without locality (*Skinner*); PANAMA (*S. Hayes*, 88; *Seemann*, 257).—WEST INDIES.

15. VITEX.

Vitex, Linn. Gen. Plant. n. 790; Benth. et Hook. Gen. Plant. ii. p. 1154.

Trees and shrubs. About sixty species, generally diffused in warm regions, and extending into temperate Asia and the south of Europe.

1. **Vitex flavens**, H. B. K.? Hook. et Arn. Bot. Beech. Voy. p. 305.

MEXICO (*Beechey*).

This is not true *V. flavens*; but the specimen is too imperfect to determine.

2. **Vitex floridula**, Duchass. et Walp. in Walp. Ann. iii. p. 240.

PANAMA, without locality (*Duchassaing*), Paraiso (*S. Hayes*). Hb. Kew.

3. **Vitex gigantea**, H. B. K. Nov. Gen. et Sp. ii. p. 245; DC. Prodr. xi. p. 688.

CENTRAL AMERICA (*Barclay*).—COLOMBIA; ECUADOR. Hb. Kew.

4. **Vitex mollis**, H. B. K. Nov. Gen. et Sp. ii. p. 245; Seem. Bot. Voy. 'Herald,' p. 329, t. 71.

Vitex lasiophylla, Benth. Bot. Voy. 'Sulphur,' p. 155.

NORTH MEXICO, Sierra Madre (*Seemann*, 2117); SOUTH MEXICO, Manzanilla Bay

(*Barclay*), San Blas to Guadalajara (*Coulter*, 1168), Cuernavaca (*Bilimek*, 80, 82), Acapulco (*Beechey*), Chilpancingo, at about 4250 feet (*Humboldt & Bonpland*). Hb. Kew.

5. **Vitex**, sp.

“MEXICO” (*Jurgensen*, 68). Hb. Kew.

This is a very distinct species; but we suspect it is from Colombia rather than Mexico.

16. CLERODENDRON.

Clerodendron, Linn. Gen. Plant. n. 789; Benth. et Hook. Gen. Plant. ii. p. 1155.

A large genus of trees and shrubs, comprising about seventy species, mostly in the Old World, and chiefly concentrated in Asia.

1. **Clerodendron aculeata**, Griseb. Fl. Brit. W. Ind. p. 500.

Volkameria aculeata, Linn. Sp. Pl. p. 889; DC. Prodr. xi. p. 656; Jacq. Amer. t. 117.

GUATEMALA, San José (*S. Hayes*, 614).—CUBA to GUIANA and BRAZIL. Hb. Kew.

[*Clerodendron fragrans*, Vent. Jard. Malm. t. 70, Bot. Mag. t. 1834, a Chinese species, is cultivated and naturalized in Mexico and other parts of America.]

2. **Clerodendron ligustrinum**, R. Br. in Ait. Hort. Kew. ed. 2, iv. p. 64; DC. Prodr. xi. p. 660.

Volkameria ligustrina, Jacq. Coll. Suppl. p. 118, t. 5. fig. 1.

SOUTH MEXICO, Tampico (*Berlandier*), Tlacaltapan (*Hahn*), Yucatan and Tabasco (*Johnson*). Hb. Kew.

3. **Clerodendron**, sp.

PANAMA, Chagres (*Fendler*, 300). Hb. Kew.

4. **Clerodendron**, sp.

GUATEMALA, between Esquipulas and Jupilingo (*Bernoulli*, 748). Hb. Kew.

This and the last are distinct species; but the material is poor.

17. AVICENNIA.

Avicennia, Linn. Gen. Plant. App. n. 1237; Benth. et Hook. Gen. Plant. ii. p. 1160.

About three or four shrubby species, widely dispersed on tropical sea-shores.

1. **Avicennia tomentosa**, Jacq. Amer. p. 178, t. 112. fig. 2; DC. Prodr. xi. p. 699.

NORTH MEXICO, mouth of the Rio Grande (*Schott*); SOUTH MEXICO, Campeachy (*Humboldt & Bonpland*); GUATEMALA (*Friedrichsthal*).—COLOMBIA to BRAZIL and in the WEST INDIES. Hb. Kew.

Order CIV. LABIATÆ.

Labiata, Benth. et Hook. Gen. Plant. ii. p. 1160.

This order comprises 136 genera and about 2600 species, spread all over the world, though rare in the very coldest regions; most numerous in the eastern part of the Mediterranean region. A very large proportion of them are herbaceous plants or dwarf shrubs.

1. OCIMUM.

Ocimum, Linn. Gen. Plant. n. 732; Benth. et Hook. Gen. Plant. ii. p. 1171.

Herbs, half-shrubs, or dwarf shrubs. About forty species, widely dispersed in warm countries.

1. ***Ocimum campechianum***, Mill. Dict. n. 5; DC. Prodr. xii. p. 40.

SOUTH MEXICO, Campeachy (ex *Miller*); NEW SPAIN (*Moçino & Sessé*).

2. ***Ocimum carnosum***, Link et Otto; Benth. Lab. p. 11; DC. Prodr. xii. p. 38.

NEW SPAIN (*Moçino & Sessé*).—BRAZIL.

3. ***Ocimum micranthum***, Willd. Enum. Pl. Hort. Berol. p. 630; DC. Prodr. xii. p. 40.

FLORIDA.—NICARAGUA, Granada (*Ersted*); PANAMA, Chagres (*Fendler*, 230), Isle of Taboga (*Seemann*, 1101).—TROPICAL SOUTH AMERICA and the WEST INDIES. Hb. Kew.

4. ***Ocimum sellowii***, Benth. Lab. p. 6; DC. Prodr. xii. p. 37; Griseb. Fl. Brit. W. Ind. p. 487.

SOUTH MEXICO, Jalapa, at 4000 feet (*Galeotti*, 615; *Schiede & Deppe*), region of Orizaba (*Botteri*, 644; *Müller*, 1035), valley of Cordova (*Bourgeau*, 1593).—BRAZIL. Hb. Kew.

2. CATOPHERIA.

Catopheria, Benth. (*Orthosiphonis* sect. *Catopheria*, Benth. in DC. Prodr. xii. p. 53), Benth. et Hook. Gen. Plant. ii. p. 1173.

Three herbaceous species, inhabiting Mexico, Central America, and Colombia.

1. ***Catopheria chiapensis***, A. Gr., ex Benth. in Hook. Ic. sub t. 1215.

SOUTH MEXICO, Chiapas (*Ghiesbreght*, 157). Hb. Kew.

2. ***Catopheria capitata***, Benth. in Benth. et Hook. Gen. Pl. ii. p. 1173.

Orthosiphon capitatus, Benth. Lab. p. 29; DC. Prodr. xii. p. 53.

NEW SPAIN (*Moçino & Sessé*).—ECUADOR.

3. MARSYPIANTHES.

Marsypianthes, Mart. in Benth. Lab. p. 64; Benth. et Hook. Gen. Plant. ii. p. 1178.

Two or three herbaceous species, widely dispersed in Tropical America.

1. **Marsypianthes hyptioides**, Mart. in Benth. Lab. p. 64; DC. Prodr. xii. p. 84; Hook. Ic. Pl. t. 457.

Marsypianthes secundiflora, Mart. et Gal. in Bull. Acad. xi. (reprint, p. 1).

SOUTH MEXICO, Cordillera of Oaxaca and Cordillera of Vera Cruz, at 3000 feet (*Galeotti*, 626, 659), Mirador (*Linden*, 127); GUATEMALA, declivities near the city of Guatemala (*Hartweg*, 608); COSTA RICA (*Endres*, 94); PANAMA, near Old Panama (*Seemann*, 264).—Generally diffused in Tropical SOUTH AMERICA and the WEST INDIES. Hb. Kew.

4. HYPTIS.

Hyptis, Jacq. Collect. i. p. 101; Benth. et Hook. Gen. Plant. ii. p. 1178.

About 250 herbaceous and shrubby species, spread over the warmer parts of America; most numerous in Brazil. Several species are cultivated, and have become naturalized in other parts of the world. It is possible, however, that some of the species are indigenous in Tropical Africa. There is a considerable number of unnamed Mexican specimens in Kew herbarium, representing probably some undescribed species.

1. **Hyptis albida**, H. B. K. Nov. Gen. et Sp. ii. p. 319; DC. Prodr. xii. p. 127.

NORTH MEXICO, Sierra Madre (*Seemann*, 2073); SOUTH MEXICO, Guanajuato (*Hartweg*, 173), San Blas to Tepic (*Coulter*, 1121), without locality (*Parkinson*). Hb. Kew.

2. **Hyptis atrorubens**, Poit. Ann. Mus. Par. vii. p. 466, t. 27. fig. 3; DC. Prodr. xii. p. 108.

Hyptis procumbens, Ch. et Schl. in Linnæa, v. p. 101.

SOUTH MEXICO, Orizaba (*Botteri*, 608), Cordillera of Vera Cruz, 3000 feet (*Galeotti*, 621), valley of Cordova (*Bourgeau*, 1604).—WEST INDIES; GUIANA; BRAZIL; and in Western Tropical AFRICA. Hb. Kew.

3. **Hyptis brevipes**, Poit. Ann. Mus. Par. vii. p. 465; DC. Prodr. xii. p. 107.

MEXICO (*Schiede*).—Generally diffused in Tropical SOUTH AMERICA and the WEST INDIES; also occurring in Tropical AFRICA and ASIA. Hb. Kew.

4. **Hyptis capitata**, Jacq. Ic. Rar. i. t. 114; DC. Prodr. xii. p. 106; Poit. in Ann. Mus. Par. vii. p. 464, t. 27. fig. 1.

SOUTH MEXICO, Orizaba (*Sallé*), Yucatan and Tabasco (*Johnson*, 53); NICARAGUA, Chontales (*Seemann*, 89); PANAMA, Chagres (*Fendler*, 231), Empire station (*S. Hayes*, 324), near the city of Panama (*Seemann*, 255).—Generally dispersed in Tropical SOUTH AMERICA and the WEST INDIES, also in the GALAPAGOS. Hb. Kew.

5. **Hyptis emoryi**, Torr. Bot. Ives's Colorad. Exped. p. 20; A. Gr. Synop. Fl. N. Am. ii. p. 350.

ARIZONA; CALIFORNIA.—NORTH MEXICO (ex *A. Gray*).

6. **Hyptis excelsa**, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 4); DC. Prodr. xii. p. 111.

SOUTH MEXICO, Cordillera of Vera Cruz, 3000 feet (*Galeotti*, 624), Mirador (*Linden*, 125), Orizaba (*Botteri*, 617), Sierra San Pedro Nolasco &c. (*Jurgensen*, 723); NICARAGUA, Granada (*Ersted*, 32). Hb. Kew.

7. **Hyptis ferruginea**, Benth. Lab. p. 113; DC. Prodr. xii. p. 111.

NEW SPAIN (*Moçino & Sessé*); COSTA RICA, Volcan de Irazu (*Ersted*). Hb. Kew.

8. **Hyptis involucrata**, Benth. Lab. p. 103; DC. Prodr. xii. p. 109.

SOUTH MEXICO, Sultepec (*Karwinski*).

9. **Hyptis lantanæfolia**, Poit. in Ann. Mus. Par. vii. p. 468, t. 29. fig. 1; DC. Prodr. xii. p. 110.

SOUTH MEXICO, without locality (*Jurgensen*, 725); NICARAGUA, Chontales (*Tate*, 420); COSTA RICA, Cartago (*Ersted*); PANAMA (*Cuming*).—Southward to PERU and BRAZIL, and in the WEST INDIES. Hb. Kew.

10. **Hyptis lilacina**, Ch. et Schl. in Linnæa, v. p. 101; DC. Prodr. xii. p. 123.

SOUTH MEXICO, near Jalapa (*Schiede & Deppe*); GUATEMALA, Zunil (*Hartweg*, 555), without locality (*Skinner*; *Bernoulli*); COSTA RICA (*Endres*, 2; *Ersted*, 23, 25, 52). Hb. Kew.

11. **Hyptis macrocephala**, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 2); DC. Prodr. xii. p. 109.

SOUTH MEXICO, Michoacan (*Galeotti*, 705).

12. **Hyptis mociniana**, Benth. Lab. p. 129; DC. Prodr. xii. p. 128.

NEW SPAIN (*Moçino & Sessé*); COSTA RICA (*Ersted*). Hb. Kew.

13. **Hyptis nicaraguensis**, Erst. in Vidensk. Meddel. 1853, p. 34.

NICARAGUA, Granada (*Ersted*).

14. **Hyptis oblongifolia**, Benth. in DC. Prodr. xii. p. 125.

SOUTH MEXICO, without locality (*Jurgensen*). Hb. Kew.

15. **Hyptis odorata**, Benth. Lab. p. 81; DC. Prodr. xii. p. 89.

SOUTH MEXICO, Orizaba (*Botteri*, 881).—COLOMBIA; PERU. Hb. Kew.

16. **Hyptis parkeri**, Benth. Lab. p. 108; DC. Prodr. xii. p. 108.

GUATEMALA (*Friedrichsthal*).—GUIANA; BRAZIL. Hb. Kew.

17. **Hyptis pectinata**, Poit. in Ann. Mus. Par. vii. p. 474, t. 30; DC. Prodr. xii. p. 127.

Nepeta pectinata, Linn. Sp. Pl. p. 799.

SOUTH MEXICO, Orizaba (*Botteri*, 645), Tenancingo, valley of Toluca (*Schaffner*); NICARAGUA, Chontales (*Tate*, 174); COSTA RICA, Cartago (*Ersted*); PANAMA, Chagres (*Fendler*, 222).—Common and generally dispersed in Tropical SOUTH AMERICA and the WEST INDIES, also in Tropical and SOUTH AFRICA. Hb. Kew.

18. **Hyptis polystachya**, H. B. K. Nov. Gen. et Sp. ii. p. 321; DC. Prodr. xii. p. 121.

SOUTH MEXICO, Mirador and Zacuapan, 2500 to 3000 feet (*Galeotti*, 620), San Blas to Tepic (*Sinclair*); GUATEMALA (*Skinner*).—COLOMBIA; PERU; BOLIVIA. Hb. Kew.

19. **Hyptis pubescens**, Benth. Lab. p. 129; DC. Prodr. xii. p. 128.

