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of the

Botanical Survey of India

VOLUME VIII.—No. 2

FLORA ARABICA

BY

ETHELBERT BLATTER, S.J., F.L.S.,

Professor of Botany at St. Xavier's College, Bombay.

PART II

LEGUMINOSÆ—COMPOSITÆ.

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HABITAT: I. Arab. Petr.: Wady Feiran (Schimp. 418! Lord!).
II. Aden (Hook. f. 104! Balfour! Thomson! Anders.! Defl. 42! 91! S.! Perry!); Beit el Fakih (Forsk.); Arabia (Ehrenb. !).
III. Hadramaut: Dhofar Mts. (Bent 128!); Al Agum, 2,300 ft. (Lunt 162!).
IV. Masqat (Auch.-Eloy 4374!).

Fl.: Jan. 1880 (Balfour), Jan. 1894 (Lunt), Mar. 1878 (Perry), May 1868 (Lord), July (Schimp.), Dec. 1889 (Defl.).

DISTRIB.: Upper Egypt, Abyssinia, Nubia, Eritrea, Kordofan, Sennaar, Arabia, Syria.

Uses: See Blatt. Fl. Aden l. c.

XXXIX. LEGUMINOSAE.

§PAPILIONACEAE.

1. Anagyris L.

1. **A. foetida** L. Sp. Pl. (1753) 374; Boiss. Fl. Or. ii, (1872) 24.

HABITAT: I. Ramleh (Lowne!); J. Maamara (Botta!).
II. Near Sanah, 2,800 m. (Defl. 485!).

DISTRIB.: Mediterranean region, Arabia.

Vern. name: *Gerrud* (ex Boiss.), *Jarrud* (Post).

2. Lotononis DC.

1. **L. abyssinica** Kotschy in Sitzb. Acad. Wien, Math.-Nat. Abth. ii, (1865) 263.—*Leobordea abyssinica* Hochst. ex Rich. Fl. Abyss. i, (1847) 161.

HABITAT: II. Hijaz (ex Kotschy).

DISTRIB.: Abyssinia, Arabia.

2. **L. dichotoma** Boiss. Fl. Or. ii, (1872) 30.—*Lotus dichotomus* Del. Ill. Fl. d' Eg. n. 717.—*Leobordea lotoidea* Del. Frag. Fl. Arab. Petr. (1833) n. 85; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, iii, (1835) 266; Kotschy in Sitzb. Kais. Akad. Wiss. lii, (1866) 13.—*Lotononis Leobordea* Benth. Lond. Journ. xi, 607.

HABITAT: I. Wady Zewerah (Lowne!); Wady Shaikh (Boiss.); W. Sewook, W. Gennah, W. Feiran (Lord!); Mt. Sinai (Schimp. 414! Auch. 1041!); Desert of Sinai (Bové 194); Arabia Petraea (McDonald! De Laborde); W. es Sle, Plain of Raha (Kneuck.); N. & Central Midian (Burton!).

II. Yaman (Ehrenb. !) ; Jiddah (Zohrab 116 ! 127 ! Fischer 64 !).

FL. : Febr. (Fischer), Apr. (Schimp.).

DISTRIB. : Mediterranean region, Abyssinia, Arabia.

Vern. name : *Horbos* (Bové), *Hhurbut* (Post).

Note : Eaten by cattle (Burton).

VAR. **persica** Post Fl. Syr. etc. (1896) 211.—*L. persica* Boiss. Fl. Or. ii, (1872) 30.—*Leobordea persica* Jaub. &. Sp. Ann. Sc. Nat. (1843) 235.

HABITAT : I. Sinai (ex Post) ; W. Feiran (Botta !).

II. Jiddah (Schimp. 768 !).

DISTRIB. : Arabia, Persia, Baluchistan.

3. Crotalaria L.

1. **C. aegyptiaca** Benth. in Hook. Lond. Journ. Bot. ii, (1843) 473 ; Boiss. Fl. Or. ii, (1872) 25 ; Post Fl. Syr. etc. (1896) 212 ; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 97 ; Baker in Journ. Linn. Soc. lii, (1914) 258.

HABITAT : I. Sinai (Bové 521 !); Sinai Desert (Bové 197 ! Boiss. !) ; Arabia Petraea (Boiss. ! Schimp. 718 !) ; J. Nakus (Musch.).

IV. Masqat (Auch.-Eloy 4464 ! 4354 !).

FL. : Mar. 1846 (Boiss.).

DISTRIB. : Egypt, Nubia, Arabia.

Vern. name : *Natash* (Post).

2. **C. Deflersii** Schweinf. in Bull. Herb. Boiss. (1896) App. II, 224.— ? *C. clavata* W. & A. Prodr. Fl. Ind. Or. 194. See Defl. Yemen (1889) 127.

HABITAT : II. Hajeilah, W. Madfar, 650 m. (S. 934 !).

FL. : Jan. 1889 (S.).

FR. : Jan. 1889 (S.).

DISTRIB. : Eritrea, Yaman.

3. **C. astragalina** Hochst. in Schimp. Herb. Abyss. n. 808 ; Oliv. Fl. Trop. Afr. ii, (1871) 43 ; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 226.—*C. striata* A. Br. in Flora, xxiv, (1841) 280, *non DC.*—*C. abyssinica* D. Dietr. Syn. iv, (1847) 933.

HABITAT : II. Wasil, 1,400 m. (S. 1317).

FL. : Feb. 1889 (S.).

FR. : Feb. 1889 (S.).

DISTRIB. : Abyssinia, Eritrea, Yaman.

4. **C. falcata** Vahl; DC. Prodr. ii, 132; Benth. in Lond. Journ. Bot. ii, 585; Baker in Oliv. Fl. Trop. Afr. ii, (1871) 40; Blatt. Fl. Aden (1915) 166.—*C. striata* Schum. et Thon. Pl. Guin., *non DC.*

HABITAT: II. Aden (Playfair).

DISTRIB.: Upper Guinea, Lagos, Nigeria, Congo.

5. **C. incana** L. Sp. Pl. (1753) 716; DC. Prodr. ii, (1825) 132; Oliv. Fl. Trop. Afr. ii, (1871) 31; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 224.—*C. Schimperi* A. Rich. Fl. Abyss. i, (1847) 151; Defl. Yemen (1889) 126.—*C. montana* A. Rich. l. c. 152.—*Chrysocalyx Schimperi* Hochst. in Schimp. Pl. Abyss. n. 394.

HABITAT: II. W. Hejan below Wasil, 1,000 m. (S. 1276 !); Hajeilah, 600 m. (Defl. 358); in the mountains of Yaman (Botta !).

FL.: Feb. 1889 (S.).

FR.: Feb. 1889 (S.).

DISTRIB.: Cosmopolitan in the tropics.

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6. **C. juncea** L. Sp. Pl. (1753) 714; Defl. Yemen (1889) 126.

HABITAT: II. Cultiv. ground near Lahaj (Defl.).

DISTRIB.: Arabia, India, Malaya, Australia.

7. **C. leptocarpa** Balf. f. Bot. Socotra 66, t. XIV A.; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 228; Blatt. Fl. Aden (1915) 164.—*C. dubia* Balf. f. Proc. Roy. Soc. Edinb. xi, 508 (*non Graham*).

HABITAT: II. Aden (S. 44. ! Birdw. !); Little Aden (Defl. !).

FL.: Mar. 1881 (S.).

FR.: Mar. 1881 (S.).

DISTRIB.: Socotra, Somali-coast.

8. **C. microphylla** Vahl Symb. Bot. i, (1790) 52; DC. Prodr. ii, (1825) 134; Oliv. Fl. Trop. Afr. ii, (1871) 16; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 223; Baker in Journ. Linn. Soc. lii, (1914) 401.—*C. pumila* Hochst. et Steud. Schimp. Pl. Arab.

HABITAT: II. Jiddah (Schimp. 778! Fischer 65! Zohrab 179!); Shuqra (S. 124).

FL.: Jan. 1836 (Schimp.), Feb.-Mar. (Fischer), Mar. 1881 (S.).

FR.: Mar. 1881 (S.).

DISTRIB.: Sudan, Eritrea, Arabia.

9. **C. pycnostachya** Benth. in Hook. Lond. Journ. Bot. ii, (1843) 584; Oliv. Fl. Trop. Afr. ii, (1871) 43; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 226.—*C. melilotoides* Steud. ex Rich. Fl. Abyss. i, (1847) 155.

HABITAT: II. Okeber, 900 m. (S. 858 !).
FL.: Jan. 1889 (S.).
FR.: Jan. 1889 (S.).
DISTRIB.: Sudan, Abyssinia, Somaliland, British East Africa.

10. C. retusa L. Sp. Pl. (1753) 715; DC. Prodr. ii, (1825) 125; Oliv. Fl. Trop. Afr. ii, (1871) 13; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 223; Baker in Journ. Linn. Soc. lii, (1914) 270.—*Dolichos cuneifolius* Forsk. Fl. Aeg.-Arab. (1775) 134.

HABITAT: II. J. Bura, Hille (S. 294 !); neighbourhood of Lahaj (Defl. 300 !); Lahaj (Ellenbeck); Yaman (Ehrenb.!); Wady Mor (Forsk.); E. of Marrana (S. 180); below Wasil, 1,200 m. (S. 1270).
FL.: Jan.-Feb. 1889 (S.), Jan. 1890 (Defl.), Dec. 1888 (S.).
FR.: Jan. 1889 (S.), Jan. 1890 (Defl.).
DISTRIB.: Tropical Africa, Mascarene Islands, India, Ceylon, China, Malaya, Australia, America.
Vern. name: *semetigai* (Ellenbeck), *kolkol* (Forsk.), *qulqul* (S.).

11. C. Saltiana Andrews Bot. Rep. t. 648 (1811); Baker f. in Journ. Linn. Soc. xlii, (1914) 309.—*C. lupinoides* Hochst. in Herb. Kotschy Nub. n. 41; Benth. in Hook. Lond. Journ. Bot. ii, 583; Defl. Yemen (1889) 126; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 225; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 97: Blatt. Fl. Aden (1915) 164.

HABITAT: I. Kalat et Tor (Musch.).
II. Mountainous region of Yaman (Botta); near Hajeilah (Defl. 187); Aden (Perry! Balfour! Lunt 351! Defl. 98! S. 90! Beevor! Birdw.!); neighbourhood of Lahaj (Defl. 298!); oasis of Lahaj (Defl. 132!); Shuqra (S. 90).
FL.: Jan. 1890 (Defl.), Mar. 1881 (S.), Dec. 1888 (S.), Dec. 1889 (Defl.).
FR.: Jan. 1890 (Defl.), Mar. 1881 (S.), Dec. 1888 (S.), Dec. 1889 (S.).
DISTRIB.: Upper Egypt, Nubia, Abyssinia, Eritrea, Kordofan, Arabia.
Vern. name: *Natasch* (Musch.).

12. C. Schweinfurthii Defl. in Bull. Soc. Bot. France, xxxii, (1885) 348 (*non Taub. neque Vierh.*); Blatt. Fl. Aden (1915) 165.

HABITAT: Aden (Defl.!).
FL.: Mar.-Apr. (Defl.).
DISTRIB.: Endemic.

13. C. spinosa Hochst. in Herb. Schimp. i, n. 150 ; iii, n. 1540 et in Flora xxiv, I, Intell. 32, (1841) ; Oliv. Fl. Trop. Afr. ii, (1871) 17 ; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 228.

HABITAT : II. Below Wasil, 1,200 m. (S. 1990).

FR. : Feb. 1889 (S.).

DISTRIB. : Widely distributed in Tropical Africa.

14. C. squamigera Defl. Yemen (1889) 126.

HABITAT : II. Near Taez, 1,400 m. (Defl. 695).

DISTRIB. : Endemic.

15. C. striata DC. Prodr. ii, (1825) 131 ; Bot. Mag. t. 3200 ; Hook. Fl. Brit. Ind. ii, (1876) 84 ; Oliv. Fl. Trop. Afr. ii, (1871) 28 ; Baker in Kew Bull. (1894) 331 ; Blatt. Fl. Aden (1915) 166.—*C. pisiformis* Guill. & Pers. Fl. Seneg. 162.

HABITAT : II. Aden (Perry ! Lunt !).
III. Banks of irrigation channel at Furuth, 2,100 ft. (Lunt).

DISTRIB. : Throughout the tropics of both hemispheres.

16. C. sp. Defl. Yemen (1889) 126.

HABITAT : II. Yaman : near Sanah, 2,300 m. (Defl. 507).

Note : Nearly allied to C. microcarpa Vahl.

4. Lupinus L.

1. L. angustifolius L. Sp. Pl. (1753) 721.

HABITAT : I. Arabia Petraea (ex Musch.).

DISTRIB.: Mediterranean region.

2. L. palaestinus Boiss. Diagn. Pl. Or. ser. 1, ix, 9 ; Fl. Or. ii, (1872) 27.

HABITAT : I. Arabia Petraea (Boiss.).

DISTRIB. : Arabia Petraea, Palestine.

5. Argyrolobium Eckl. et Zeyh.

1. A. arabicum Jaub. & Sp. Ill. Pl. Or. i, 115 ; Anders. Fl. Aden. (1860) 15 ; Boiss. Diagn. Pl. Or. ser. 1, ii, 13 ; Defl. Yemen (1889) 128 ; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 228 ; Blatt. Fl. Aden (1915) 167.—*Cytisus arabicus* Dene. Pl. l'Arab. Heur. in Ann. Sc. Nat. ser. 2, iv, (1835) 78.

HABITAT : II. Aden (S.! Defl.!); near Sanah, 2,600 m. (Defl. 469).

FL. : Jan. 1831 (Bové), Mar. (S.), Oct. (Marchesetti).

FR. : Jan. 1831 (Bové).

DISTRIB. : Endemic.

2. **A. roseum** Jaub. & Sp. Ill. Pl. Or. i, (1842) 116; Hook. Fl. Brit. Ind. ii, 64.—*Cytisus roseus* Camb. in Jacq. Voy. Bot. iv, 35, t. 40.—*A. ornithopodioides* Jaub. & Sp. in Ann. Sc. Nat. ser. 2, xix, 51; Ill. Pl. Or. i, 116.—*A. Kotschyi* Boiss. Diagn. Pl. Or. ser. 1, vi, 32.

HABITAT : II. Aden, in sandy flats (Perry ! S. 43 ! Lunt 283 !).

III. Dhofar Mts. : Wady Darbat, 800 ft. (Bent !).

FL. : Apr. 1894 (Lunt). FR. : Mar. 1881 (S.), Apr. 1894 (Lunt).

DISTRIB. : Tropical and sub-tropical tracts of the north-west of India, ascending from the plains to 7,000 ft. in Kumaon, Sind, Baluchistan, Persia, Arabia.

3. **A. uniflorum** Jaub. & Sp. in Ann. Sc. Nat. ser. 2. xix, (1843) 45; Boiss. Fl. Or. ii, (1872) 32.—*Cytisus uniflorus* Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, iii, (1835) 265.

HABITAT : I. Desert of Sinai (Bové 197 !).

FR. : June 1832 (Bové).

DISTRIB. : Mediterranean region, Eritrea.

4. **A. virgatum** Baker in Oliv. Fl. Trop. Afr. ii, (1871) 46; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 228.

HABITAT : II. Above Manakhah, 2,600 m. (S. 1659).

FL. : Mar. 1889 (S.). FR. : Mar. 1889 (S.).

DISTRIB. : Abyssinia, Eritrea, Arabia.

5. **A. sp.** probably a new species.—*A. arabicum* T. Anders. (*non Jaub. & Sp.*).

HABITAT : II. Aden (Beevor 4 ! Hook. 65 ! Thomson ! Perry!).

Note : See note in Blatt. Fl. Aden, p. 168.

6. Genista L.

1. **G. ferox** Poir. Encyc. Suppl. II, 708.

HABITAT : I. Midian (Burton !).

DISTRIB. : N. Africa, Arabia.

7. Retama Boiss.

1. **R. Rætam** Webb. Phyt. Canar. ii, (1836-1850) 56; Boiss. Fl. Or. ii, (1872) 37; Musch. Fl. Eg. i, (1912) 473.—*Genista Rætam* Forsk. Fl. Aeg.-Arab. (1775) 214.—*G. monosperma* Lamk.; DC. Prodr. ii, (1825) 150; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, iii, (1835) 265; Schenk. Sp. Pl. it. Aeg. Arab. & Syr. (1840) n. 211.—*Spartium Rætam* Jaub. & Sp. in Ann. Sc. Nat. ser. 2, xix, 288, t. 16, f. 1.

HABITAT: I. Sinai (Drake! Holland! Bové 183! Auch.-Eloy 1088!); Wady Staf (Schimp. 228!); Wady Harun (Hart!); Arabia Petraea (Ehrenb.! Pinard! Boiss.! McDonald!); N. Midian (Burton!).