NEW SPAIN (*Moçino & Sessé*).

20. **Hyptis pulegioides**, Pohl in Benth. Lab. p. 128; DC. Prodr. xii. p. 127.

COSTA RICA, Aguacate (*Ersted*, 19).—BRAZIL. Hb. Kew.

21. **Hyptis radiata**, Willd. Sp. Pl. iii. p. 84; Ann. Mus. Par. vii. t. 27. fig. 2; DC. Prodr. xii. p. 109; A. Gr. Synop. Fl. N. Am. ii. p. 350.

NORTH CAROLINA to TEXAS.—“MEXICO, hb. Pavon.” Hb. Kew.

22. **Hyptis recurvata**, Poit. in Ann. Mus. Par. vii. p. 467, t. 28. fig. 1; DC. Prodr. xii. p. 90.

SOUTH MEXICO, valley of Cordova (*Bourgeau*, 2220), region of Orizaba (*Müller*, 477; *Botteri*, 616); NICARAGUA, Chontales (*Tate*, 419).—COLOMBIA; GUIANA; BRAZIL. Hb. Kew.

23. **Hyptis rhomboidea**, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 4); DC. Prodr. xii. p. 110.

SOUTH MEXICO, near Vera Cruz (*Galeotti*, 679).

24. **Hyptis rhytidea**, Benth. Pl. Hartw. p. 21; DC. Prodr. xii. p. 118; Seem. Bot. Voy. ‘Herald,’ p. 327.

NORTH MEXICO, Cerro de Pinal (*Seemann*, 1497); SOUTH MEXICO, Aguas Calientes (*Hartweg*), San Blas to Tepic (*Sinclair*). Hb. Kew.

25. **Hyptis spicata**, Poit. Ann. Mus. Par. vii. p. 474, t. 28. fig. 2; DC. Prodr. xii. p. 121; A. Gr. Synop. Fl. N. Am. ii. p. 350.

Hyptis aspera, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 5).

FLORIDA.—NORTH MEXICO, Sonora (*Thurber*); SOUTH MEXICO, region of Orizaba (*Botteri*, 650; *Bourgeau*, 3032), valley of Cordova (*Bourgeau*, 1549, 1590, 1592), San Blas to Tepic (*Sinclair*), Vera Cruz (*Linden*, 73, 128; *Galeotti*, 620); NICARAGUA,

neighbourhood of Granada (*Lévy*, 189); COSTA RICA (*Ersted*, 41; *Endres*, 12, 245); PANAMA, Chagres (*Fendler*, 226).—TRINIDAD and southward to BUENOS AYRES. Hb. Kew.

26. **Hyptis spicigera**, Lam. Dict. iii. p. 185; DC. Prodr. xii. p. 87; A. Gr. Synop. Fl. N. Am. ii. p. 350; Descourt. Ant. viii. t. 581.

FLORIDA ("perhaps introduced," *A. Gray*).—PANAMA, Empire station (*S. Hayes*, 436).—TROPICAL SOUTH AMERICA and the WEST INDIES; also TROPICAL AFRICA and ASIA. Hb. Kew.

27. **Hyptis spinulosa**, Benth. Lab. p. 129; DC. Prodr. xii. p. 128, non p. 124. NEW SPAIN (*Moçino & Sessé*).

28. **Hyptis stellulata**, Benth. Lab. p. 129; DC. Prodr. xii. p. 128.

SOUTH MEXICO, region of Orizaba (*Müller*, 598; *Bourgeau*, 3046; *Botteri*, 647), Cordillera of Oaxaca, 4000 to 5000 feet (*Galeotti*, 7137), valley of Mexico (*Bourgeau*, 1277), Cuernavaca (*Berlandier*), Aguas Calientes (*Hartweg*). Hb. Kew.

β . **sinclairi**, Benth. in DC. Prodr. xii. p. 128.

SOUTH MEXICO, Acapulco (*Sinclair*). Hb. Kew.

29. **Hyptis suaveolens**, Poit. in Ann. Mus. Par. vii. p. 472, t. 29. fig. 2; DC. Prodr. xii. p. 126.

Ballota suaveolens, Linn.; Jacq. Hort. Vindob. iii. t. 42.

NICARAGUA, Chontales (*Tate*, 284), Realejo (*Sinclair*); PANAMA (*S. Hayes*, 336; *Seemann*, 250).—COMMON in TROPICAL SOUTH AMERICA and the WEST INDIES, also in INDIA. Hb. Kew.

30. **Hyptis tomentosa**, Poit. in Ann. Mus. Par. vii. p. 469; DC. Prodr. xii. p. 131.

SOUTH MEXICO, Oaxaca (*Ghiesbreght*), between Tehuacan and Oaxaca, at 3000 to 4000 feet (*Galeotti*, 7155), without locality (*Jurgensen*, 7). Hb. Kew.

31. **Hyptis umbrosa**, Salzm. in Benth. Lab. p. 125; DC. Prodr. xii. p. 124.

PANAMA, Santiago de Veraguas (*Seemann*, 252).—COLOMBIA to PERU, GUIANA, and BRAZIL. Hb. Kew.

32. **Hyptis urticoides**, H. B. K. Nov. Gen. et Sp. ii. p. 320; DC. Prodr. xii. p. 123.

SOUTH MEXICO, region of Orizaba (*Bourgeau*, 3161; *Botteri*, 646), Cordillera of Vera Cruz, at 3000 feet (*Galeotti*, 625); GUATEMALA, Volcan de Fuego, at 4950 feet (*Salvin*). Hb. Kew.

33. **Hyptis verticillata**, Jacq. Ic. Rar. i. t. 113; DC. Prodr. xii. p. 129; Hook. Ic. Pl. t. 458.

Hyptis parviflora, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 3).

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SOUTH MEXICO, Vera Cruz (*Galeotti*, 677), Tabasco (*Linden*, 141); NICARAGUA, Greytown (*Tate*, 363); PANAMA, around the city of Panama (*Seemann*, 256; *S. Hayes*, 194).—COLOMBIA; GUIANA; BRAZIL; JAMAICA. Hb. Kew.

34. **Hyptis viejensis**, Ærst. in Vidensk. Meddel. 1853, p. 34.
NICARAGUA, Volcan el Viejo (*Ærsted*).

35. **Hyptis vulcanica**, Seem. Bot. Voy. 'Herald,' p. 188.
PANAMA, Volcan de Chiriqui (*Seemann*, 1603). Hb. Kew.

5. MENTHA.

Mentha, Linn. Gen. Plant. n. 713; Benth. et Hook. Gen. Plant. ii. p. 1182.

About twenty-five herbaceous species, inhabiting the temperate regions of both hemispheres, and also represented within the tropics in the Old World.

1. **Mentha canadensis**, Linn. Sp. Pl. p. 577; DC. Prodr. xii. p. 173; A. Gr. Synop. Fl. N. Am. ii. p. 352.

CANADA southward.—MEXICO, Tacubaya (*Schaffner*). Hb. Kew.

[*M. arvensis*, Linn., and *M. rotundifolia*, Linn. (*M. mexicana*, Mart. et Gal.), European species, are naturalized in some parts of Mexico.]

6. CUNILA.

Cunila, Linn. Gen. Plant. n. 35, pro parte; Benth. et Hook. Gen. Plant. ii. p. 1183.

About twelve herbaceous and shrubby species, inhabiting North America, Mexico, and Brazil.

1. **Cunila leucantha**, Benth. Lab. p. 361; DC. Prodr. xii. p. 181.
MEXICO.

2. **Cunila lythrifolia**, Benth. in Bot. Reg. xv. sub t. 1289; DC. Prodr. xii. p. 181.

SOUTH MEXICO, valley of Mexico (*Bourgeau*, 861; *Schaffner*, 408), without locality (*Bates*), Cordillera of Guichilapa (*Berlandier*). Hb. Kew.

3. **Cunila polyantha**, Benth. Lab. p. 362; DC. Prodr. xii. p. 181.
MEXICO (*Berlandier*; *Schiede & Deppe*; *Sumichrast*); GUATEMALA, Volcan de Fuego, at 6500 feet and at 10,500 feet (*Salvin*). Hb. Kew.

The Guatemalan plant may be specifically different from the Mexican.

4. **Cunila stachyoides**, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 6); DC. Prodr. xii. p. 181.

SOUTH MEXICO, Orizaba (*Galeotti*, 711).

7. MICROMERIA.

Micromeria, Benth. in Bot. Reg. sub t. 1282; Benth. et Hook. Gen. Plant. ii. p. 1188.

Undershrubs or herbs. About sixty species, chiefly concentrated in the Mediterranean region; one is South-African; and several occur in North-west America, Mexico, the West Indies, and Andine South America. The genus is apparently not represented in Brazil and the Indo-Australian region.

1. ***Micromeria brownei***, Benth. Lab. p. 372; DC. Prodr. xii. p. 223; A. Gr. Synop. Fl. N. Am. ii. p. 359; Fl. Bras. viii. t. 32.

FLORIDA; TEXAS.—NORTH MEXICO, Nuevo Leon (*Palmer*); SOUTH MEXICO, Vera Cruz to Orizaba (*Müller*, 104, 1149); GUATEMALA (*Bernoulli*, 207).—VENEZUELA; ECUADOR; JAMAICA. Hb. Kew.

2. ***Micromeria xalapensis***, Benth. Lab. p. 372; DC. Prodr. xii. p. 223.

Thymus xalapensis, H. B. K. Nov. Gen. et Sp. ii. p. 316.

NORTH MEXICO, Monterey (*Eaton & Edwards*); SOUTH MEXICO, near Jalapa (*Humboldt & Bonpland*; *Schiede & Deppe*; *Galeotti*, 619), Orizaba (*Botteri*, 615), valley of Cordova (*Bourgeau*, 1808); GUATEMALA, Volcan de Fuego, 4600 to 5000 feet (*Salvin*). Hb. Kew.

The specimen from Guatemala looks a little different.

3. ***Micromeria stolonifera***, Benth. Lab. p. 371; DC. Prodr. xii. p. 223.

NEW SPAIN (*Moçino & Sessé*).

8. HEDEOMA.

Hedeoma, Pers. Syn. ii. p. 131; Benth. et Hook. Gen. Plant. ii. p. 1188.

About fifteen species of herbs and small shrubs, inhabiting North and South America.

1. ***Hedeoma costata***, Hemsley, n. sp.

Nana, basi suffruticosa, tota plus minus albo-pilosa, foliis parvis rhomboideis vel ellipticis dentatis subtus prominenter costatis, verticillastris paucifloris, calyce prominenter 13-nervi curvato subbilabiato, dentibus 2 anticis paullo longioribus, corollæ tubo leviter exserto angusto, staminodiis minutis clavatis, stylo inæqualiter bilobo.

Herba perennis, basi suffruticosa, omnino plus minus albo-pilosa, ramis numerosis, adscendentibus, in specimine unico Ghiesbreghtiano vix 4-pollicaribus, internodiis brevissimis. *Folia* subcoriacea, breviter petiolata, rhomboidea vel elliptica, ad 3 lineas longa, dentata, subtus prominenter 7-costata. *Flores* purpurei vel rosei, 8-9 lineas longi; verticillastri pauciflori, densi; calyx prominenter 13-nervus, curvatus, subinflatus, supra medium constrictus, subbilabiatus, dentibus acerosis, ciliatis, 2 anticis longioribus; corollæ tubus angustus, breviter exsertus, extus puberulus, intus exannulatus, labio postico bifido, antico fere æqualiter trilobato; stamina 2 antica fertilia; staminodia minuta, clavata; stylus inæqualiter bifidus, lobo postico brevissimo. *Nuculæ* oblongæ, læves.

NORTH MEXICO, east of Saltillo, at 10,000 feet (*Palmer*, 1059); SOUTH MEXICO, Chiapas &c. (*Ghiesbreght*, 815). Hb. Kew.

We have seen only one specimen of this, but it seems a very distinct species, having small strongly ribbed leaves. Since the foregoing was written we have received Palmer's 1059, which appears to be the same species, though it is much less pilose.

2. **Hedeoma dentata**, Torr. Bot. U.S. & Mex. Bound. Surv. p. 130; A. Gr. Synop. Fl. N. Am. ii. p. 363.

ARIZONA.—NORTH MEXICO, at Santa Cruz, Sonora, within the old boundary (*Thurber*).

3. **Hedeoma drummondii**, Benth. Lab. p. 308; DC. Prodr. xii. p. 245; A. Gr. Synop. Fl. N. Am. ii. p. 362.

COLORADO and NEBRASKA to TEXAS and ARIZONA.—NORTH MEXICO, Monclova, Coahuila (*Palmer*, 1057), Chihuahua (*Wright*), Monterey (*Berlandier*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 738). Hb. Kew.

4. **Hedeoma hyssopifolia**, A. Gr. Proc. Am. Acad. xi. p. 96; Synop. Fl. N. Am. ii. p. 363.

ARIZONA.—NORTH MEXICO, on Mount Graham, within the old boundary (*Rothrock*). Hb. Kew.

5. **Hedeoma palmeri**, Hemsley, n. sp. (Tab. LXIX. B. figg. 6–9.)

Hirsuta, caule procumbente radicante, ramis numerosis erectis vel adscendentibus, foliis orbiculari-oblongis iis *Origani vulgaris* simillinis, verticillastris usque 20–24-floris, calyce subæqualiter 5-dentato leviter curvato, corollæ tubo (longiore quam calyx) intus extusque plus minusve hirsuto, labio postico bifido, antico fere æqualiter trifido, staminodiis minutis.

Herba perennis, hirsuta, basi suffrutescens, caule procumbente, radicante, ramis numerosis, erectis vel adscendentibus, usque sesquipedalibus, graciliusculis, in exemplariis nostris purpureis. *Folia* petiolata (iis *Origani vulgaris* simillima) elliptico-oblonga vel orbicularia, cum petiolo 6–12 lineas longa vel inferiora interdum ultra, integra vel remote denticulata. *Flores* parvi, purpurei; verticillastri densi, in axillis foliorum supremorum breviter pedunculati, usque 20–24-flori; bracteæ lineares, pilosæ; calyx albo-pilosus, subæqualiter 5-dentatus, leviter curvatus, 13-nervis; tubus intus glaber, fauce villosa, post anthesin clausa; dentes subulati, erecti, tubo paullo breviores; corollæ tubus calyce paullo longior, intus sparse puberulus, exannulatus, extus hirsutus, labio postico erecto bifido, apice extus barbato, labio antico patente, fere æqualiter trilobo, lobo intermedio longiore; stamina 2 antica perfecta breviter exserta; antherarum loculi divaricati; staminodia minuta, filiformia; stylus bifidus, lobis valde inæqualibus, postico fere obsoleto. *Nucula* oblongæ, subtrigonæ, læves.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 728). Hb. Kew.