FR.: Apr. 1835 (Schimp.), June 1832 (Bové).

DISTRIB.: Tunis, Algeria, Morocco, Egypt, Arabia Petraea, Palestine.

Vern. name: *Retam* (Bové), *Ratam behâm* (Forsk.).

Note: For medical uses and symbolism see Forsk. l. c.

VAR. **Duriæi** Letourn. in Bull. Soc. Bot. France, xxxvi, (1889) 94; Musch. Fl. Eg. i, (1912) 473.—*R. Duriæi* Webb. in Ann. Sc. Nat. ser. 2, xx, 279; Boiss. Fl. Or. Suppl. (1888) 159.—*Spartium Duriæi* Spach in Ann. Sc. Nat. ser. 2, xix, 289, t. XVI, f. 2.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Tunis, Algeria, Egypt, Arabia Petraea, Palestine.

Vern. name: *Retem* (ex Musch.).

8. Ononis L.

1. **O. mitissima** L. Sp. Pl. (1753) 717; Boiss. Fl. Or. ii, (1872) 64; Musch. Fl. Eg. i, (1912) 478.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Mediterranean region.

2. **O. natrix** L. Sp. Pl. (1753) 717. VAR. *stenophylla* Boiss. Fl. Or. ii, (1872) 59.

HABITAT: I. Ramleh (Hart!).

DISTRIB.: Of var.: Arabia Petraea, Palestine, Syria.

Vern. name: *Wesba* (Post).

3. **O. pubescens** L. Mant. 267; Boiss. Fl. Or. ii, (1872) 62; Musch. Fl. Eg. i, (1912) 476.—*O. calycina* Lam. Dict. i, 506.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Mediterranean region.

Vern. name: *Dibbaiqah* (Post).

4. **O. reclinata** L. Sp. Pl. (1762) 1011; Boiss. Fl. Or. ii, (1872) 61.

HABITAT: IV. Neighbourhood of Kuwait (Pelly!).

DISTRIB.: Mediterranean region, Abyssinia, Persia.

VAR. *minor* Moris Fl. Sard. (1837) 422; Boiss. l. c.—*O. Cherleri* Desf. Atl. ii, 148 (*non L.*).

HABITAT: I. Arabia Petraea (Boiss.); Arabia Petraea and southwards (ex Post).

DISTRIB.: Mediterranean region, Persia.

5. **O. serrata** Forsk. Fl. Aeg.-Arab. (1775) 130; Boiss. Fl. Or. ii, (1872) 63; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 97.

HABITAT: I. Arabia Petraea (McDonald! Boiss.!); neighbourhood of El Tor (Musch.).

DISTRIB.: Mediterranean region, Persia.

6. **O. sicula** Guss. Adnot. Cat. Hort. Boccard (1821) 10; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, iii, (1835) 265; Boiss. Fl. Or. ii, (1872) 60.—*O. persica* Burm. Ind. t. 49, f. 1.

HABITAT: I. Arabia Petraea: Naharrek (Schimp. 136!), Arabia Petraea (Auch.-Eloy 1139! Boiss.); Desert of Sinai (Bové 187!).

FL.: June 1832 (Bové). FR.: June 1832 (Bové).

DISTRIB.: Mediterranean region, Persia, India.

Vern. name: *Address* (Bové).

7. **O. vaginalis** Vahl Symb. Bot. i, (1790) 53; Boiss. Fl. Or. ii, (1872) 59; Musch. Fl. Eg. i, (1912) 476.—*O. Kotschyana* Fenzl. Pug. Illustr. Syr. 15.—*O. Cherlei* Forsk. Fl. Aeg.-Arab. (1775) 130. (*non L.*).

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Canaries, Cyrenaica, Egypt, Arabia Petraea.

9. Trigonella L.

1. **T. anguina** Del. Ill. Fl. d'Eg. (1813) 110, t. 38, f. 2; Schenk Sp. Pl. it. Aeg.-Arab. & Syr. (1840) n. 213; Boiss. Fl. Or. ii, (1872) 86.

HABITAT: I. Between Suez and Tor (ex Schenk).

DISTRIB.: Mediterranean region, Persia.

2. **T. arabica** Del. Frag. Fl. Arab. Petr. (1833) n. 78, f. 5; Boiss. Fl. Or. ii, (1872) 90.—*Pocockia arabica* Boiss. Diagn. Pl. Or. ser. 1, ix, 13.—*T. pecten* Schenk Sp. Pl. it. Aeg.-Arab. & Syr. (1840) n. 216.

HABITAT: I. Arabia Petraea (Boiss.! De Laborde); Deserts of Sinai, Akaba (Lambert!).

DISTRIB.: Egypt, Arabia Petraea, Palestine.

3. **T. cylindracea** Desv. Journ. Bot. iii, (1814) 77; Boiss. Fl. Or. ii, (1872) 82; Musch. Fl. Eg. i, (1912) 480.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Ciliciae, Syria, Palestine, Arabia Petraea.

4. **T. Foenum-græcum** L. Sp. Pl. (1762) 1095; Forsk. Fl. Aeg.-Arab. (1775) CXVIII, n. 464; Boiss. Fl. Or. ii, (1872) 70; Baker in Kew Bull. (1894) 331.

HABITAT: II. Cultivated in the plains and mountains (Forsk.).
III. Hadramaut: Cultivated at Katan, 1,500 ft. (Lunt 178 !).

FL.: Feb. 1894 (Lunt). FR.: Feb. 1894 (Lunt).

DISTRIB.: Mediterranean region, Abyssinia, Arabia, Persia.

Vern. name: *haelbe* (Forsk.), *Kadb* (Lunt), *khilbah* (Post).

Note: The sweet smelling seeds are used to give savour to hay that has become musty (Post).

5. T. hamosa L. Sp. Pl. (1762) 1094; Forsk. Fl. Aeg.-Arab. (1775) 141; Boiss. Fl. Or. ii, (1872) 84; Suppl. (1888) 162; Post Fl. Syr. etc. (1896) 224.—*T. striata* Vivian Pl. Aeg. Decad. (*non L.*)—*T. glabra* Thunbg. Fl. Cap. 160.

HABITAT: I. Arabia Petraea (ex Post).
II. Jiddah (Zohrab 119 ! 180 ! 205 !).

DISTRIB.: Egypt, Nubia, Arabia, Cape.

Vern. name: *'Usheib-el-melek, Darāqraq Kuteihah* (Post).

6. T. laciniata L. Sp. Pl. (1762) 1095; Boiss. Fl. Or. Suppl. (1888) 162.

HABITAT: II. Jiddah (Zohrab 122 !).

DISTRIB.: Tropical and extra tropical Egypt, Arabia.

7. T. maritima Del. in Poir. Encycl. v, (1817) 361; Boiss. Fl. Or. ii, (1872) 85; Post Fl. Syr. etc. (1896) 224.

HABITAT: I. Arabia Petraea (ex Post).

DISTRIB.: Mediterranean region, Egypt, Arabia Petraea, Palestine.

8. T. monspeliaca L. Sp. Pl. (1762) 1095; Boiss. Fl. Or. ii, (1872) 76; Musch. Fl. Eg. i, (1912) 480.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Mediterranean region, Persia.

9. T. occulta Del. Ill. Fl. Eg. (1813) 101; Boiss. Fl. Or. ii, (1872) 84; Musch. Fl. Eg. i, (1912) 480.—*T. arguta* Vis. Pl. Aeg. 33, t. 8.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Egypt, Arabia Petraea, Persia.

10. T. stellata Forsk. Fl. Aeg.-Arab. (1775) 140; Del. Frag. Fl. Arab. Petr. (1833) n. 77; Boiss. Fl. Or. ii, (1872) 85; Post Fl. Syr. etc.

(1896) 225; Kneuck. in Allg. Bot. Zeitsch. ix, (1903) 146; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 99.—*T. microcarpa* Fres. Mus. Senck. i, (1833) 86; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, iii, (1835) 266.—*T. hamosa* VAR. *microcarpa* Webb. Phyt. Canar. ii, 67.

HABITAT: I. Sinai (Drake!), Wady Feiran (Lord!); Wady Hebran, W. es Sle (ex Musch.); Desert between Suez and Tor (Bové 198!); Arabia Petraea (Pinard! McDonald! Boiss.! Schimp. 426!); Wady Tarfa, Plain of Raha, Wady Shaikh (Kneuck.); N. and Central Midian (Burton!).