EXPLANATION OF TAB. LXIX. B.

Fig. 6, a flower; 7, a corolla, laid open; 8, upper filament and anther; 9, pistil and disk: all enlarged.

6. **Hedeoma piperita**, Benth. Lab. p. 730; DC. Prodr. xii. p. 245.

NEW SPAIN (*Moçino & Sessé*); SOUTH MEXICO, Real del Monte (*Coulter*, 1082)? Hb. Kew.

7. **Hedeoma rotundifolia**, Hemsley, n. sp.

Cano-pubescentis, ramis vel caulibus erectis, foliis parvis petiolatis crassiusculis orbicularibus vel ellipticis, verticillastris usque 30-floris subracemosis, calyce subæqualiter profunde 5-dentato, corollæ pilosulæ tubo brevioris quam calyx intus antice furfuraceo, labio postico integro, antico trilobato, lobis lateralibus latioribus, staminodiis minimis.

Herba perennis (?), cano pubescens, ramis vel caulibus erectis, pedalis. *Folia* petiolata, crassiuscula, orbicularia vel elliptica, cum petiolo 4-6 lineas longa, integra, margine recurva, subtus præcipue cano vel albido pubescentia vel villosula. *Flores* parvi; verticillastri densi, subracemosi, usque 30-flori; bracteæ lineares, pilosæ; calyx albo vel cano pilosus, subæqualiter 5-dentatus, 13-nervis; tubus intus glaber, fauce villosa post anthesin clausa; dentes subulati, erecti, tubo paullo breviores; corollæ pilosulæ tubus calyce paulo brevior, intus antice furfurascens, exannulatus, labio postico erecto, integro, antico trilobato, lobis lateralibus multo latioribus, intermedio basi cuneato, apice dilatato, emarginato; stamina 2 antica perfecta breviter exserta; antherarum loculi connectivo crassiusculo divaricati; staminodia minima; stylus inæqualiter bifidus. *Nucula* ovato-oblongæ, læves.

SOUTH MEXICO, Zimapan (*Coulter*, 1081). Hb. Kew.

This is closely allied to *H. palmeri*, differing in its thicker foliage, shorter corolla-tube with a broader lower lip and entire upper lip, and in its very minute staminodes.

8. **Hedeoma tenella**, Hemsley, n. sp.

Ramis procumbentibus gracillimis puberulis, foliis petiolatis ovatis dentatis, verticillastris paucis in apicibus ramorum, corollæ tubo angustissimo longe exserto.

Herba, ut videtur, perennis, ramis procumbentibus, filiformibus, leviter puberulis, 6-9 poll. longis. *Folia* longe graciliterque petiolata, tenuia, glabrescentia, ovata, cum petiolo usque ad 10 lineas longa, integra vel paucidentata, obtusa vel rotundata, subtus sæpe purpurea. *Flores* purpurei, elongati, ad 10 lineas longi; verticillastri pauci, pauciflori, in apicibus ramorum congesti; calyx pilosus, subæqualiter 5-dentatus, 13-nervis, dentibus subulatis, fauce villosa; corolla angustissima extus puberula, quam calyx triplo longior, intus exannulata, labio postico emarginato vel bifido, antico subæqualiter trilobato, lobis omnibus latis rotundatis; stamina perfecta 2, antheris approximatis; staminodia minima. *Nucula* oblongæ, læves.

NORTH MEXICO, Guajuco, Nuevo Leon (*Palmer*, 1060). Hb. Kew.

9. POLIOMINTHA.

Poliomintha, A. Gr. in Proc. Am. Acad. viii. pp. 295, 365; Benth. et Hook. Gen. Plant. ii. p. 1189.

About six half-shrubby species, inhabiting the Texano-Mexican region.

1. **Poliomintha glabrescens**, A. Gray, MSS.

“Fruticulosa, primum tomentuloso-canescens, mox glabrata; foliis crebris parvis (lin. 3-5 longis) oblongo-linearibus obtusissimis eveniis supra viridibus cito glabris utrinque eximie punctatis; calycis dentibus sublanceolatis obtusiusculis, tubo plus dimidio brevioribus, semper erectis; corolla extus villosa, tubo incluso intus piloso-annulato; staminodiis exiguis.”

NORTH MEXICO, Soledad, twenty-five miles south-west of Monclova, Coahuila (*Palmer*, 1056). Hb. Kew.

2. **Poliomintha incana**, A. Gr. in Proc. Am. Acad. viii. p. 296.

Hedeoma incana, Torr. Bot. U.S. & Mex. Bound. Surv. p. 130.

UTAH to TEXAS.—NORTH MEXICO, Sonora (*Parry*).

3. **Poliomintha longiflora**, A. Gr. in Proc. Am. Acad. viii. p. 296.

NORTH MEXICO, without locality (*Gregg*, 313). Hb. Kew.

4. **Poliomintha marifolia**, A. Gr. in Proc. Am. Acad. viii. p. 365.

Keithia marifolia, Schauer in Linnæa, xx. p. 705.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 749);
SOUTH MEXICO, Zimapan (*Aschenborn*, 212; *Coulter*, 1080). Hb. Kew.

5. **Poliomintha mollis**, A. Gr. in Proc. Am. Acad. viii. p. 365, et Synop. Fl. N. Am. ii. p. 361.

Hedeoma mollis, Torr. Bot. U.S. & Mex. Bound. Surv. p. 129.

This species has hitherto only been collected on the Texan bank of the Rio Grande.

10. GARDOQUIA.

Gardoquia, Ruiz et Pav. Prodr. Fl. Peruv. et Chil. p. 86, t. 17; Benth. et Hook. Gen. Plant. ii. p. 1189.

About twenty-eight herbaceous, half-shrubby, and shrubby species, ranging from Mexico to Chili.

1. **Gardoquia helleri**, Peyr. in Linnæa, xxx. p. 34.

SOUTH MEXICO, Orizaba, Tepetitlan, 8000 to 9000 feet (*Heller*, 212).

2. **Gardoquia mexicana**, Benth. Pl. Hartw. p. 50; DC. Prodr. xii. p. 235.

SOUTH MEXICO, between Regla and the Barranca (*Hartweg*, 377), Orizaba (*Botteri*, 839), Zimapan (*Coulter*, 1130), Vera Cruz to Orizaba (*Müller*, 328). Hb. Kew.

3. **Gardoquia micromerioides**, Hemsley, n. sp. (Tab. LXIX. A. figg. 1-5.)

Suffruticosa, præter flores cito glabrescens, foliis parvis subsessilibus lineari-oblongis, floribus axillaribus solitariis longiuscule pedunculatis, calyce elongato fere æqualiter 5-dentato, fauce pilis longis albis clausa, dentibus lineari-subulatis paullo brevioribus quam tubus, corollæ labio antico æqualiter trilobato, lobis rotundatis.

Suffrutex ramosus, erectus, 6-15-pollicaris, præter flores cito glabrescens, ramis gracilibus, nitidis, internodiis sæpissime brevioribus quam folia. *Folia* subcoriacea, subsessilia, lineari-oblonga vel anguste lanceolata, 3-9 lineas longa, obtusiuscula, integerrima, utrinque prominenter glandulosa, venis immersis inconspicuis. *Flores* axillares, solitarii, 6-9 lineas longi, pedunculati, basi bibracteolati; pedunculi graciles, 3-4 lineas longi, suberecti; bracteolæ anguste lanceolatæ, 1-1½ lineam longæ; calyx siccus atro-purpureus, angustus, 3-4 lineas longus, præter faucem glaber, 13-nervis, dentibus subæqualibus, lineari-subulatis, quam tubus paullo brevioribus, fauce pilis longis albis clausa; corolla fere recta, hirsuta, labio postico bifido, antico æqualiter trilobato, lobis oblongis, rotundatis; stamina 4, longiora labium posticum vix æquantia; stylus inæqualiter bifidus. *Nuculæ* maturæ non visæ.

NORTH MEXICO, San Luis Potosi (*Schaffner*, 70; *Parry & Palmer*, 244). Hb. Kew.

In habit this closely resembles *Hedeoma hyssopifolia*, A. Gr., and *Micromeria boliviana*, Benth.; and it is almost intermediate in its floral characters between *Micromeria* and *Gardoquia*.

EXPLANATION OF TAB. LXIX. A.

Fig. 1, a flower; 2, a corolla, laid open; 3, back view of a stamen; 4, front view of a stamen; 5, a pistil and disk: all enlarged.

11. CALAMINTHA.

Calamintha, Moench. Meth. p. 408; Benth. et Hook. Gen. Plant. ii. p. 1190.

Herbs, undershrubs, or shrubs. There are about forty species, widely diffused in the temperate regions of both hemispheres.

1. *Calamintha macrostema*, Benth. in DC. Prodr. xii. p. 229.

NORTH MEXICO, Sierra Madre (*Seemann*, 2094); SOUTH MEXICO, valley of Mexico (*Bourgeau*, 989; *Schaffner*, 378; *Bilimek*, 326), plateau of Mexico (*Ghiesbreght*), Toluca (*Andrieux*, 155), Cordillera of Vera Cruz, 7000 to 8500 feet (*Galeotti*, 635), Vera Cruz to Orizaba (*Müller*, 184). Hb. Kew.

[*Majorana mexicana*, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 7), Mr. Bentham suggests (DC. Prodr. xii. p. 196) may be *Origanium majorana*, escaped from gardens.]

12. LEPECHINIA.

Lepechinia, Willd. Hort. Berol. t. 21; Benth. et Hook. Gen. Plant. ii. p. 1192.

Mexican herbs.

1. *Lepechinia procumbens*, Benth. Lab. p. 415; DC. Prodr. xii. p. 259.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 734); SOUTH MEXICO, near San Miguel del Soldado and La Joya (*Schiede*), Chiapas (*Ghiesbreght*, 740). Hb. Kew.

2. *Lepechinia spicata*, Willd. Hort. Berol. i. p. 21, t. 21; DC. Prodr. xii. p. 259; Bot. Reg. t. 1292.

Horminum caulescens, Ort. Dec. p. 63.

SOUTH MEXICO, region of Orizaba (*Bourgeau*, 2836), Tenancingo, valley of Toluca (*Schaffner*), valley of Mexico (*Schaffner*, 407). Hb. Kew.

3. *Lepechinia*, sp. (*L. procumbentis* var. ?).

COSTA RICA, Volcan de Irazu (*Ersted*). Hb. Kew.

13. DEKINIA.

Dekinia, Mart. et Gal. in Bull. Acad. Brux. xi. 2, p. 195; Benth. et Hook. Gen. Plant. ii. p. 1193.

A Mexican herbaceous monotype.

1. *Dekinia coccinea*, Mart. et Gal. in Bull. Acad. Brux. xi. 2, p. 195; DC. Prodr. xii. p. 258.

SOUTH MEXICO, meadows of Totozinapa, on the road between Coscomatepec and Vaqueria del Jacal, at 8000 feet (*Galeotti*, 676).

14. SPHACELE.

Sphacele, Benth. in Bot. Reg. sub t. 1289; Benth. et Hook. Gen. Plant. ii. p. 1193.

Shrubs or undershrubs. About twenty species, whereof one inhabits the Sandwich Islands and the rest America, chiefly western, from California to Chili.

1. **Sphacele alpina**, Ærst. in Vidensk. Meddel. 1853, p. 36.

COSTA RICA, Volcan de Irazu, 9600 to 10,000 feet (*Ærsted*).

2. **Sphacele mexicana**, Schauer in Linnæa, xx. p. 707; DC. Prodr. xii. p. 257.

SOUTH MEXICO, around Zimapan (*Aschenborn*, 256).

15. SALVIA.

Salvia, Linn. Gen. Plant. n. 39; Benth. et Hook. Gen. Plant. ii. p. 1194.

Herbs, undershrubs, and shrubs. About 450 species, very widely dispersed in temperate regions, including the mountains within the tropics. The greatest concentrations of species are in Mexico and the Mediterranean region. Only one occurs in Australia; and that is a very common Asiatic species. There is probably a considerable number of undescribed species among the unnamed specimens in Kew herbarium; but the genus is too large for us to undertake a revision of it.

1. **Salvia affinis**, Ch. et Schl. in Linnæa, v. p. 99; DC. Prodr. xii. p. 341.

SOUTH MEXICO, near Jalapa (*Schiede & Deppe*), Cordillera of Guichilapa (*Berlandier*). Hb. Kew.

2. **Salvia agglutinans**, Lag. Gen. et Sp. Nov. p. 2; DC. Prodr. xii. p. 332.

NEW SPAIN (*Mocino, Sessé, & Cervantes*).

3. **Salvia albiflora**, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 16); DC. Prodr. xii. p. 307.

NORTH MEXICO, Sonora (*Thurber; Schott*); SOUTH MEXICO, region of Orizaba (*Botteri*, 640; *Müller*, 1948), neighbourhood of Tabasco (*Linden*, 126), Cordillera of Vera Cruz, 3000 feet (*Galeotti*, 612); PANAMA, Cruces (*Seemann*, 514).—VENEZUELA. Hb. Kew.

4. **Salvia alvayaca**, Ærst. in Vidensk. Meddel. 1853, p. 38.

COSTA RICA, mountains of Candelaria and Volcan de Irazu, 6000 to 7000 feet (*Ærsted*).

5. **Salvia angustifolia**, Cav. Ic. Pl. iv. p. 9, t. 317; DC. Prodr. xii. p. 301; A. Gr. Synop. Fl. N. Am. ii. p. 369; Bot. Reg. t. 1554; Sweet's Brit. Fl. Gard. ser. 2, t. 219.

Salvia reptans, Jacq. Hort. Schoenb. t. 319.