III. Arabia (Wellsted!).

FL.: Mar. 1835 (Schimp.), Apr. 1846 (Boiss.).

FR.: June 1832 (Bové).

DISTRIB.: Mediterranean region.

Vern. name: *gargas, serakrak, hendakuk* (Musch.), *odur elch addam, Ethreni* (Schimp.).

11. T. polycerata L. Sp. Pl. 777; Carter in Rec. Bot. Surv. Ind. vi, (1917) 190.—*T. brahuica* Boiss. Fl. Or. ii, (1872) 73.

HABITAT: IV. Zor Hills (Cox 66).

DISTRIB.: Sibiria, S. Europe, Western Asia, Punjab, Upper Gangetic Plain.

Vern. name: *Nifal* (Cox).

12. T. media Del. Fl. Aegypt. Ill. 71; Boiss. Fl. Or. Suppl.; Carter in Rec. Bot. Surv. Ind. vi, (1917) 191.

HABITAT: IV. Zor Hills (Cox 58).

DISTRIB.: Egypt, Arabia.

Vern. name: *Handakuk.*

13. T. sp.

HABITAT: IV. Near Masqat (Last!).

10. Medicago L.

1. M. apiculata Willd. Sp. Pl. iii, 1414.—*M. denticulata* Willd. VAR. *apiculata* Boiss. Fl. Or. ii, (1872) 103.—*M. hispida* Gaertn. VAR. *apiculata* Urb. Verh. Bot. Ver. Prov. Brandenb. xv, (1873) 74; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 229.

HABITAT: II. Above Manakhah, 2,400 m. (S. 1932).

FL.: Feb. 1889 (S.).

FR.: Feb. 1889 (S.).

DISTRIB.: Egypt, Arabia, Syria, Mesopotamia, Persia.

Vern. name: *Uennem* (S.).

2. **M. arabica** All. Fl. Pedem. i, (1785) 315 ; Musch. Fl. Eg. i, (1912) 490.—*M. maculata* Willd. Sp. Pl. iii, 1412 ; Post Fl. Syr. etc. (1896) 229.

HABITAT : I. Arabia Petraea (ex Musch.).

DISTRIB. : Europe, Mediterranean region, Persia.

3. **M. arborea** L. Sp. Pl. (1753) 778; Boiss. Fl. Or. ii, (1872) 93; Musch. Fl. Eg. i, (1912) 486.

HABITAT : I. Arabia Petraea (ex Musch.).

DISTRIB. : Mediterranean region.

4. **M. Aschersoniana** Urb. in Verh. Bot. Ver. Prov. Brandenb. xv, (1873) 77; Post Fl. Syr. etc. (1896) 230.—*M. laciniata* All. VAR. *brachyacantha* Boiss. Fl. Or. ii, (1872) 104.—*M. Schimperiana* Hochst. in Schimp. exs.

HABITAT : I. Arabia Petraea (Schimp. !); Arabia Petraea and southwards (ex Post).

DISTRIB. : Egypt, Nubia, Cape, Arabia, Persia, India.

5. **M. coronata** L. Sp. Pl. (1753) 780 ; Boiss. Fl. Or. ii, (1872) 101 ; Musch. Fl. Eg. i, (1912) 489.

HABITAT : I. Arabia Petraea (ex Musch.).

DISTRIB. : Mediterranean region.

6. **M. denticulata** Willd. Sp. Pl. iii, 1414; Boiss. Fl. Or. ii, (1872) 102.—*M. hispida* Gaertn. VAR. *denticulata* Urb. in Verh. Bot. Ver. Prov. Brandenb. xv, (1873) 74.

HABITAT : I. Arabia Petraea (Boiss. !).

II. Jiddah (Zohrab 122 ! 123 ! 283 !); Fatimah, in cornfields (Fischer 68 !).

FL. : Feb. (Fischer).

DISTRIB. : Egypt, Eritrea, Arabia, Caucasus, Afghanistan.

7. **M. laciniata** All. Fl. Ped. i, (1785) 316 ; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, iii, (1835) 263 ; Boiss. Fl. Or. ii, (1872) 104; Post Fl. Syr. etc. (1896) 230 ; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 99 ; Carter in Rec. Bot. Surv. Ind. vi, (1917) 191.

HABITAT : I. Desert between Suez and Tor (Bové 196 !); Arabia Petraea and southwards and eastwards (ex Post); Central Midian (Burton !).

IV. A specimen collected by Cox, without precise locality.

FR. : June 1832 (Bové).

DISTRIB. : Mediterranean region, Persia.

8. **M. lappacea** Desrouss. ap. Lam. Encycl. iii, (1789) 637; Dur. & Barr. Fl. Libyc. Prodr. (1910) 71.—*M. denticulata* VAR. *lappacea* Boiss. Fl. Or. ii, (1872) 103.

HABITAT : I. Arabia Petraea (ex Dur. & Barr.).

DISTRIB. : Europe, Mediterranean region.

9. **M. lupulina** L. Sp. Pl. (1753) 779; Boiss. Fl. Or. ii, (1872) 105; Defl. Yemen (1889) 128; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 230.

HABITAT : II. J. Shibam above Manakhah, 2,500 m. (S. 1387 !); Wady Mazeb near Manakhah, 2,200 m. (Defl. 387).

FL. : Feb. 1889 (S.). FR.: Feb. 1889 (S.).

DISTRIB. : Europe, Mediterranean region, Abyssinia, Arabia, Persia, Afghanistan, temperate Asia.

10. **M. minima** Bartal Cat. Piant. Sien. (1776) 61; Boiss. Fl. Or. ii, (1872) 103; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 229.

HABITAT : I. Arabia Petraea (ex Musch.).

II. Above Manakhah near Kahil, 2,500 m. (S. 1469 !).

FL. : Feb. 1889 (S.). FR.: Feb. 1889 (S.).

DISTRIB. : Europe, Mediterranean region, Abyssinia, Arabia, Persia, Afghanistan, Kashmir.

11. **M. orbicularis** All. Fl. Pedem. i, (1785) 314; Boiss. Fl. Or. ii, (1872) 97; Post Fl. Syr. etc. (1896) 227.

HABITAT : I. Arabia Petraea (ex Post).

DISTRIB. : Central Europe, Mediterranean region, Abyssinia, Persia.

12. **M. rigidula** Desrouss. ap. Lam. Encycl. iii, (1789) 634; Urb. in Verh. Bot. Ver. Prov. Brandenb. xv, (1873) 68; Musch. Fl. Eg. i, (1912) 488.

HABITAT : I. Arabia Petraea (ex Musch.).

DISTRIB. : Europe, Mediterranean region, Persia.

13. **M. rotata** Boiss. Diagn. Pl. Or. ser. 1, ii, 24; Post Fl. Syr. etc. (1896) 227.

HABITAT : I. Arabia Petraea (ex Post).

DISTRIB. : Arabia Petraea, Palestine, Syria, Mesopotamia.

14. **M. sativa** L. Sp. Pl. (1762) 1096; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 229; Blatt. Fl. Aden (1915) 169.

HABITAT : II. Cultivated in Yaman (Defl.); cult. above Manakhah, 2,300-2,600 m. (S. 1444); Shaikh Othman, cult. (Defl.!).

III. Hadramaut, cult. (Hirsch 36).

FL.: Feb. 1889 (S.).

DISTRIB.: Europe, Mediterranean region, cultivated elsewhere.

Vern. name: *Gádub* (Hirsch), *qutat*, *duhhraijah* (Post), *qadhb* (S.).

VAR. **erecta** Schweinf. in Bull. Herb. Boiss. (1896) App. II, 229.

HABITAT: II. Yaman, cultiv. near El Hami (S. 157 !).

FL.: Apr. 1881 (S.).

Vern. name: *qadhub* (S.).

Note: The flowers are lilac.

15. M. scutellata All. Fl. Ped. i, 315; Boiss. Fl. Or. ii, (1872) 96; Post Fl. Syr. etc. (1896) 227.

HABITAT: I. Arabia Petraea (ex Post).

DISTRIB.: Mediterranean region.

16. M. tribuloides Desrouss. ap. Lam. Encycl. iii, (1789) 635; Boiss. Fl. Or. ii, (1872) 99; Post Fl. Syr. etc. (1896) 228.—*M. murex* Willd. Guss. ex Boiss.

HABITAT: I. Arabia Petraea (Boiss. and ex Boiss.).

DISTRIB.: Mediterranean region.