Salvia virgata, Ort. Dec. i. p. 3.

TEXAS.—SOUTH MEXICO, Tizapan (*Bourgeau*, 125), Real del Monte (*Coulter*, 1111), Regla (*Galeotti*, 695), valley of Mexico (*Schaffner*, 417), Aguas Calientes (*Hartweg*, 163). Hb. Kew.

6. **Salvia amarissima**, Ort. Dec. p. 4; DC. Prodr. xii. p. 317; Bot. Reg. t. 347.
Salvia amara, Jacq. Hort. Schœnb. t. 255.
Salvia circinata, Cav. Ic. Pl. iv. p. 9, t. 318.
Salvia nepetoides, H. B. K. Nov. Gen. et Sp. ii. p. 299, t. 150.
 NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 752);
 SOUTH MEXICO, valley of Mexico (*Berlandier*, 697, 776, 788, 809, 839; *Bilimek*, 303,
 304; *Bourgeau*, 125), Oaxaca (*Ghiesbreght*), Tlalpujahua (*Graham*, 88); GUATEMALA,
 Volcan de Fuego (*Godman & Salvin*). Hb. Kew.
7. **Salvia aristulata**, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 7); DC.
 Prodr. xii. p. 340.
 SOUTH MEXICO, Capulalpan and Sierra de Llano Verde, eastern Cordillera of Oaxaca,
 6000 to 7000 feet (*Galeotti*, 717).
8. **Salvia aspera**, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 11); DC. Prodr.
 xii. p. 327.
 SOUTH MEXICO, limestone rocks at 5000 feet in the Cordillera of Oaxaca (*Galeotti*,
 642). Hb. Kew.
9. **Salvia assurgens**, H. B. K. Nov. Gen. et Sp. ii. p. 293; DC. Prodr. xii. p. 304.
 SOUTH MEXICO, near Pazcuaro, at about 6800 feet (*Humboldt & Bonpland*).
10. **Salvia axillaris**, Moç. et Sessé in Benth. Lab. p. 270; DC. Prodr. xii. p. 313.
 NEW SPAIN (*Moçino & Sessé*).
11. **Salvia azurea**, Lam. Dict. vi. p. 625; DC. Prodr. xii. p. 302; A. Gr.
 Synop. Fl. N. Am. ii. p. 369; Bot. Mag. t. 1728.
Salvia acuminata, Vent. Hort. Cels. t. 50.
Salvia mexicana, Walt. Carol. p. 65, non Linn.
 NORTH CAROLINA and COLORADO south to FLORIDA and TEXAS.—NORTH MEXICO?, along
 the Rio Grande (*Wright*).
12. **Salvia ballotæflora**, Benth. Lab. p. 270; DC. Prodr. xii. p. 313; A. Gr.
 Synop. Fl. N. Am. ii. p. 371.
Salvia laxa, Benth. loc. cit.
 TEXAS.—NORTH MEXICO, Chihuahua (*Wright*), Parras, Saltillo, and Monclova (*Palmer*);
 SOUTH MEXICO, near Toliman (*Karwinski*). Hb. Kew.
13. **Salvia biserrata**, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 6); DC.
 Prodr. xii. p. 335.
 SOUTH MEXICO, peak of Orizaba, 9000 to 10,500 feet (*Linden*, 120; *Galeotti*, 683,
 684). Hb. Kew.
14. **Salvia brevicalyx**, Benth. in DC. Prodr. xii. p. 309.
 SOUTH MEXICO, Jalapa (*Linden*, 116), Cordillera of Oaxaca, 7000 to 8000 feet
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(*Galeotti*, 656), Orizaba (*Botteri*, 634); COSTA RICA, Pacaca &c. (*Ersted*); PANAMA, Boquete (*Seemann*, 1176). Hb. Kew.

15. ***Salvia breviflora***, Moç. et Sessé in Benth. Lab. p. 274; DC. Prodr. xii. p. 315.

NEW SPAIN (*Moçino & Sessé*); MEXICO (*Hænke*).

16. ***Salvia bupleuroides***, Presl in Benth. Lab. p. 271; DC. Prodr. xii. p. 300. MEXICO (*Hænke*). Hb. Kew.

17. ***Salvia cacaliæfolia***, Benth. in DC. Prodr. xii. p. 348.

SOUTH MEXICO, Chiapas, in pine-forests (*Linden*, 132; *Ghiesbreght*, 754), without locality (*Bates*). Hb. Kew.

18. ***Salvia candicans***, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 1); DC. Prodr. xii. p. 315.

SOUTH MEXICO, Tehuacan, Puebla, 3500 to 6000 feet (*Galeotti*, 641). Hb. Kew.

19. ***Salvia capitata***, Schl. in Linnæa, xxvi. p. 292; Walp. Ann. v. p. 680.

MEXICO.

20. ***Salvia chamædryoides***, Cav. Ic. Pl. ii. p. 77, t. 197; DC. Prodr. xii. p. 314; A. Gr. Synop. Fl. N. Am. ii. p. 371; Bot. Mag. t. 808.

Salvia chamædrifolia, Andr. Bot. Rep. t. 416.

Salvia chamædryis, Willd. Hort. Berol. t. 29.

TEXAS.—NORTH MEXICO, region of San Luis Potosi, 6000 to 7000 feet (*Parry & Palmer*, 750); SOUTH MEXICO, valley of Mexico (*Bourgeau*, 855), without locality (*Moçino & Sessé*; *Karwinski*; *Bates*). Hb. Kew.

21. ***Salvia chrysantha***, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 12); DC. Prodr. xii. p. 326.

SOUTH MEXICO, eastern Cordillera of Oaxaca, 6000 to 7000 feet (*Galeotti*, 666, 667); COSTA RICA, Volcan de Irazu, 9000 feet (*Ersted*, 7). Hb. Kew.

22. ***Salvia clinopodioides***, H. B. K. Nov. Gen. et Sp. ii. p. 294, t. 145; DC. Prodr. xii. p. 322.

SOUTH MEXICO, between Pazcuaro and Aguasarco, at about 6000 feet (*Humboldt & Bonpland*).

23. ***Salvia cinnabarina***, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 3); DC. Prodr. xii. p. 342.

SOUTH MEXICO, Cerro de San Felipe, near Oaxaca, 6500 to 7500 feet (*Galeotti*, 655), pine-forests between San Bartolo and Pueblo Nuevo, Chiapas (*Linden*, 131; *Ghiesbreght*, 72); GUATEMALA, oak-forests of Volcan de Fuego (*Godman & Salvin*). Hb. Kew.

24. **Salvia coccinea**, Linn. Mant. p. 88; DC. Prodr. xii. p. 343; A. Gr. Synop. Fl. N. Am. ii. p. 368; Griseb. Fl. Brit. W. Ind. p. 490.

Salvia glaucescens, Pohl, Pl. Bras. Ic. ii. t. 192.

Salvia rosea, Vahl, Enum. i. p. 244.

Salvia pseudococcinea, Jacq. Coll. ii. p. 302, et Ic. Pl. Rar. t. 209; Bot. Mag. t. 2864.

Salvia galeottii, Martens in Bull. Acad. Brux. xi. (reprint, p. 15).

Salvia ciliata, Benth. Lab. p. 286.

SOUTH CAROLINA to FLORIDA ("but probably introduced," *A. Gray*); TEXAS.—NORTH MEXICO, Matamoras (*Berlandier*), Nuevo Leon (*Thurber*); SOUTH MEXICO, Cordillera of Oaxaca, 8000 feet (*Galeotti*, 661), Papantla (*Schiede & Deppe*), valley of Cordova (*Bourgeau*, 2306), Vera Cruz (*Linden*), Jalapa, 4000 feet (*Galeotti*, 611).—SOUTH AMERICA; WEST INDIES. Hb. Kew.

25. **Salvia comosa**, Peyr. in Linnæa, xxx. p. 32.

SOUTH MEXICO, near San Miguel, Toluca, at 8000 feet (*Heller*, 287).

26. **Salvia concolor**, Lambert in Benth. Lab. p. 297; DC. Prodr. xii. p. 336.

MEXICO (*Campbell*).

27. **Salvia costaricensis**, Ærst. in Vidensk. Meddel. 1853, p. 39.

COSTA RICA, Aguacate, 2000 to 3000 feet (*Ærsted*).

28. **Salvia crenata**, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 14); DC. Prodr. xii. p. 348.

SOUTH MEXICO, oak-forests north of the city of Mexico, at 6500 feet (*Galeotti*, 704).

29. **Salvia cuneifolia**, Benth. Lab. p. 270; DC. Prodr. xii. p. 313.

SOUTH MEXICO, Real del Monte (*Coulter*, 1118, 1294), La Parada (*Hartweg*). Hb. Kew.

30. **Salvia curviflora**, Benth. Lab. p. 284; DC. Prodr. xii. p. 340.

SOUTH MEXICO, Tlalpujahua (*Graham, Keerl*), Zimapan (*Coulter*, 1089). Hb. Kew.

31. **Salvia cyanea**, Benth. Lab. p. 296; DC. Prodr. xii. p. 336.

Salvia cyanifera, Otto in Otto & Dietr. Allg. Gartenz. 1834.

SOUTH MEXICO, valley of Mexico (*Bourgeau*, 857), Desierto Viejo (*Bilimek*, 307), without locality (*Bates; Tate*). Hb. Kew.

32. **Salvia elegans**, Vahl, Enum. i. p. 238 (errore *S. incarnata*) et p. 362; DC. Prodr. xii. p. 342.

Salvia incarnata, Cav. Ann. Cienc. Nat. ii. p. 112; H. B. K. Nov. Gen. et Sp. ii. t. 144, non Ettl.

Salvia punicea, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 5).

NORTH MEXICO, Sierra Madre (*Seemann*, 2077, 2072); SOUTH MEXICO, Guanajuato (*Hartweg*), Zimapan (*Coulter*, 1097), San Nicolas (*Bourgeau*, 990, 1111), Magdalena (*Bilimek*, 323), valley of Mexico (*Schaffner*, 395), peak of Orizaba, at 9000 feet (*Galeotti*, 122); GUATEMALA, Volcan de Fuego, at 8300 feet (*Salvin*). Hb. Kew.

33. **Salvia elongata**, H. B. K. Nov. Gen. et Sp. ii. p. 287, t. 139; DC. Prodr. xii. p. 303.

Salvia simplex, Spreng. Syst. i. p. 58.

Salvia betonica, Rœm. et Schult. Syst. Mant. i. p. 188.

SOUTH MEXICO, western declivity of the mountains between Ario and Aguasarco, at about 5000 feet (*Humboldt & Bonpland*), Bolaños (*Hartweg*), without locality (*Tate*). Hb. Kew.

34. **Salvia excelsa**, Benth. in Bot. Reg. 1841, Misc. p. 185, et in DC. Prodr. xii. p. 342.

MEXICO. Hb. Kew.

35. **Salvia filipes**, Benth. in DC. Prodr. xii. p. 309.

Salvia polystachya, var., Benth. Pl. Hartw. p. 50.

SOUTH MEXICO, Regla (*Hartweg*, 375). Hb. Kew.

36. **Salvia flexuosa**, Presl in Benth. Lab. p. 248, et in DC. Prodr. xii. p. 299.

MEXICO. Hb. Kew.

The North-Mexican specimens referred by Seemann (Bot. Voy. 'Herald,' p. 327) to this species probably belong to a distinct species.

37. **Salvia fruticulosa**, Benth. Lab. p. 721, et in DC. Prodr. xii. p. 315.

SOUTH MEXICO, around Oaxaca (*Andrieux*, 151). Hb. Kew.

38. **Salvia fulgens**, Cav. Ic. Pl. i. p. 15, t. 23; DC. Prodr. xii. p. 333; Sweet, Brit. Fl. Gard. ser. 2, t. 59; Bot. Reg. t. 1356.

Salvia cardinalis, H. B. K. Nov. Gen. et Sp. ii. p. 301, t. 152.

SOUTH MEXICO, Talpujahuá (*Graham*), San Nicolas (*Bourgeau*, 853, 1106), Toluca (*Andrieux*, 144, 145), valley of Mexico (*Schaffner*, 396), between Toluca and Tianguillo, at about 9400 feet (*Humboldt & Bonpland*); GUATEMALA, Zunil (*Hartweg*). Hb. Kew.

39. **Salvia glabra**, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 8); DC. Prodr. xii. p. 310.

SOUTH MEXICO, Oaxaca, 6000 to 7000 feet (*Galeotti*, 714).

40. **Salvia glabrata**, H. B. K. Nov. Gen. et Sp. ii. p. 299; DC. Prodr. xii. p. 336.

MEXICO (*Karwinski*).—VENEZUELA. Hb. Kew.

41. **Salvia glechomæfolia**, B. K. Nov. Gen. et Sp. ii. p. 290, t. 141; DC. Prodr. xii. p. 306.

SOUTH MEXICO, between Guanajuato and Santa Rosa, at about 8800 feet (*Humboldt & Bonpland*).

42. **Salvia glumacea**, H. B. K. Nov. Gen. et Sp. ii. p. 298, et vii. p. 447; DC. Prodr. xii. p. 342.

“NEW SPAIN,” at about 7200 feet (*Humboldt & Bonpland*).

This species is said to be closely allied to *S. grahami*. Its native country is not known with exactitude; but H. B. K. include it in their list of Mexican plants.

43. **Salvia graciliflora**, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 15); DC. Prodr. xii. p. 342.

SOUTH MEXICO, near Zacuapan, at 3000 feet (*Galeotti*, 630).

44. **Salvia gracilis**, Benth. Lab. p. 258; DC. Prodr. xii. p. 307.

“NEW SPAIN” (*Moçino & Sessé*).

45. **Salvia grahami**, Benth. in Bot. Reg. t. 1370, et in DC. Prodr. xii. p. 335.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 747, 748); SOUTH MEXICO, Tlalpujahuia (*Graham*, 98), valley of Mexico (*Bourgeau*, 489, 856; *Schaffner*, 394), Zimapan (*Coulter*, 1093, 1094, 1096), near the city of Mexico (*Berlandier*, 462, 570, 1194). Hb. Kew.

46. **Salvia greggii**, A. Gr. in Proc. Am. Acad. viii. p. 369; Synop. Fl. N. Am. ii. p. 368.