17. M. tuberculata Willd. Sp. Pl. iii, (1800) 1410; Boiss. Fl. Or. ii, (1872) 99; Urb. in Verh. Bot. Ver. Prov. Brandenb. xv, (1873) 71.

HABITAT: I. Arabia Petraea (Boiss. !).

DISTRIB.: Mediterranean region.

18. M. sp. in Defl. Yemen (1889) 128. [fortassis varietas pubescens M. sativæ L.].

HABITAT: II. Between Sanah and Raudha, cult., 2,300 m. (Defl. 531 !).

19. M. sp. in Carter in Rec. Bot. Surv. Ind. vi, (1917) 191.

HABITAT: Zor Hills, grows on the plains, hills and sand hills, fairly common (Cox 34).

Vern. name: *Umm ukkwaitim* (= mother of rings) (Cox).

Note: Flowers white, fruits said to resemble rings, whence the native name.

11. Melilotus Juss.

1. M. alba Desr. in Lam. Dict. i, 63; Boiss. Fl. Or. ii, (1872) 109; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 230.—*M. officinalis* VAR. β. L. Sp. Pl. (1762) 1078.

HABITAT: II. Above Manakhah, cult., 2,600 m. (S. 1646); Shuqra, cult. (S. 136).

FL. : Mar. 1881 (S.). FR. : Feb. 1889 (S.), Mar. 1881 (S.).

DISTRIB. : Europe, Mediterranean region, Arabia, Persia, Siberia, China.

Vern. name : *khandaqúq* (Post), *reimann, remán* (S.).

Note :—The flowers are put between the clothes on account of their fragrance (S.).

2. **M. elegans** Salzman in DC. Prodr. ii, 188; Boiss. Fl. Or. ii, (1872) 107 ; Musch. Fl. Eg. i, (1912) 493.—*M. abyssinica* Hochst. ex Boiss. l. c.—*M. abyssinica* Baker in Oliv. Fl. Trop. Afr. ii, (1871) 53.

HABITAT : I. Arabia Petraea (ex Musch.).

DISTRIB. : Mediterranean region, Abyssinia.

3. **M. indica** L. Sp. Pl. (1762) 1077 : Kneuck. in Allg. Bot. Zeitsch. ix, (1903) 146.—*M. parviflora* Desf. Fl. Atl. ii, (1798) 192 ; Boiss. Fl. Or. ii, (1872) 108 ; Post Fl. Syr. etc. (1896) 231.

HABITAT : I. Arabia Petraea (Boiss. !); Wady Feiran (Kneuck.).

DISTRIB. : Mediterranean region, Caucasus, Mesopotamia, Persia, Afghanistan, India, China, America.

Vern. name : *mukheilibah, qurt* (Post).

4. **M. messanensis** Desf. Fl. Atlant. ii, (1798) 192 ; Boiss. Fl. Or. ii, (1872) 107 ; Musch. Fl. Eg. i, (1912) 493.— *Trifolium messanense* L. Mant. 275.

HABITAT : I. Arabia Petraea (ex Musch.).

DISTRIB. : Mediterranean region.

5. **M. sulcata** Desf. Fl. Atl. ii, (1798) 193; Boiss. Fl. Or. ii, (1872) 106; Post Fl. Syr. etc. (1896) 230 ; Musch. Fl. Eg. i, (1912) 492.

HABITAT : I. Arabia Petraea (ex Musch.).

DISTRIB. : Mediterranean region.

VAR. **maior** Camb. ex Boiss. l. c ; Musch. l. c. 493.

HABITAT : I. Arabia Petraea (ex Musch.).

DISTRIB. : Egypt, Arabia Petraea, Syria.

12. Trifolium L.

1. **T. angustifolium** L. Sp. Pl. (1753) 769 ; Boiss. Fl. Or. ii, (1872) 122 ; Musch. Fl. Eg. i, (1912) 496.

HABITAT : I. Arabia Petraea (ex Musch.).

DISTRIB. : Mediterranean region, Persia.

2. **T. clypeatum** L. Sp. Pl. (1753) 769 ; Boiss. Fl. Or. ii, (1872) 129 ; Post Fl. Syr. etc. (1896) 238.

HABITAT : I. Arabia Petraea (Boiss. !).
DISTRIB. : Mediterranean region.
Vern. name : *Bezaz-ul-boqr* (Post).

3. **T. dichroanthum** Boiss. Diagn. Pl. Or. ser. 1, ix, 20 ; Fl. Or. ii, (1872) 124 ; Musch. Fl. Eg. i, (1912) 498.
HABITAT : I. Arabia Petraea (ex Musch.).
DISTRIB. : Mediterranean region.

4. **T. lappaceum** L. Sp. Pl. (1753) 768 ; Boiss. Fl. Or. ii, (1872) 119 ; Musch. Fl. Eg. i, (1912) 496.
HABITAT : I. Arabia Petraea (ex Musch.).
DISTRIB. : Mediterranean region.

5. **T. nigrescens** Viv. Fl. Ital. Fragm. i, (1808) 12, t. 13 ; Boiss. Fl. Or. ii, (1872) 143 ; Musch. Fl. Eg. i, (1912) 499.
HABITAT : I. Arabia Petraea (ex Musch.).
DISTRIB. : Mediterranean region.

6. **T. purpureum** Loisel. Fl. Gall. ed. 2. ii, (1828) 125, t. 14 ; Schenk Sp. Pl. it. Aeg. Arab. & Syr. (1840) 218 ; Boiss. Fl. Or. ii, (1872) 123.
HABITAT : I. Desert of Mt. Sinai (Schenk !).
DISTRIB. : Mediterranean region.
Vern. name : *abu dalebise* (ex Boiss.).

7. **T. semipilosum** Fres. Mus. Senck. ii, (1837) 52 ; Defl. Yemen (1889) 128 ; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 231.
HABITAT : II. J. Shibam, Manakhah, 2,300—2,600 m. (S. 1384 ! 1673, 1803, 1986); near Manakhah (Defl. 287); near Metne, 2,600—3,000 m. (Botta !).
FL. : Feb. and Mar. 1889 (S.). FR. : Feb. and Mar. 1889 (S.).
DISTRIB. : Abyssinia, Eritrea, Yaman.

8. **T. stellatum** L. Sp. Pl. (1753) 769 ; Boiss. Fl. Or. ii, (1872) 121; Musch. Fl. Eg. i, (1912) 496.
HABITAT : I. Arabia Petraea (ex Musch.).
DISTRIB. : Mediterranean region.

9. **T. stenophyllum** Boiss. Diagn. Pl. Or. ser. 1, ix, 30 ; Fl. Or. ii, (1872) 151 ; Musch. Fl. Eg. i, (1912) 500.
HABITAT : I. Arabia Petraea (ex Musch.).
DISTRIB. : Mediterranean region.

10. T. tomentosum L. Sp. Pl. (1753) 771; Boiss. Fl. Or. ii, (1872) 138.

HABITAT : I. Arabia Petraea (Kotschy ex Boiss.).

DISTRIB. : Mediterranean region, Persia.

11. T. xerocephalum Fenzl Pug. (1842) 10; Boiss. Fl. Or. ii, (1872) 140; Musch. Fl. Eg. i, (1912) 499.

HABITAT : I. Arabia Petraea (ex Musch.).

DISTRIB. : Mediterranean region.

13. Helminthocarpum A. Rich.

1. H. abyssinicum A. Rich. Fl. Abyss. i, (1847) 200, t. 86; Oliv. Fl. Trop. Afr. ii, (1871) 60; Defl. Yemen (1889) 128; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 231.—*Antopetitia cancellata* Hochst. in Herb. Schimp. Abyss. sect. II, n. 1108; sect. III, 1544.

HABITAT : II. J. Shibam, Manakhah, 2,300-2,600 m. (S. 1386 !); J. Kahel, near Manakhah, 2,500 m. (Defl. 323); J. Sumara (Defl. 644, 652).

FL. : Feb. 1889 (S.). FR. : Feb. 1889 (S.).

DISTRIB. : Abyssinia, Eritrea, Yaman.

14. Hymenocarpus Savi.

1. H. nummularius Boiss. Fl. Or. ii, (1872) 160; Musch. Fl. Eg. i, (1912) 501.

HABITAT : I. Arabia Petraea (ex Musch.).

DISTRIB. : Egypt, Arabia Petraea, Syria, Palestine, Persia, India.