Salvia microphylla, Torr. Bot. U.S. & Mex. Bound. Surv. p. 131, non H. B. K.

TEXAS.—NORTH MEXICO, Saltillo (*Gregg*).

47. **Salvia helianthemifolia**, Benth. Lab. p. 254, et in DC. Prodr. xii. p. 304.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 729); SOUTH MEXICO, Tlalpujahuia (*Graham*, 90; *Keerl*), Real del Monte (*Coulter*, 1116). Hb. Kew.

48. **Salvia henryi**, A. Gr. in Proc. Am. Acad. viii. p. 368; Synop. Fl. N. Am. ii. p. 367.

TEXAS; NEW MEXICO.—NORTH MEXICO, on the Mimbres, within the old boundary (*Thurber*).

49. **Salvia herbacea**, Benth. Lab. p. 720; DC. Prodr. xii. p. 311.

SOUTH MEXICO, Tehuantepec, Oaxaca (*Andrieux*, 142), San Felipe, near Oaxaca, at 9000 feet (*Galeotti*, 649). Hb. Kew.

50. **Salvia hirsuta**, Jacq. Hort. Schœnb. iii. p. 1, t. 252; DC. Prodr. xii. p. 301.

Salvia phlomoides, Cav. Ic. Pl. t. 320.

Salvia bracteata et *S. ciliata*, Pers. Enum. i. p. 250.

Salvia sideritidis, Vahl, Enum. i. p. 250.

Salvia cryptanthos, Schult. Obs. p. 12.

Salvia nepetæfolia, Poir. Dict. Suppl. v. p. 48.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 736); SOUTH MEXICO, without locality (*Moçino & Sessé*; *Graham*), Santa Fé (*Bourgeau*, 490). Hb. Kew.

51. **Salvia hispanica**, Linn. Sp. Pl. p. 37; DC. Prodr. xii. p. 308; Bot. Reg. t. 359.

Salvia tetragona, Mœnch. Meth. p. 373.

Salvia prismatica, Cav. Descr. p. 14.

SOUTH MEXICO, Cordillera of Vera Cruz, 3000 feet (*Galeotti*, 627), Santa Fé (*Bourgeau*, 1109), Orizaba (*Botteri*, 1098; *Bourgeau*, 3316); COSTA RICA, Aguacate, San José and Pacaca, 2000 to 4000 feet (*Ersted*).—ECUADOR; JAMAICA. Hb. Kew.

This species has long been naturalized in South-western Europe.

52. **Salvia humilis**, Benth. Lab. p. 247, et in DC. Prodr. xii. p. 298.

MEXICO (*Karwinski*).

53. **Salvia hyptoides**, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 14); DC. Prodr. xii. p. 300.

Salvia elscholtzioides, Benth. Bot. Voy. 'Sulphur,' p. 152, t. 50.

SOUTH MEXICO, Orizaba (*Botteri*, 633), valley of Cordova (*Bourgeau*, 1587), Cordillera of Vera Cruz, 6000 feet, and Cordillera of Oaxaca, 7000 feet (*Galeotti*, 629, 664), Tepic (*Sinclair*); GUATEMALA, near Coban, 4400 feet (*Türkheim*, 299), Mazatenango &c. (*Bernoulli*, 149, 1211); HONDURAS, Gulf of Fonseca (*Sinclair*); NICARAGUA, Chontales (*Tate*, 288); COSTA RICA, Cartago and Volcan el Viejo (*Ersted*, 13, 18, 51); PANAMA, Isle of Taboga (*Seemann*, 1100).—VENEZUELA. Hb. Kew.

54. **Salvia ianthina**, Otto et Dietr. in Allg. Gart. Zeit. 1845, ex Fl. des Serres, ix. t. 884.

SOUTH MEXICO, Chiapas (*Ghiesbreght*, 756). Hb. Kew.

55. **Salvia incana**, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 8); DC. Prodr. xii. p. 344.

SOUTH MEXICO, Tehuacan de las Granadas, Puebla, at about 5000 feet (*Galeotti*, 643).

56. **Salvia inconspicua**, Benth. Lab. p. 247; DC. Prodr. xii. p. 298.

MEXICO (*Hænke*). Hb. Kew.

57. **Salvia involucrata**, Cav. Ic. Pl. ii. p. 114, t. 105; DC. Prodr. xii. p. 333; Bot. Reg. t. 1205; Bot. Mag. t. 2872.

Salvia levigata, H. B. K. Nov. Gen. et Sp. ii. t. 147.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 755); SOUTH MEXICO, Tlalpujahuá (*Keerl*), near the city of Mexico (*Humboldt & Bonpland*), Zimapan (*Coulter*, 1087); GUATEMALA, San Andres (*Hartweg*, 556), Dueñas (*Godman & Salvin*), Volcan de Fuego, at 6000 feet (*Salvin*). Hb. Kew.

58. **Salvia karwinskii**, Benth. Lab. p. 725; DC. Prodr. xii. p. 345.

MEXICO (*Karwinski*).

59. **Salvia keerlii**, Benth. Lab. p. 263; DC. Prodr. xii. p. 316.
SOUTH MEXICO, Tlalpujahua (*Keerl*), Regla (*Hartweg*, 374), without locality (*Bates*).
Hb. Kew.
60. **Salvia lævis**, Benth. Lab. p. 251; DC. Prodr. xii. p. 303.
SOUTH MEXICO, Tlalpujahua (*Graham*), without locality (*Keerl*; *Moçino & Sessé*).
Hb. Kew.
61. **Salvia lanceolata**, Broussonet in App. Elench. Pl. Hort. Monsp. 1805, p. 15;
Jacq. fil. Eclog. i. p. 22, t. 13; DC. Prodr. xii. p. 299; A. Gr. Synop. Fl. N. Am. ii.
p. 369.
Salvia reflexa, Hornem. Hort. Hafn. i. p. 34.
Salvia lanceæfolia, Poir. Dict. Suppl. v. p. 49.
Salvia aspidophylla, Rœm. et Schult. Syst. Mant. i. p. 206.
Salvia trichostemoides, Pursh, Fl. Am. Sept. i. p. 19.
NEBRASKA TO ARIZONA, TEXAS, and FLORIDA.—NORTH MEXICO, Chihuahua (*Wright*),
region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 744); SOUTH MEXICO,
Aguas Calientes (*Hartweg*, 1618), Guanajuato (*Humboldt & Bonpland*). Hb. Kew.
62. **Salvia lantanæfolia**, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 9);
DC. Prodr. xii. p. 322.
SOUTH MEXICO, near Tehuacan, 5500 feet (*Galeotti*, 644).
63. **Salvia lasiantha**, Benth. Lab. p. 276; DC. Prodr. xii. p. 321.
NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 730);
SOUTH MEXICO, valley of Mexico (*Bourgeau*, 395), without locality (*Parkinson*). Hb.
Kew.
64. **Salvia lasiocephala**, Hook. et Arn. Bot. Beech. Voy. p. 306; DC. Prodr.
xii. p. 300.
NORTH MEXICO, Cerro de Pinal (*Seemann*, 1496); SOUTH MEXICO, Tepic (*Barclay*),
San Blas to Tepic (*Sinclair*). Hb. Kew.
65. **Salvia lavanduloides**, H. B. K. Nov. Gen. et Sp. ii. p. 287; DC. Prodr.
xii. p. 303.
Salvia humboldtiana, Rœm. et Schult. Syst. Mant. i. p. 183.
Salvia lavandulæfolia, Spreng. Syst. i. p. 58, non Vahl.
NORTH MEXICO, Sierra Madre (*Seemann*, 2081); SOUTH MEXICO, valley of Mexico
(*Bourgeau*, 1110), Bolaños (*Hartweg*), Cordillera of Oaxaca, 5000 to 7000 feet (*Galeotti*,
654), Chiapas (*Linden*, 135), near Pazcuaro, at about 6700 feet (*Humboldt & Bonpland*);
GUATEMALA, Volcan de Fuego (*Godman & Salvin*, 76). Hb. Kew.
66. **Salvia leonia**, Benth. Lab. p. 303; DC. Prodr. xii. p. 349.
Leonia salvifolia, Llav. et Lex. Nov. Veg. Descr. fasc. ii. p. 6.
MEXICO, Santa Rosa (*La Llave & Lexarza*).

67. **Salvia leptophylla**, Benth. Lab. p. 249; DC. Prodr. xii. p. 299.
MEXICO (*Moçino & Sessé*; *Karwinski*).
68. **Salvia leptostachys**, Benth. Lab. p. 258; DC. Prodr. xii. p. 308.
"NEW SPAIN" (*Moçino & Sessé*).
69. **Salvia leucantha**, Cav. Ic. Pl. i. p. 16, t. 24; DC. Prodr. xii. p. 321; Bot. Mag. t. 4318.
SOUTH MEXICO, without locality (*Tate*; *Graham*; *Bates*), margin of a garden (*Bourgeau*, 394), Orizaba, cultivated (*Botteri*). Hb. Kew.
70. **Salvia lindenii**, Benth. in DC. Prodr. xii. p. 333.
SOUTH MEXICO, Chiapas (*Linden*, 128; *Ghiesbreght*, 122, 755), Sierra San Pedro Nolasco &c. (*Jurgensen*, 910). Hb. Kew.
71. **Salvia lineata**, Benth. Lab. p. 724; DC. Prodr. xii. p. 334.
MEXICO (*Karwinski*).
72. **Salvia linifolia**, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 10); DC. Prodr. xii. p. 302.
SOUTH MEXICO, Morelia, Michoacan, at 8000 feet (*Galeotti*, 694).
73. **Salvia littæ**, Vis. Ill. Piant. Nuov. Ort. Pad. p. 15; DC. Prodr. xii. p. 341.
MEXICO.
74. **Salvia longispicata**, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 13); DC. Prodr. xii. p. 307.
SOUTH MEXICO, near Ario, at 4000 feet (*Galeotti*, 706). Hb. Kew.
75. **Salvia longistyla**, Benth. Lab. p. 295; DC. Prodr. xii. p. 344.
SOUTH MEXICO, near Zinepecuaro (*Graham*), Vera Cruz to Orizaba (*Müller*, 1034), without locality (*Hahn*). Hb. Kew.
76. **Salvia lophantha**, Benth. in DC. Prodr. xii. p. 301.
SOUTH MEXICO, Chiapas (*Ghiesbreght*, 745), San Cristobal, Orizaba (*Bourgeau*, 3215); GUATEMALA, Barranca del Incensio (*Skinner*; *Bernoulli*, 178), Dueñas (*Fraser*; *Salvin*). Hb. Kew.
77. **Salvia madrensis**, Seem. Bot. Voy. 'Herald,' p. 327, t. 70.
NORTH MEXICO, Sierra Madre (*Seemann*, 2079). Hb. Kew.
78. **Salvia martensii**, Galeotti in Bull. Acad. Brux. xi. (reprint, p. 17); DC. Prodr. xii. p. 335.
SOUTH MEXICO, Cordillera of Oaxaca, 8000 to 9000 feet (*Galeotti*, 648), around Oaxaca (*Andrieux*, 147). Hb. Kew.
79. **Salvia membranacea**, Benth. Lab. p. 259; DC. Prodr. xii. p. 310.
MEXICO (*Moçino & Sessé*).

80. **Salvia mexicana**, Linn. Sp. Pl. p. 37; DC. Prodr. xii. p. 337; Cav. Ic. i. p. 16, t. 26.

Sclarea mexicana, Dill. Hort. Elth. p. 339, t. 254. fig. 330.

Jungia altissima, Mœnch. Meth.

Salvia melissæfolia, Desf. Cat. Hort. Par.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 757); SOUTH MEXICO, Real del Monte and Zimapan (*Coulter*, 1100, 1101), near Pazcuaro (*Humboldt & Bonpland*), Toluca (*Andrieux*, 148), valley of Mexico (*Bourgeau*, 619). Hb. Kew.

81. **Salvia micrantha**, Vahl, Enum. i. p. 235; DC. Prodr. xii. p. 298.

Salvia bullata, Ort. Dec. ix. p. 109; Jacq. Hort. Schœnb. iv. t. 481.

Salvia serotina, Vahl, Emm. i. p. 232, non Linn.

MEXICO (*Moçino & Sessé*); PANAMA, Aspinwall (*S. Hayes*, 372).—GALAPAGOS; CUBA; JAMAICA. Hb. Kew.

82. **Salvia microcalyx**, Scheele in Linnæa, xxii. p. 589; Walp. Ann. iii. p. 257.

MEXICO.

83. **Salvia microphylla**, H. B. K. Nov. Gen. et Sp. ii. p. 295; DC. Prodr. xii. p. 335.

NORTH MEXICO, Monterey (*Eaton & Edwards*); SOUTH MEXICO, near Santa Rosa, Moran, and Pachuca (*Humboldt & Bonpland*). Hb. Kew.

84. **Salvia misella**, H. B. K. Nov. Gen. et Sp. ii. p. 290; DC. Prodr. xii. p. 297.

SOUTH MEXICO, between Acapulco and La Venta del Exido, 1000 feet (*Humboldt & Bonpland*).

85. **Salvia mollissima**, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 11); DC. Prodr. xii. p. 343.

SOUTH MEXICO, western Cordillera of Oaxaca, at 4500 feet (*Galeotti*, 657).

86. **Salvia mocinoi**, Benth. Lab. p. 271; DC. Prodr. xii. p. 300.

“NEW SPAIN” (*Moçino & Sessé*).

87. **Salvia nana**, H. B. K. Nov. Gen. et Sp. ii. p. 289; DC. Prodr. xii. p. 304.

Salvia prunelloides, Benth. Pl. Hartw. pp. 90 et 351, non H. B. K.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 745); SOUTH MEXICO, Guanajuato, 8500 feet (*Humboldt & Bonpland*), valley of Mexico (*Bourgeau*, 860); GUATEMALA, Quezaltenango (*Hartweg*). Hb. Kew.

88. **Salvia nervata**, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 17); DC. Prodr. xii. p. 339.

SOUTH MEXICO, Cordillera of Oaxaca, 8000 to 9000 feet (*Galeotti*, 650); GUATEMALA, without locality (*Skinner*). Hb. Kew.

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89. **Salvia nitida**, Benth. in DC. Prodr. xii. p. 300.