15. Securigera DC.

1. S. Coronilla DC. Fl. Fr. iv, 609; Boiss. Fl. Or. ii, (1872) 176.—*Bonaveria Securidaca* Desv. Journ. Bot. i, (1813) 120; Musch. Fl. Eg. i, (1912) 502.—*Coronilla Securidaca* L. Sp. Pl. (1753) 743.

HABITAT : I. Arabia Petraea (ex Musch.).

DISTRIB. : Europe, Mediterranean region.

16. Lotus L.

1. L. angustissimus L. Sp. Pl. (1753) 774; Boiss. Fl. Or. ii, (1872) 171; Post Fl. Syr. etc. (1896) 250; Musch. Fl. Eg. i, (1912) 506.

HABITAT : I. Arabia Petraea (ex Musch.).

DISTRIB. : Western Europe, Mediterranean region, Russia, Siberia.

VAR. **diffusus** Aschers. & Schweinf. Ill. Fl. d' Eg. (1887) 64, n. 334; Musch. Fl. Eg. i, (1912) 507.

HABITAT : I. Arabia Petraea (ex Musch.).

DISTRIB. : S. Europe, Orient.

2. **L. arabicus** L. Mant. (1764) 104; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, iii, (1835) 266; Schenk Sp. Pl. it. Aeg. Arab. & Syr. (1840) n. 222; Boiss. Fl. Or. ii, (1872) 170; Defl. Yemen (1889) 128; Post Fl. Syr. etc. (1896) 249; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 99.—*L. rosens* Forsk. Fl. Aeg.-Arab. (1775) 140.

HABITAT: I. Neighbourhood of Tor (Bové! Schimp. 214!) Arabia Petraea (McDonald!); Wady Tarfa (Kneuck.); Wady Sahdi (ex Schenk).

II. Near Manakhah, 2,200 m. (Defl. 385).

DISTRIB.: Canaries, Senegambia, Nubia, Abyssinia, Kordofan, Egypt, Arabia.

Vern. name: *Khuddeirah, Qabd, Jeddáb* (Post).

VAR. **trigonelloides** Balfour Bot. Socotra, 71.—*L. trigonelloides* Webb. et Benth. Phytog. Canar. ii, 86.

HABITAT: Arabia (ex Balfour).

DISTRIB.: From Canary Islands through N. Africa to Arabia and Persia, Socotra.

3. **L. brachycarpus** Hochst. & Steud. in Rich. Fl. Abyss. i, (1847) 177.—*Dorycnium Schimperi* Jaub. et Sp. Ill. Pl. Or. t. 473.

HABITAT: II. Hadnar (Botta).

DISTRIB.: Abyssinia, Somaliland, Yaman.

VAR. **menachensis** Schweinf. in Bull. Herb. Boiss. (1896) App. II, 233.

HABITAT: II. J. Shibam, Manakhah, 2,300—2,500 m. (S. 1506, 1516!).

FL.: Feb. 1889 (S.). FR.: Feb. 1889 (S.).

DISTRIB.: Of var.: Somaliland, Yaman.

4. **L. corniculatus** L. Sp. Pl. (1753) 775; Boiss. Fl. Or. ii, (1872) 165; Post Fl. Syr. etc. (1896) 248; Musch. Fl. Eg. i, (1912) 504.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Europe, Mediterranean region, Abyssinia, N. Asia, India, Japan, New Holland.

Vern. name: *Kuteïhah* (Post).

5. **L. creticus** L. Sp. Pl. (1753) 775; Boiss. Fl. Or. ii, (1872) 164; Dur. & Barr. Fl. Libyc. Prodr. (1910) 76.

HABITAT: I. Arabia Petraea (ex Dur. & Barr.).

DISTRIB.: Mediterranean region.

6. **L. cytisoides** L. Sp. Pl. (1753) 776; Boiss. Fl. Or. Suppl. (1888) 170; Post Fl. Syr. etc. (1896) 248; Musch. Fl. Eg. i, (1912) 504.—*L. creticus* VAR. *cytisoides* Boiss. Fl. Or. ii, (1872) 165.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Mediterranean region.

7. **L. edulis** L. Sp. Pl. (1753) 774; Boiss. Fl. Or. ii, (1872) 173; Musch. Fl. Eg. i, (1912) 508.

HABITAT : I. Arabia Petraea (ex Musch.).

DISTRIB. : Mediterranean region.

8. **L. Garcinii** DC. Prodr. ii, (1825) 212; Boiss. Fl. Or. ii, (1872) 174; Brand in Engl. Bot. Jahrb. xxv, (1898) 223.—*Aspalathus persica* Burm. Fl. Ind. (1768) 155, excl. syn.—*L. stiliger* Ehrenb. MS. ex Brand l. c.—*Ononis Aucheri* Jaub. & Sp. Ill. Pl. Or. i, 85.

HABITAT : I. Sinai (Ehrenb.!).
II. Yaman (Defl.).

DISTRIB. : Arabia, Persia.

9. **L. glinoides** Del. in Ann. Sc. Nat. vii, (1837) 286; Boiss. Fl. Or. ii, (1872) 170; Post Fl. Syr. etc. (1896) 249.

HABITAT : I. Sinai near El Tor (Bové!); Sinai (ex Post); Arabia Petraea (Boiss.).

DISTRIB. : Egypt, Arabia.

Vern. name : *Qadb* (Post).

10. **L. hebranicus** Hochst. ex Brand in Engl. Bot. Jahrb. xxv, 176, 221.—*L. arabicus* L. VAR. *glabrescens* Schweinf. ex Brand l. c. 222.

HABITAT : I. Wady Hebran (Schimp. 214!); Wady Gennah (Lord!).

FL. : Apr. 1835 (Schimp.).

DISTRIB. : Eritrea, Egypt, Arabia Petraea.

11. **L. lamprocarpus** Boiss. Diagn. Pl. Or. ser. i, ix, (1849) 33; Fl. Or. ii, (1872) 166; Post Fl. Syr. etc. (1896) 249; Musch. Fl. Eg. i, (1912) 505.

HABITAT : I. Arabia Petraea (ex Musch.).

DISTRIB. : Mediterranean region.

12. **L. lanuginosus** Vent. Malm. (1803) 92; Boiss. Fl. Or. ii, (1872) 167; Post Fl. Syr. etc. (1896) 249.

HABITAT : I. Tih (Boiss.!); Arabia Petraea (Pinard!).

FL. : Mar. 1846 (Boiss.).

DISTRIB. : Egypt, Arabia Petraea, Syria.

13. **L. ornithopodioides** L. Sp. Pl. (1753) 775; Boiss. Fl. Or. ii, (1872) 173; Musch. Fl. Eg. i, (1912) 508.

HABITAT : I. Arabia Petraea (Musch.).

DISTRIB. : Mediterranean region.

14. L. palæstinus nov. comb.—*Tetragonolobus palaestinus* Boiss. Diagn. Pl. Or. ser. 2. ii, (1856) 20; Musch. Fl. Eg. i, (1912) 509.—*T. purpureus* Moench. VAR. *palaestinus* Post Fl. Syr. etc. (1896) 251.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Egypt, Arabia Petraea, Palestine, Syria, Cilicia.

Vern. name: *Asabî'-el-'Arûs* (Post).

15. L. Schimperi Steud. Nom. ii, (1841) 75; Boiss. Fl. Or. ii, (1872) 170; Musch. Fl. Eg. i, (1912) 506.—*L. Ehrenbergii* Schweinf. pl. exs.

HABITAT: I. Arabia Petraea (ex Musch.).
II. Yaman (Ehrenb.!); Jiddah (Schimp. 844! Fischer 139! Zohrab 116! 138!).

FL.: Jan. (Schimp.). FR.: Jan. (Schimp.).

DISTRIB.: Egypt, Arabia.

16. L. villosus Forsk. Fl. Aeg.-Arab. (1775) LXXI, n. 386.—*L. pusillus* Viv. Fl. Lib. 47, t. 17, f. 13; Boiss. Fl. Or. ii, (1872) 173. VAR. *maior* Boiss. l. c. 173.—*L. halophilus* Boiss. et Sprun. Diagn. Pl. Or. ser. 1, ii, 37-38.

HABITAT: I. Arabia Petraea (Boiss.!).

DISTRIB.: Mediterranean region.

Vern. name: *Karn-el-gasal* (Forsk.).

17. L. sp. in Defl. Yemen (1889) 128.

HABITAT: II. Near Sanah, 2,400 m. (Defl. 560).

18. L. sp.

HABITAT: Arabia (Botta!).