Hyptis nitida, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 4).

SOUTH MEXICO, Cordillera of Oaxaca, 3000 to 6000 feet (*Galeotti*, 658). Hb. Kew.

90. **Salvia oblongifolia**, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 19); DC. Prodr. xii. p. 305.

SOUTH MEXICO, pine-woods in the Cordillera of Oaxaca, at about 8500 feet (*Galeotti*, 660), Chiapas (*Ghiesbreght*, 61, 750), Sierra San Pedro Nolasco &c. (*Jurgensen*, 813). Hb. Kew.

91. **Salvia obtusa**, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 12); DC. Prodr. xii. p. 334.

SOUTH MEXICO, eastern Cordillera of Oaxaca, near Yavezia, Castrasana and Capulalpan, at 5000 to 7000 feet (*Galeotti*, 715).

92. **Salvia occidentalis**, Sw. Fl. Ind. Occ. i. p. 43; DC. Prodr. xii. p. 296; A. Gr. Synop. Fl. N. Am. ii. p. 370.

Salvia radicans, Poir. Dict. vi. p. 621.

Salvia procumbens, Ruiz et Pav. Fl. Per. et Chil. i. p. 27, t. 39. fig. a.

FLORIDA.—SOUTH MEXICO, valley of Cordova (*Bourgeau*, 1504); NICARAGUA (*Tate*, 289; *Ersted*); COSTA RICA, Ujaras (*Ersted*); PANAMA, Chagres (*Fendler*, 227), without locality (*Seemann*, 260; *S. Hayes*, 327).—GALAPAGOS; northern SOUTH AMERICA; WEST INDIES. Hb. Kew.

93. **Salvia orbicularis**, Benth. Bot. Voy. 'Sulphur,' p. 151; DC. Prodr. xii. p. 298.

PANAMA, Chagres (*Fendler*, 224), without locality (*Hinds*; *Sinclair*). Hb. Kew.

94. **Salvia parquerensis**, Moç. et Sessé; Benth. Lab. p. 273; DC. Prodr. xii. p. 322.

SOUTH MEXICO, without locality (*Moçino & Sessé*; *Bates*). Hb. Kew.

This name should probably be *pazcuarensis*.

95. **Salvia patens**, Cav. Ic. Pl. v. p. 33, t. 454; DC. Prodr. xii. p. 348; Bot. Reg. xxv. t. 23; Bot. Mag. t. 3808.

Salvia grandiflora, Née, ex Cav. loc. cit.

Salvia macrantha, Schl. Ind. Sem. Hort. Hal. 1841.

Salvia spectabilis, H. B. K. Nov. Gen. et Sp. ii. p. 304.

Salvia decipiens, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 4).

Salvia staminea, Mart. et Gal. loc. cit., non Montbr. et Auch.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 759); SOUTH MEXICO, Real del Monte, 7500 to 8000 feet (*Coulter*, 1102; *Hartweg*; *Galeotti*, 687, 688), Guanajuato (*Mendez*; *Humboldt & Bonpland*). Hb. Kew.

96. **Salvia pauciflora**, H. B. K. Nov. Gen. et Sp. ii. p. 303; DC. Prodr. xii. p. 315.

“NEW SPAIN” (*Humboldt & Bonpland*).

97. **Salvia polystachya**, Ort. Dec. p. 55; Cav. Ic. Pl. t. 27; DC. Prodr. xii. p. 308.

Salvia cæsia, H. B. K. Nov. Gen. et Sp. ii. p. 295.

Salvia linearifolia, Lag. Gen. et Sp. Nov. p. 2.

SOUTH MEXICO, Tacubaya and Guadalupe (*Bilimek*, 315, 316), Zimapan (*Coulter*, 1103), valley of Mexico (*Bourgeau*, 854, 859), Vera Cruz to Orizaba (*Müller*, 770), Chiapas (*Ghiesbreght*, 743); GUATEMALA, Quezaltenango (*Hartweg*, 557), Alotenango and Volcan de Fuego (*Godman & Salvin*). Hb. Kew.

98. **Salvia porphyrata**, DCne. in Rev. Hort. série 4, iii. p. 301, fig. 16; Bot. Mag. t. 4939.

MEXICO.

99. **Salvia prasiifolia**, Benth. Bot. Voy. ‘Sulphur,’ p. 151; DC. Prodr. xii. p. 310.

SOUTH MEXICO, San Blas to Tepic (*Sinclair; Barclay*). Hb. Kew.

100. **Salvia privoides**, Benth. Bot. Voy. ‘Sulphur,’ p. 150; DC. Prodr. xii. p. 297; A. Gr. Synop. Fl. N. Am. ii. p. 371.

FLORIDA.—SOUTH MEXICO, Orizaba (*Botteri*, 610, 651; *Müller*, 108), Cuernavaca (*Bourgeau*, 1239); GUATEMALA, Volcan de Fuego, 5000 feet (*Salvin*); HONDURAS, Gulf of Fonseca (*Sinclair*). Hb. Kew.

101. **Salvia protracta**, Benth. in DC. Prodr. xii. p. 309.

Salvia elongata, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 15), non H. B. K.

SOUTH MEXICO, Cordillera to the north of Oaxaca, 3000 to 4000 feet (*Galeotti*, 712).

102. **Salvia prunelloides**, H. B. K. Nov. Gen. et Sp. ii. p. 289; DC. Prodr. xii. p. 305.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 761); SOUTH MEXICO, Volcan de Jorullo (*Humboldt & Bonpland*), valley of Mexico (*Bourgeau*, 396). Hb. Kew.

103. **Salvia pubescens**, Benth. Lab. p. 723; DC. Prodr. xii. p. 332.

SOUTH MEXICO, Oaxaca (*Andrieux*, 143); Real del Monte to Zacateras (*Coulter*, 1099). Hb. Kew.

104. **Salvia pulchella**, DC. Cat. Hort. Monsp. p. 142; DC. Prodr. xii. p. 334; Colla, Hort. Ripul. t. 16.

SOUTH MEXICO, Zimapan (*Coulter*, 1095), Chiapas (*Ghiesbreght*, 758); GUATEMALA, Zunil (*Hartweg*, 558), Volcan de Fuego, 6500 feet (*Salvin*). Hb. Kew.

105. **Salvia purpurascens**, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 9); DC. Prodr. xii. p. 335.

SOUTH MEXICO, peak of Orizaba, at 9000 feet (*Linden*, 121; *Galeotti*, 683). Hb. Kew.

106. **Salvia purpurea**, Cav. Ic. Pl. ii. p. 52, t. 166; DC. Prodr. xii. p. 341; Jacq. Hort. Schoenb. iii. p. 2, t. 253.

Salvia farinosa, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 18).

NORTH MEXICO, Sierra Madre (*Seemann*, 2080); SOUTH MEXICO, Bolaños (*Hartweg*, 161), Cuernavaca (*Bourgeau*, 1244), region of Orizaba (*Botteri*, 643; *Bourgeau*, 3162; *Müller*, 1069), Cordillera of Vera Cruz, 3000 to 4000 feet (*Galeotti*, 618); GUATEMALA, Cerro del Carmen (*Bernoulli*, 154), San Gerónimo (*Godman & Salvin*), Volcan de Fuego, 3800 to 5000 feet (*Salvin*); NICARAGUA, Segovia (*Ersted*). Hb. Kew.

107. **Salvia rectiflora**, Vis. Ind. Sem. Hort. Pat. 1839, ex ejusd. Ort. Bot. Pad. p. 145; DC. Prodr. xii. p. 334.

Salvia tubæformis, Link, Kl. et Otto, Ic. Pl. Rar. p. 70, t. 28.

MEXICO.

108. **Salvia recurva**, Benth. in DC. Prodr. xii. p. 336.

SOUTH MEXICO, Sierra San Pedro Nolasco &c. (*Jurgensen*, 676). Hb. Kew.

109. **Salvia regla**, Cav. Ic. Pl. v. p. 33, t. 455; DC. Prodr. xii. p. 333; Bot. Mag. t. 3808; Bot. Reg. 1841, t. 14.

Salvia deltoidea, Pers. Syn. i. p. 28.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 741); Aguas Calientes (*Hartweg*), Vilalpando (*Mendez*), without locality (*Parkinson*), Regla (ex *Cavanilles*). Hb. Kew.

110. **Salvia remota**, Benth. in DC. Prodr. xii. p. 304.

MEXICO.

111. **Salvia reticulata**, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 4); DC. Prodr. xii. p. 305, sub *S. oblongifolia*.

SOUTH MEXICO, Cordillera of Oaxaca, 8000 to 9000 feet (*Galeotti*, 646). Hb. Kew.

112. **Salvia rhombifolia**, Ruiz et Pav. Fl. Peruv. et Chil. i. p. 26, t. 36. fig. *b*; DC. Prodr. xii. p. 310.

Salvia foliosa, Benth. in Bot. Reg. t. 1429.

MEXICO? (*Graham*).—PERU.

113. **Salvia roemeriana**, Scheele in Linnæa, xxii. p. 586; Torr. Bot. U.S. & Mex. Bound. Surv. p. 132; A. Gr. Synop. Fl. N. Am. ii. p. 367.

Salvia porphyrata, Dcne. in Rev. Hort. 1854, t. 16; Bot. Mag. t. 4939.

TEXAS.—NORTH MEXICO, Chihuahua (*Bigelow*), Saltillo, Coahuila (*Palmer*, 1073). Hb. Kew.

114. **Salvia rubiginosa**, Benth. in DC. Prodr. xii. p. 301.
SOUTH MEXICO, pine-forests Chiapas (*Linden*), Totutla, Vera Cruz (*Linden*). Hb. Kew.
115. **Salvia sanctæ-luciæ**, Seem. Bot. Voy. 'Herald,' p. 327.
NORTH MEXICO, near Santa Lucia in the Sierra Madre (*Seemann*, 2071). Hb. Kew.
116. **Salvia scorodoniæfolia**, Poir. Dict. Suppl. v. p. 46 ; DC. Prodr. xii. p. 316.
Salvia melissodora, Lag. Nov. Gen. et Sp. p. 2.
Salvia hirta, Schranck in Syll. Pl. Soc. Ratisb. ii. p. 60 ?
NORTH MEXICO, Sierra Madre (*Seemann*, 2076) ; SOUTH MEXICO, Aguas Calientes (*Hartweg*, 164), San Blas to Tepic (*Sinclair*), Manzanilla Bay (*Barclay*), valley of Mexico (*Bourgeau*, 295). Hb. Kew.
117. **Salvia semiatrata**, Zucc. in Abhandl. Baier. Akad. Wiss. i. p. 298 ; DC. Prodr. xii. p. 316.
SOUTH MEXICO, Oaxaca (*Andrieux*, 149). Hb. Kew.
118. **Salvia sessei**, Benth. Lab. p. 288 ; DC. Prodr. xii. p. 332.
Rhodochlamys speciosa, Schauer in Linnæa, xx. p. 707 ?
SOUTH MEXICO, between Tuspan and Anganguio (*Hartweg*), Oaxaca (*Ghiesbreght*), Cuernavaca (*Bourgeau*, 1237), without locality (*Parkinson*). Hb. Kew.
119. **Salvia sidæfolia**, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 7) ; DC. Prodr. xii. p. 318.
SOUTH MEXICO, Cordillera of Oaxaca, 6000 to 7000 feet (*Galeotti*, 716).
120. **Salvia spicata**, Rœm. et Schult. Syst. Mant. i. p. 202 ; DC. Prodr. xii p. 315.
Salvia pulchella, H. B. K. Nov. Gen. et Sp. ii. p. 288, t. 140, non DC.
Salvia humboldtiana, Dietr. Gært. Lex. vii. p. 418.
Salvia humboldtii, Spreng. Syst. i. p. 54.
Salvia saligna, Willd. ex Link, Schw. et Dietr. Sp. Pl. i. p. 307.
"NEW SPAIN" (*Humboldt & Bonpland*).
121. **Salvia stachyoides**, H. B. K. Nov. Gen. et Sp. ii. p. 287, t. 138 ; DC. Prodr. xii. p. 303.
SOUTH MEXICO, Santa Rosa, at about 7000 feet (*Humboldt & Bonpland*).
122. **Salvia stolonifera**, Benth. Pl. Hartw. p. 70 ; DC. Prodr. xii. p. 333.
SOUTH MEXICO, La Parada (*Hartweg*, 505), Cordillera of Oaxaca, at 8500 feet (*Galeotti*, 645). Hb. Kew.
123. **Salvia subincisa**, Benth. Pl. Hartw. p. 20 ; DC. Prodr. xii. p. 303 ; A. Gr. Synop. Fl. N. Am. ii. p. 369.
TEXAS ; NEW MEXICO.—MEXICO, Aguas Calientes (*Hartweg*, 160). Hb. Kew.

124. **Salvia thymoides**, Benth. Lab. p. 255; DC. Prodr. xii. p. 314.
SOUTH MEXICO, Mitla, Oaxaca (*Andrieux*, 159). Hb. Kew.
125. **Salvia thyrsoiflora**, Benth. Bot. Voy. 'Sulphur,' p. 151; DC. Prodr. xii. p. 316.
SOUTH MEXICO, near Tepic (*Barclay*). Hb. Kew.
126. **Salvia tiliaefolia**, Vahl, Symb. iii. p. 7; DC. Prodr. xii. p. 299; Jacq. Hort. Schœnb. iii. t. 254.
Salvia fimbriata, H. B. K. Nov. Gen. et Sp. ii. t. 149?
NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 743, 746½); SOUTH MEXICO, valley of Mexico (*Bourgeau*, 122; *Gregg*, 542; *Schaffner*, 415), Aguas Calientes (*Hartweg*, 159), Orizaba (*Botteri*, 854, 627); GUATEMALA, Dueñas (*Salvin*), without locality (*Fredrichsthal*); COSTA RICA, Aguacate (*Ersted*).—GALAPAGOS; VENEZUELA; WEST INDIES. Hb. Kew.
127. **Salvia tricuspidata**, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 18); DC. Prodr. xii. p. 311.
SOUTH MEXICO, Cordillera of Oaxaca, 7500 to 9000 feet (*Galeotti*, 649).
128. **Salvia tubifera**, Cav. Ic. Pl. p. 23, t. 25; DC. Prodr. xii. p. 341; Bot. Reg. 1841, t. 44.
Salvia longiflora, Willd. Sp. Pl. i. p. 141.
SOUTH MEXICO, near Jalapa (*Schiede*), near the city of Mexico (*Berlandier*, 716). Hb. Kew.
129. **Salvia vitifolia**, Benth. Lab. p. 724; DC. Prodr. xii. p. 348.
Salvia proxima, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 2).
SOUTH MEXICO, La Parada (*Hartweg*), San Felipe, near Oaxaca (*Andrieux*, 146), Cordillera of Oaxaca, at 7500 feet (*Galeotti*, 651). Hb. Kew.
130. **Salvia warscewicziana**, Regel in Flora, 1849, p. 184; Walp. Ann. iii. p. 257.
GUATEMALA (*Warscewicz*).
131. **Salvia xalapensis**, Benth. in DC. Prodr. xii. p. 308.
Salvia polystachya, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 17), non Ort.
SOUTH MEXICO, region of Orizaba (*Botteri*, 639; *Bourgeau*, 2857), near Jalapa (*Schiede & Deppe*; *Galeotti*, 610; *Linden*, 117), valley of Cordova (*Bourgeau*). Hb. Kew.