17. Psoralea L.

1. P. bituminosa L. Sp. Pl. (1753) 763; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, iii, (1835) 266; Boiss. Fl. Or. ii, (1872) 187; Post Fl. Syr. etc. (1896) 252.—*P. palaestina* L. Gouan, Jacq. Hort. Vind. t. 184; Kneuck. in Allg. Bot. Zeitsch. ix, (1903) 146.

HABITAT: I. Desert of Sinai (Bové 190!); Wady Tarfa (Kneuck.).

FL.: Jan. 1832 (Bové). FR.: Jan. 1832 (Bové).

DISTRIB.: Canaries, Mediterranean region.

Vern. name: *Odden-el-farrass* (Bové), *'Uweineh*, *'Awarineh* (Post).

2. P. corylifolia L. Sp. Pl. (1753) 764; DC. Prodr. ii, (1825) 218; Baker in Hook. f. Fl. Brit. Ind. i, pt. i, (1872) 103; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 245; Krause in Engl. Bot. Jahrb. xxxv,

(1905) 735.—*Trifolium unifolium* Forsk. Fl. Aeg.-Arab. (1775) CXVIII, n 460 and p. 140.

HABITAT: II. Taez (Forsk.); El Hami (S. 185!); near Lahaj (Ellenbeck).

III. Dhofar plain: Hauran (Bent 226!).

FL.: Apr. 1881 (S.). FR.: Apr. 1881 (S.).

DISTRIB.: Arabia, India, Ceylon.

Vern. name: *Mahalép* (Ellenbeck), *Lôbab el abîd* (Forsk.).

3. **P. plicata** Del. Ill. Fl. d'Eg. (1813) 322; Boiss. Fl. Or. ii, (1872) 186.

HABITAT.: II. Jiddah (Schimp. 776! Zohrab 113! 250! Fischer 146!).

FL.: Jan. (Fischer). FR.: Jan. 1836 (Fischer).

DISTRIB.: Inner Algeria, Nubia, Sennaar, tropical Africa, Cape, Arabia.

18. Cyamopsis DC.

1. **C. psoralioides** DC. Prodr. ii, (1825) 216; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 236.

HABITAT: II. Cultivated near Shaikh Othman (S. 270).

FL.: Dec. 1888 (S.). FR.: Dec. 1888 (S.).

DISTRIB.: India.

Vern. name: *hindia* (S.).

2. **C. senegalensis** G. & P. Fl. Seneg. i, 174, t. 45; Oliv. Fl. Trop. Afr. ii, (1871) 65.

HABITAT: II. Jiddah (Zohrab 118! Fischer 67!).

FL.: Feb. (Fischer).

DISTRIB.: Senegambia, Kordofan, Yaman.

VAR. **angustifolia** nov. var.

HABITAT: II. Jiddah (Zohrab 184! Schimp. 840!).

FR.: Feb. 1836 (Schimp.).

DISTRIB.: Endemic.

19. Indigofera L.

1. **I. amorphoides** Jaub. & Sp. Ill. Pl. Or. t. 483! Oliv. Fl. Trop. Afr. ii, (1871) 97.—*T. abyssinica* Hochst. in Schimp. Pl. Abyss. n. 2213.—*I. alta* Schweinf. Fl. Aethiop. (1867) 11.

HABITAT: II. Cultivated ground in the neighbourhood of El Jebel near Qu'taba (Defl. 227!); Manakhah, 200 m. (S. 1777!).

FR.: Jan. 1890 (Defl.), Mar. 1889 (S.).
DISTRIB.: Abyssinia, Eritrea, Somaliland, Arabia.

2. **I. arabica** Jaub. & Sp. Ill. Pl. Or. v, 89, t. 479; Anders. Fl. Aden. (1860) 15; Oliv. Fl. Trop. Afr. ii, (1871) 103; Defl. Yemen (1889) 130; Baker in Kew Bull. (1894) 331; Blatt. Fl. Aden (1915) 171.

HABITAT: I. Sinai (ex Post).

II. Near Yerim, 2,600 m. (Defl. 640); near Sanah, 2,300 m. (Defl. 538); Yaman (Lunz 21 !); in the mountains (Botta); Aden (Hook. 66! Beevor! Birdw. !).

III. Dhofar Mts.: Coast Merbat (Bent 16! 22!); Hill sides near Sibeh, 800 ft. (Lunt); Ras Shirwen (Hirsch 20).

FR.: Dec. 1847 (Hook.).
DISTRIB.: White Nile, Arabia.
Vern. name: *Yidere* (Hirsch), *Ssabagh Nil* (Post).

3. **I. arrecta** Hochst. in Rich. Fl. Abyss. i, (1847) 184; Defl. Yemen (1889) 129; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 242.

HABITAT: II. Near Sanah, 2,300 m. (Defl. 530); top of J. Shibam, 2,800 m. (Defl. 344); in the mountains (Botta !).

FL.: Mar. 1889 (S.). FR.: Mar. 1889 (S.).
DISTRIB.: Kilimandjaro, Sennaar, Abyssinia, Eritrea, Yaman.

4. **I. articulata** Gouan. Ill. et Observ. (1773) 49; Fiori Bos. e Piante legn. Eritrea (1909) 180.—*I. argentea* L. Mant. 27 (*non Burm.*); Oliv. Fl. Trop. Afr. ii, (1871) 97; Boiss. Fl. Or. ii, (1872) 190; Defl. Yemen (1889) 129; Baker in Kew Bull. (1894) 331; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 243; Blatt. Fl. Aden (1915) 172.—*I. tinctoria* Forsk. Fl. Aeg.-Arab. (1775) CXVIII, n. 452 and 138 (*non L.*).—*I. glauca* Lam. Encycl. iii, 246.

HABITAT: I. Arabia Petraea (ex Post); Arabia Petraea: coast of Red Sea (Bové 232 !).

II. Jiddah (Zohrab 289! 293! 308!); Wady Fatimah (Fischer 80!); Yaman (Ehrenb. !); J. Bura 700—1,000 m. (S. 493); El Hami (S. 192); Bajil (S. 598); Wasil, 1,400 m. (S. 1211, 1187); Aden (Perry! Balfour! S. 133!).

III. Hadramaut: Shibam (Lunt 168!); Dhofar Mts.: Coast Merbat (Bent 9! 103!); near Sehut and J. Hegwir (Hirsch 90).

IV. Masqat (Auch.-Eloy 4340!).

FL.: Jan. 1894 (Lunt), Feb. 1837 (Fischer), Feb. 1889 (S.), Apr. (S.).
FR.: Feb. 1837 (Fischer), Mar. 1878 (Perry), Apr. (S.).

DISTRIB.: Egypt, Nubia, Abyssinia, Eritrea, Kordofan, Socotra, S. Arabia, Sind, W. India.

Vern. name: *Nile* (Forsk.), *Hawir* (Hirsch), *Neel* (Lunt), *Nileh*, *Ssabagh* (Post), *houer* (S.).

Note:—Cultivated for an Indigo dye at Schibam (Lunt). For medical uses see Forsk. l. c.

VAR. **genuina** Defl. Yemen (1889) 129.

HABITAT: II. Near Mefhak, 1,800 m. (Defl. 596); in the mountains (Botta !).

DISTRIB.: Endemic.

VAR. **polyphylla** Hochst. Herb. Kotschy Nub. n. 217; Defl. Yemen (1889) 129.

HABITAT: II. Near Taez, 1,300—1,400 m. (Defl. 694, 700); Oasis of Lahaj (Defl. 130 !); in the mountains (Botta !).

FL.: Dec. 1889 (Defl.). FR.: Dec. 1889 (Defl.).

DISTRIB.: Nubia, Abyssinia, Yaman.

5. **I. Burmanni** Boiss. Fl. Or. ii, (1872) 189; Suppl. (1888) 172; Defl. Yemen (1889) 129; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 241.—*I. semitrijuga* Forsk. VAR. *tetrasperma* DC. Prodr. ii, (1825) 230.

HABITAT: II. Jiddah (Fischer 75 ! Schimp. 882 !); near Mantar (Defl. 25); E. of Marrana (S. 169); El Hami (S. 175 !); Yaman (Ehrenb. !); neighbourhood of Aden (Hunter 230 !); Shuqra (S. 130).

FL.: Jan. 1837 (Fischer), Mar. and Apr. 1881 (S.), Dec. 1888 (S.).

FL.: Jan. 1836 (Schimp.), Jan. 1837 (Fischer.), Mar. and Apr. 1881 (S.), Dec. 1888 (S.).

DISTRIB.: Egypt, Sudan, Abyssinia, Arabia, Sind.