16. SALVIASTRUM.

Salviastrum, Scheele in Linnæa, xxii. p. 584; Benth. et Hook. Gen. Plant. ii. p. 1196; A. Gr. Synop. Fl. N. Am. ii. p. 366 (sect. *Salvia*).

Two species in the Texano-Mexican region.

1. **Salviastrum texanum**, Scheele in Linnæa, xxii. p. 584; Walp. Ann. iii. p. 259; Torr. & Gr. Pacif. Rail. Rep. ii. t. 6.

TEXAS; NEW MEXICO.—NORTH MEXICO, Monterey (*Eaton & Edwards*, 43). Hb. Kew.

17. MONARDA.

Monarda, Linn. Gen. Plant. n. 37; Benth. et Hook. Gen. Plant. ii. p. 1197.

An exclusively North-American genus of about nine herbaceous species.

1. **Monarda citriodora**, Cerv. in Lag. Nov. Gen. et Sp. p. 2; DC. Prodr. xii. p. 363; A. Gr. Synop. Fl. N. Am. ii. p. 375.

Monarda aristata, Nutt. in Trans. Am. Phil. Soc. n. ser. v. p. 186.

NEBRASKA to TEXAS, COLORADO and ARIZONA.—NORTH MEXICO, Monterey (*Eaton & Edwards*), San Lorenzo de Laguna &c. (*Palmer*). Hb. Kew.

2. **Monarda fistulosa**, Linn. Sp. Pl. i. p. 22; DC. Prodr. xii. p. 361; A. Gr. Synop. Fl. N. Am. ii. p. 374.

A very widely dispersed species, ranging from Canada and British Columbia to Arizona, Texas, and Florida. It was also collected by Schiede near Jalapa, where, however, it may have escaped from cultivation.

18. LOPHANTHUS.

Lophanthus, Benth. in Bot. Reg. t. 1282; Benth. et Hook. Gen. Plant. ii. p. 1198.

A genus of about six species, inhabiting North America and extratropical Eastern Asia.

1. **Lophanthus urticifolius**, Benth. in Bot. Reg. sub t. 1282; DC. Prodr. xii. p. 368; A. Gr. Synop. Fl. N. Am. ii. p. 376.

OREGON to CALIFORNIA.—NORTH MEXICO, on Mount Graham, within the old boundary, at 9000 feet (*Rothrock*).

19. DRACOCEPHALUM.

Dracocephalum, Linn. Gen. Plant. n. 729; Benth. et Hook. Gen. Plant. ii. p. 1199.

About thirty herbaceous species, inhabiting Europe, the Mediterranean region, and extratropical Asia, and one (or two) North America.

1. **Dracocephalum parviflorum**, Nutt. Gen. N. Am. Pl. ii. p. 35; DC. Prodr. xii. p. 400; A. Gr. Synop. Fl. N. Am. ii. p. 378.

NEW YORK and BRITISH COLOMBIA, southward to UTAH and NEW MEXICO.—SOUTH MEXICO, Chiapas (*Ghiesbreght*, 92). Hb. Kew.

The Mexican plant may be a different species.

20. CEDRONELLA.

Cedronella, Moench, Meth. p. 411; Benth. et Hook. Gen. Plant. ii. p. 1200.

Four herbaceous species, whereof one inhabits the Canary Islands, and the rest North America.

1. ***Cedronella hastifolia***, Regel, Ind. Sem. Hort. Petrop. 1869, An. Bot. p. 85.
MEXICO.

2. ***Cedronella mexicana***, Benth. Lab. p. 502; DC. Prodr. xii. p. 405; A. Gr. Synop. Fl. N. Am. ii. p. 377.

Dracocephalum mexicanum, H. B. K. Nov. Gen. et Sp. ii. t. 160.

Gardoquia betonicoides, Lindl. Bot. Reg. 1838, Misc. p. 86; Bot. Mag. t. 3860.

NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 762); SOUTH MEXICO, valley of Mexico (*Bourgeau*, 864; *Schaffner*, 397), Anganguio (*Hartweg*), Real del Monte (*Coulter*, 1074), near Tlalpujahua (*Graham*), near Pazuaro (*Humboldt & Bonpland*). Hb. Kew.

3. ***Cedronella pallida***, Lindl. Bot. Reg. 1846, t. 29; DC. Prodr. xii. p. 406.

NORTH MEXICO, introduced and cultivated by Mr. Scheer, probably through Mr. Potts of Chihuahua.

4. ***Cedronella***, sp.

SOUTH MEXICO, Zimapan (*Coulter*, 1078), without locality (*Sumichrast*, 1910). Hb. Kew.

21. SALIZARIA.

Salizaria, Torr. Bot. U.S. & Mex. Bound. Surv. p. 133, t. 39 (*Salazaria* in textu); Benth. et Hook. Gen. Plant. ii. p. 1201; A. Gr. Synop. Fl. N. Am. ii. p. 382.

A shrubby monotype.

1. ***Salizaria mexicana***, Torr. Bot. U.S. & Mex. Bound. Surv. p. 133, t. 39.

UTAH to ARIZONA and CALIFORNIA.—NORTH MEXICO, Parras, Coahuila (*Palmer*, 1083), ravines Chihuahua (*Parry*). Hb. Kew.

22. SCUTELLARIA.

Scutellaria, Linn. Gen. Plant. n. 734; Benth. et Hook. Gen. Plant. ii. p. 1201.

Herbs, half-shrubs, or very rarely shrubs. There are about ninety species known; and they are very generally dispersed in temperate regions, including the mountains within the tropics. Very few inhabit the mountains of Tropical Africa; and the genus appears to be unrepresented in South Africa.

1. ***Scutellaria cærulea***, Moç. et Sessé, ex Benth. in Bot. Reg. sub t. 1493; DC. Prodr. xii. p. 429.

SOUTH MEXICO, region of Orizaba, 9000 to 10,000 feet (*Galeotti*, 681; *Linden*, 123;

Botteri, 796), valley of Mexico (*Bourgeau*, 397; *Schaffner*, 427), Real del Monte and Zimapan (*Coulter*, 1125), Anganguio (*Hartweg*), Chiapas (*Ghiesbreght*, 802). Hb. Kew.

2. **Scutellaria coccinea**, H. B. K. Nov. Gen. et Sp. ii. p. 325; DC. Prodr. xii. p. 415?

GUATEMALA, Volcan de Fuego, 3800 feet (*Salvin*).—COLOMBIA. Hb. Kew.

3. **Scutellaria costaricana**, Wendl.; Bot. Mag. t. 5439.

COSTA RICA (*Wendland*; *Endres*, 201). Hb. Kew.

4. **Scutellaria drummondii**, Benth. Lab. p. 441; DC. Prodr. xii. p. 428; A. Gr. Synop. Fl. N. Am. ii. p. 380.

TEXAS.—MEXICO, Zimapan (*Coulter*, 1127). Hb. Kew.

5. **Scutellaria longifolia**, Benth. in Bot. Reg. sub t. 1493; DC. Prodr. xii. p. 414.

“NEW SPAIN” (*Moçino & Sessé*).

6. **Scutellaria microphylla**, Moç. et Sessé, ex Benth. in Bot. Reg. xviii. sub t. 1493; DC. Prodr. xii. p. 427.

“NEW SPAIN” (*Moçino & Sessé*).

7. **Scutellaria mociniana**, Benth. Lab. p. 442; DC. Prodr. xii. p. 430; Ill. Hort. t. 362; Rev. Hort. 1872, p. 350, cum ic. color.

Perilomia fruticosa, Ch. et Schl. in Linnæa, v. p. 102.

SOUTH MEXICO, near Jalapa (*Schiede & Deppe*).

8. **Scutellaria multiflora**, Benth. in Bot. Reg. sub t. 1493; DC. Prodr. xii. p. 415.

“NEW SPAIN” (*Moçino & Sessé*).

9. **Scutellaria purpurascens**, Sw. Fl. Ind. Occ. ii. p. 1013; DC. Prodr. xii. p. 416; Griseb. Fl. Brit. W. Ind. p. 492.

SOUTH MEXICO, region of Orizaba (*Bourgeau*, 2796); COSTA RICA, Cartago (*Ersted*).—COLOMBIA and GUIANA to BRAZIL, and CUBA to TRINIDAD. Hb. Kew.

β. **heterophylla**, Benth. in DC. Prodr. xii. p. 416.

GUATEMALA (*Friedrichsthal*). Hb. Kew.

10. **Scutellaria splendens**, Link, Kl. et Otto, Ic. Pl. Rar. i. p. 31, t. 13; DC. Prodr. xii. p. 415.

Perilomia cordifolia, Ch. et Schl. in Linnæa, vi. p. 374.

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SOUTH MEXICO, Zacuapan (*Linden*, 209), Cordillera of Vera Cruz, at 3000 feet (*Galeotti*, 907), Misantla (*Hahn*). Hb. Kew.

23. PERILOMIA.

Perilomia, H. B. K. Nov. Gen. et Sp. ii. p. 326, t. 159; Benth. et Hook. Gen. Plant. ii. p. 1202.

About eight shrubby species, inhabiting America from Mexico to Bolivia and Chili.

1. *Perilomia tomentosa*, Benth. Lab. p. 446; DC. Prodr. xii. p. 432.

SOUTH MEXICO (*Moçino & Sessé*).—PERU.

24. BRUNELLA.

Brunella, Linn. Gen. Plant. ed. 1, p. 77 (*Prunella*, Linn. Gen. Plant. n. 735); Benth. et Hook. Gen. Plant. ii. p. 1203.

Two or three herbaceous species, very widely diffused in temperate regions, including the mountains within the tropics.

1. *Brunella vulgaris*, Linn. Sp. Pl. p. 837; DC. Prodr. xii. p. 410; A. Gr. Synop. Fl. N. Am. ii. p. 382.

This species is spread over the whole range of the genus, in EUROPE, ASIA, AMERICA, and AUSTRALIA. Hb. Kew.

25. PHYSOSTEGIA.

Physostegia, Benth. in Bot. Reg. sub t. 1289; Benth. et Hook. Gen. Plant. ii. p. 1204.

Three herbaceous species, inhabiting North America.

1. *Physostegia virginiana*, Benth. Lab. p. 504; DC. Prodr. xii. p. 433; A. Gr. Synop. Fl. N. Am. ii. p. 383 (varietates).

Dracocephalum virginianum, Linn.; Bot. Mag. t. 467.

Dracocephalum variegatum, Vent. Hort. Cels. t. 44.

Dracocephalum speciosum, Sweet's Brit. Fl. Gard. t. 93.

Physostegia imbricata, Hook. Bot. Mag. t. 3386, non Benth.

CANADA and SASKATCHEWAN to FLORIDA and TEXAS.—NORTH MEXICO, Saltillo, Coahuila. (*Palmer*, 2043). Hb. Kew.

26. MARRUBIUM.

Marrubium, Linn. Gen. Plant. n. 721; Benth. et Hook. Gen. Plant. ii. p. 1206.

Herbs. About thirty species, inhabiting Europe, North Africa, and especially extra-tropical Asia, one of which is now common in America, both North and South.

1. *Marrubium vulgare*, Linn. Sp. Pl. p. 816; DC. Prodr. xii. p. 453; A. Gr. Synop. Fl. N. Am. ii. p. 384; Hayne, Arzn. Gew. xi. t. 40.

Marrubium hamatum, H. B. K. Nov. Gen. et Sp. ii. p. 310.

NORTH MEXICO, Sierra Madre (*Seemann*, 2078); SOUTH MEXICO, Chapultepec, 7000 to 8000 feet (*Humboldt & Bonpland*), Real del Monte at 8000 feet (*Galeotti*, 703; *Coulter*, 1129), Toluca (*Andrieux*, 153), Cordillera of Oaxaca, 7000 feet (*Galeotti*, 672), Jalapa (*Schiede & Deppe*), valley of Mexico (*Bourgeau*, 1227), Guanajuato (*Hartweg*, 169). Hb. Kew.

Dr. A. Gray regards this as an introduced plant in America, whilst Bentham and Hooker state that it is doubtful whether it is indigenous or introduced from Europe.

27. STACHYS.

Stachys, Linn. Gen. Plant. n. 719; Benth. et Hook. Gen. Plant. ii. p. 1208.

Herbs, or rarely shrubby. Nearly 200 species have been described; and they are almost universally dispersed, except in the colder regions, though the genus is not represented by indigenous species either in Australia or New Zealand.

1. ***Stachys agraria***, Ch. et Schl. in Linnæa, v. p. 100; DC. Prodr. xii. p. 479; A. Gr. Synop. Fl. N. Am. ii. p. 386.

Stachys grahmi, Benth. Lab. p. 551.

TEXAS.—NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 735); SOUTH MEXICO, valley of Mexico (*Bourgeau*, 399; *Schaffner*, 400), region of Orizaba (*Müller*, 760; *Botteri*, 611), Real del Monte (*Coulter*, 1076), Jalisco (*Beechey*), Aguas Calientes (*Hartweg*), near La Joya (*Schiede & Deppe*). Hb. Kew.

[*Stachys arvensis*, Linn., a European species, is naturalized in Mexico and Central America.]

2. ***Stachys boraginoides***, Ch. et Schl. in Linnæa, v. p. 100; DC. Prodr. xii. p. 468.

SOUTH MEXICO, Jalapa (*Schiede & Deppe*). Hb. Kew.

3. ***Stachys coccinea***, Jacq. Hort. Schœnb. iii. p. 18, t. 284; DC. Prodr. xii. p. 467; A. Gr. Synop. Fl. N. Am. ii. p. 388; Bot. Mag. t. 666; Andr. Bot. Rep. t. 310.

Stachys cardinalis, Kunze in Bot. Zeit. 1844, p. 645.

TEXAS to ARIZONA.—NORTH MEXICO, Chihuahua (*Thurber*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 732); SOUTH MEXICO, valley of Cordova (*Bourgeau*, 1547; *Andrieux*, 152), Guanajuato (*Hartweg*, 166), Cordillera of Oaxaca, at 7000 feet (*Galeotti*, 636), Real del Monte (*Coulter*, 1075); GUATEMALA, Volcan de Fuego, 7000 feet (*Salvin*). Hb. Kew.

4. **Stachys drummondii**, Benth. Lab. p. 551; DC. Prodr. xii. p. 478; A. Gr. Synop. Fl. N. Am. ii. p. 386.

TEXAS.—MEXICO, Real del Monte (*Coulter*, 1071, 1073), Orizaba (*Botteri*, 642). Hb. Kew.

5. **Stachys eriantha**, Benth. Lab. p. 549; DC. Prodr. xii. p. 479.

MEXICO (*Moçino & Sessé*).

6. **Stachys galeotti**, Mart. in Bull. Acad. Brux. xi. (reprint, p. 8); DC. Prodr. xii. p. 479.

SOUTH MEXICO, Moran, near Real del Monte, 7500 to 8000 feet (*Galeotti*, 698).

7. **Stachys hirsuta**, H. B. K. Nov. Gen. et Sp. ii. p. 308; DC. Prodr. xii. p. 468.

SOUTH MEXICO, between Actopan and Totonilco, at about 7000 feet (*Humboldt & Bonpland*).

8. **Stachys keerlii**, Benth. Lab. p. 551; DC. Prodr. xii. p. 480.

Stachys excelsa, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 10).

SOUTH MEXICO, near Tlalpujahua (*Keerl*), Cordillera of Oaxaca, at 8000 feet (*Galeotti*, 662). Hb. Kew.

9. **Stachys lindeni**, Benth. in DC. Prodr. xii. p. 467.

Stachys boraginoides, Benth. Lab. p. 540, non Mart. et Gal.

SOUTH MEXICO, Orizaba (*Botteri*, 635), San Blas to Tepic (*Sinclair*), valley of Mexico (*Bourgeau*, 1547), Sierra San Pedro Nolasco &c. (*Jurgensen*, 880), Teapa, Tabasco (*Linden*, 127). Hb. Kew.

10. **Stachys mexicana**, Benth. Lab. p. 541; DC. Prodr. xii. p. 469.

MEXICO (*Moçino & Sessé*).

11. **Stachys nepetæfolia**, Desf. Cat. Hort. Par. p. 58; DC. Prodr. xii. p. 471.

Nepeta circinata, Willd. Enum. Pl. Hort. Berol. p. 602.

SOUTH MEXICO, valley of Mexico (*Bourgeau*, 398). Hb. Kew.

This species was founded on cultivated specimens, supposed respectively to be of Spanish and Cappadocian origin; but there is no doubt that it is a Mexican plant, as we have exactly matched authenticated specimens of the cultivated plant with wild ones from Mexico.

12. **Stachys parvifolia**, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 9); DC. Prodr. xii. p. 480.

SOUTH MEXICO, Moran, near Real del Monte, at 7500 to 8000 feet (*Galeotti*, 701).

13. **Stachys pilosissima**, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 10); DC. Prodr. xii. p. 469.

SOUTH MEXICO, Cerro de San Felipe, near Oaxaca, at 8000 feet (*Galeotti*, 647). Hb. Kew.

14. **Stachys repens**, Mart. et Gal. in Bull. Acad. Brux. xi. (reprint, p. 10); DC. Prodr. xii. p. 479.

SOUTH MEXICO, peak of Orizaba, 9500 to 11,000 feet (*Galeotti*, 682; *Linden*, 124), Desierto Viejo (*Bourgeau*, 863). Hb. Kew.

15. **Stachys rotundifolia**, Moç. et Sessé, ex Benth. Lab. p. 548; DC. Prodr. xii. p. 478.

“NEW SPAIN” (*Moçino & Sessé*).

16. **Stachys schiedeana**, Schl. in Linnæa, vii. p. 398; DC. Prodr. xii. p. 468.

SOUTH MEXICO, near Jalapa (*Schiede & Deppe*).

28. TETRACLEA.

Tetraclea, A. Gr. in Am. Journ. Sc. ser. 2, xvi. p. 98; Benth. et Hook. Gen. Plant. ii. p. 1220.

An herbaceous or half-shrubby monotype.

1. **Tetraclea coulteri**, A. Gr. in Am. Journ. Sc. ser. 2, xvi. p. 98; Synop. Fl. N. Am. ii. p. 347; Torr. Bot. U.S. & Mex. Bound. Surv. p. 134, t. 41.

TEXAS to ARIZONA.—NORTH MEXICO, San Lorenzo de Laguna, Coahuila (*Palmer*, 1104), Sonora (*Smith*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 726); SOUTH MEXICO, Zimapan (*Coulter*, 1072). Hb. Kew.

29. TRICHOSTEMA.

Trichostema, Linn. Gen. Plant. n. 733; Benth. et Hook. Gen. Plant. ii. p. 1219.

Eight herbaceous species, inhabiting North America.

1. **Trichostema arizonicum**, A. Gr. in Proc. Am. Acad. viii. p. 371, et Synop. Fl. N. Am. ii. p. 348.

Trichostema dichotomum, Torr. Bot. U.S. & Mex. Bound. Surv. p. 134, non Linn.

ARIZONA.—NORTH MEXICO, Chiricahui Mountains (*Wright*).

30. TEUCRIUM.

Teucrium, Linn. Gen. Plant. n. 706; Benth. et Hook. Gen. Plant. ii. p. 1221.

Herbs or shrubs. Nearly 100 species, generally diffused in temperate and warm countries, though fewer in the latter; most numerous in the Mediterranean region.

1. **Teucrium canadense**, Linn. Sp. Pl. p. 789; DC. Prodr. xii. p. 581; A. Gr. Synop. Fl. N. Am. ii. p. 349.

CANADA to TEXAS.—NORTH MEXICO, west of Cerralbo (*Gregg*), Parras, Coahuila (*Palmer*, 1099). Hb. Kew.

2. **Teucrium cubense**, Linn. Mant. p. 80; DC. Prodr. xii. p. 578; A. Gr. Synop. Fl. N. Am. ii. p. 349; Jacq. Obs. t. 30; Griseb. Fl. Brit. W. Ind. p. 492.

TEXAS to CALIFORNIA.—NORTH MEXICO, Monterey (*Palmer*, 1100), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 727), Sonora (*Wright*); SOUTH MEXICO, near Papantla (*Schiede & Deppe*).—CUBA to BUENOS AYRES. Hb. Kew.

3. **Teucrium inflatum**, Sw. Prodr. Fl. Ind. Occ. p. 88; DC. Prodr. xii. p. 581; Griseb. Fl. Brit. W. Ind. p. 492; Desc. Fl. Antill. iii. t. 223.

SOUTH MEXICO, Tehuacan at 5000 feet (*Galeotti*, 638), Orizaba (*Botteri*), valley of Cordova (*Bourgeau*, 1586); GUATEMALA (*Friedrichsthal*; *Bernoulli*); NICARAGUA, near Granada (*Lévy*).

Widely dispersed in TROPICAL AMERICA, WEST INDIES, and POLYNESIA. Hb. Kew.

4. **Teucrium laciniatum**, Torr. in Ann. Lyc. N. York, ii. p. 231; DC. Prodr. xii. p. 579; A. Gr. Synop. Fl. N. Am. ii. p. 349.

COLORADO to TEXAS and ARIZONA.—NORTH MEXICO, San Lorenzo de Laguna, Coahuila (*Palmer*, 1101). Hb. Kew.

Order CV. PLANTAGINEÆ.

Plantagineæ, Benth. et Hook. Gen. Plant. ii. p. 1223.

Herbaceous and half-shrubby plants. The Order consists of three genera—the following, and one Andean and one European of one or two species each.

1. PLANTAGO.

Plantago, Linn. Gen. Plant. n. 142; Benth. et Hook. Gen. Plant. ii. p. 1224.

Upwards of 200 species are described by Decaisne; but Bentham and Hooker estimate that there are probably not more than 100 distinct species. The Mexican species are,

in need of revision ; and, judging from the specimens we have seen, there are at most six species.

1. **Plantago aristata**, Michx. Fl. Bor.-Am. i. p. 95 ; DC. Prodr. xiii. 1, p. 714.
ILLINOIS southward.—MEXICO, Matamoros (*Berlandier*). Hb. Kew.
Dr. A. Gray (Synop. Fl. N. Am. ii. p. 391) refers this to *P. patagonica*, Jacq., and states that most of the dozen species of the same division in the 'Prodromus' belong to the same species.
2. **Plantago bernoulliana**, Vatke in Oester. Zeitschr. 1875, p. 48.
GUATEMALA? (*Bernoulli*).
3. **Plantago cumingiana**, Fisch. et Mey. Ind. Sem. Hort. Petrop. 1837, p. 44 ;
DC. Prodr. xiii. 1, p. 723.
SOUTH MEXICO, between Tampico and Real del Monte (*Berlandier*).
4. **Plantago floccosa**, Dcne. in DC. Prodr. xiii. 1, p. 723.
SOUTH MEXICO, Tula to Tampico (*Berlandier*, 750). Hb. Kew.
5. **Plantago galeottiana**, Dcne. in DC. Prodr. xiii. 1, p. 726.
SOUTH MEXICO, Cordillera around Real del Monte, at 7500 feet, and around Oaxaca, at 9000 feet (*Galeotti*, 1425, 1427). Hb. Kew.
6. **Plantago hirtella**, H. B. K. Nov. Gen. et Sp. ii. p. 229, t. 127 ; A. Gr. Synop. Fl. N. Am. ii. p. 392.
CALIFORNIA.—MEXICO (ex *A. Gray*).—CHILI.
7. **Plantago major**, Linn. Sp. Pl. p. 163 ; A. Gr. Synop. Fl. N. Am. ii. p. 389.
In nearly all temperate and warm countries, including MEXICO and CENTRAL AMERICA.
Hb. Kew.
8. **Plantago mexicana**, Link, Enum. Pl. Hort. Berol. i. p. 121 ; DC. Prodr. xiii. 1, p. 713.
NORTH MEXICO, region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 765) ;
SOUTH MEXICO, valley of Mexico (*Bourgeau*, 180 ; *Schaffner*, 449), Aguas Calientes (*Hartweg*), San Andres (*Schiede & Deppe*), Morelia, 7000 feet (*Galeotti*). Hb. Kew.
9. **Plantago multiceps**, H. B. K. Nov. Gen. et Sp. ii. p. 228 ; DC. Prodr. xiii. 1, p. 711.
SOUTH MEXICO, around Toluca (*Humboldt & Bonpland*).
10. **Plantago nivea**, H. B. K. Nov. Gen. et Sp. ii. p. 228 ; DC. Prodr. xiii. 1, p. 712.
SOUTH MEXICO, near Guanajuato, at about 7200 feet (*Humboldt & Bonpland*).

11. ***Plantago philippica***, Cav. Ic. Pl. iv. p. 35, t. 359. fig. 2; DC. Prodr. xiii. 1, p. 711.

MEXICO (*Berlandier*).

12. ***Plantago schiedeana***, Dcne. in DC. Prodr. xiii. 1, p. 723.

SOUTH MEXICO, Orizaba (*Galeotti*, 1420).

13. ***Plantago virginica***, Linn. Sp. Pl. ii. p. 164; DC. Prodr. xiii. 1, p. 722; A. Gr. Synop. Fl. N. Am. ii. p. 391 (varietates).

NEW ENGLAND to ILLINOIS, FLORIDA, and TEXAS.—NORTH MEXICO, Sonora (*Schott*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 763); SOUTH MEXICO, valley of Mexico (*Bourgeau*, 182, 400), Jalapa (*Galeotti*, 1419), Real del Monte (*Coulter*, 926), Vera Cruz to Orizaba (*Müller*). Hb. Kew.

14. ***Plantago xorullensis***, H. B. K. Nov. Gen. et Sp. ii. p. 228; DC. Prodr. xiii. 1, p. 714.

SOUTH MEXICO, Volcan de Jorullo (*Humboldt & Bonpland*).

11. **Plantago philippica**, Cav. Ic. Pl. iv. p. 35, t. 359. fig. 2; DC. Prodr. xiii. 1, p. 711.

MEXICO (*Berlandier*).

12. **Plantago schiedeana**, Dcne. in DC. Prodr. xiii. 1, p. 723.

SOUTH MEXICO, Orizaba (*Galeotti*, 1420).

13. **Plantago virginica**, Linn. Sp. Pl. ii. p. 164; DC. Prodr. xiii. 1, p. 722; A. Gr. Synop. Fl. N. Am. ii. p. 391 (varietates).

NEW ENGLAND to ILLINOIS, FLORIDA, and TEXAS.—NORTH MEXICO, Sonora (*Schott*), region of San Luis Potosi, 6000 to 8000 feet (*Parry & Palmer*, 763); SOUTH MEXICO, valley of Mexico (*Bourgeau*, 182, 400), Jalapa (*Galeotti*, 1419), Real del Monte (*Coulter*, 926), Vera Cruz to Orizaba (*Müller*). Hb. Kew.

14. **Plantago xorullensis**, H. B. K. Nov. Gen. et Sp. ii. p. 228; DC. Prodr. xiii. 1, p. 714.

SOUTH MEXICO, Volcan de Jorullo (*Humboldt & Bonpland*).