6. **I. desmodioides** Baker in Kew Bull. (1894) 331.

HABITAT: III. Hadramaut: Katan, 2000 ft. (Lunt 185 !).

FL.: Feb. 1894 (Lunt).

DISTRIB.: Endemic.

7. **I. gonioides** Hochst. Schimp. Herb. Abyss. n. 2242; Oliv. Fl. Trop. Afr. ii, (1871) 85; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 240.

HABITAT: II. Wasil, 1,400 m. (S. 1343 !).

FR.: Feb. 1889 (S.).

DISTRIB.: Abyssinia, Buluwayo, Arabia.

8. **I. hendecaphylla** Jacq. Collect. ii, (1788) 358.—*I. endecaphylla* Bot. Reg. t. 789; Hook. f. Fl. Brit. Ind. ii, pt. iv, (1876) 98.

HABITAT: II. Jebel Nakhai, 700 m. (Defl. 512 !).

FL. : Apr. 1890 (Defl.).

DISTRIB. : Senegambia, Nubia, Abyssinia, Congo, Zambesi, S. Africa, Arabia, Western India, Burma, China.

9. I. Hochstetteri Baker in Oliv. Fl. Trop. Afr. ii, (1871) 101; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 244.

HABITAT : II. Near Hajeilah, 600 m. (S. 1009).

FL. : Feb. 1889 (S.).

FR. : Feb. 1889 (S.).

DISTRIB. : Eritrea, Yaman.

10. I. Houer Forsk. Fl. Aeg.-Arab. (1775) CXVIII, n. 453 and p. 137; Cooke Fl. Bomb. i, (1903) 318.—*I. cœrulea* Roxb. Fl. Ind. iii, 377.—*I. argentea* L. VAR. *cœrulea* Baker in Hook. f. Fl. Brit. Ind. ii, pt. iv, (1876) 99.

HABITAT : II. Wady Surdud (Forsk.).

DISTRIB. : Egypt, Abyssinia, Arabia, India.

Vern. name : *Houer* (Forsk.).

11. I. intricata Boiss. Fl. Or. ii, (1872) 190; Balfour Bot. Socotra, 74.

HABITAT : IV. Masqat (Auch.-Eloy 4324 ! 4343).

DISTRIB. : Arabia, Socotra, Persia.

12. I. Jabertiana Schweinf. in Bull. Herb. Boiss. (1896) App. II, 245.—*I. ornithopodioides* Hochst. et Steud. in Jaub. & Sp. Ill. Pl. Or. t. 480 (*non Schum. & Thonn. nec Cham. & Schl.*).

HABITAT : II. Jiddah (Fischer 84 !); Wasil 1,400 m. (S. 1142 !).

FL. : Jan. and Feb. 1837 (Fischer), Feb. 1889 (S.).

FR. : Jan. and Feb. 1837 (Fischer), Feb. 1889 (S.).

DISTRIB. : Arabia.

13. I. oblongifolia Forsk. Fl. Aeg.-Arab. (1775) CXVIII, n. 455 and p. 137; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 240; Baker Journ. Bot. xli, (1903) 265.—*I. paucifolia* Del. Fl. d'Eg. p. 127, tab. 37, fig. 2; DC. Prodr. ii, (1825) 224; Boiss. Fl. Or. ii, (1872) 190; Hook. Fl. Brit. Ind. ii, 97; Oliv. Fl. Trop. Afr. ii, (1871) 88; Defl. Yemen (1889) 129; Blatt. Fl. Aden (1915) 170.—*I. erythrantha* Hochst. Herb. Abyss. n. 2178.

HABITAT : I. Arabia Petraea (Bové); S. end of Dead Sea (ex Post).

II. Jiddah (Fischer 79 ! Schimp. 773 ! Zohrab 143 !); Wady Mor, Hadiyah (Forsk.); Wady Jalut (Lunz 34 !); near Hodeidah (Defl. 15!); Hills N. of El Jebel near Qu'taba (Defl. 249 !); Shaikh Othman (Ellenbeck, Busse); Hanish Islands, common (Slade 14 !); Aden (Birdwood 139 !); Little Aden (Defl. !).

III. Dhofar Mts. (Bent 36 !); Jebel Hegwir (Hirsch !).

IV. Masqat (Auch.-Eloy 4341 !).

FL. : Jan. 1831 (Bové), Aug. 1898 (Birdw.), Oct.-Jan. (Fischer).

FR. : Jan. 1890 (Defl.), Nov. 1888 (S.), Dec. 1835 (Schimp.).

DISTRIB. : Java, Ceylon, India, Baluchistan, Arabia, Abyssinia, Nubia, Kordofan, Socotra, Senegambia.

Vern. name: *Afar* (Burton), *Hasar* (Forsk.), *hissor* (Hirsch), *Widmeh* (Post).

VAR. **carpostigma** Schweinf. l. c. 240 ; Blatt. l. c. 170.

HABITAT : II. Aden (S. 88 !).

FR. : Nov. 1888 (S.).

DISTRIB. : Endemic.

14. I. orthocarpa Baker in Oliv. Fl. Trop. Afr. ii, (1871) 99 ; Defl. Yemen (1889) 130 ; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 243.—*I. Anil* L. VAR. *orthocarpa* DC. Prodr. ii, (1825) 225.

HABITAT : II. Cult. ground near Lahaj (Defl.); near Hajeilah 600—800 m. (S. 991 ! 1934); between Hajeilah and Beba (S. 887); Wulej (S. 1935).

FL. : Jan. 1889 (S.). FR. : Jan. 1889 (S.).

DISTRIB. : Nubia, Kordofan, Sennaar, Eritrea, Yaman.

15. I. parviflora Heyne in Wall. Cat. 5457 ; Baker in Oliv. Fl. Trop. Afr. ii, (1871) 83 ; Journ. Bot. xli, (1903) 260 ; Cooke Fl. Bomb. i, (1903) 317.—*I. deflexa* Hochst. Herb. Nub. n. 14, (1839) ; Rich. Fl. Abyss. i, (1847) 178.—*Indigastrum deflexum* Jaub. & Sp. Ill. Pl. Or. i, t. 49?.

HABITAT : II. Jennat (Botta).

DISTRIB. : Senegambia, Nubia, Kordofan, Abyssinia, Arabia, India, N. Australia.

16. I. parvula Del. in Caill. Voy. ii, (1826) 38, 39, t. 3, f. 1 ; Oliv. Fl. Trop. Afr. ii, (1871) 81 ; Blatt. Fl. Aden (1915) 170.— ? *I. parvula* Hochst. & Steud. in Rich. Fl. Abyss. i, (1847) 180 ; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 239.

HABITAT : II. Aden (Birdw. 140 !).

FR. : Aug. 1898 (Birdw.).

DISTRIB. : Abyssinia, Nubia, Eritrea.

17. I. Schimperi Jaub. & Sp. Ill. Pl. Or. t. 484 ; Oliv. Fl. Trop. Afr. ii, (1871) 93 ; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 241.

HABITAT : II. Hajeilah, 600 m. (S. 999).

DISTRIB. : Abyssinia, Nubia, Somaliland, Zambesi, Zanszibar, Arabia.

18. I. semitrijuga Forsk. Fl. Aeg.-Arab. (1775) CXVIII, n. 454 and p. 137, Oliv. Fl. Trop. Afr. ii, (1871) 93 ; Hook. f. Fl. Brit. Ind. ii, pt. iv, (1876) 98; Schweinf. in Bull. Herb. Boiss. (1896) App. II. 241 ; Blatt. Fl. Aden (1915) 171.—*I. diffusa* R. Br. in Salt Abyss. App. 65 (*non Desv.*). —*I. somalensis* Vatke in Oesterr. Bot. Zeit. (1878) 201.

HABITAT : II. El Hami (S. 175 a !); Lohaja (Forsk.); Aden (Birdw. 141 ! S. 93, Defl. !); Little Aden (Defl.!); Shuqra (S. 117 !).

III. Hadramaut : Sibeh 800 ft. (Lunt 110 !).

FL.: Apr. 1881 (S.), Aug. 1898 (Birdw.).

FR. : Mar. and Apr. 1881 (S.), Aug. 1898 (Birdw.), Dec. 1893 (Lunt).

DISTRIB. : Upper Egypt, Nubia, Abyssinia, Kordofan, Sennaar, highlands of Somaliland, Eritrea, S. Arabia, Sind.

19. I. senegalensis Lam. Dict. iii, (1789) 248 ; DC. Prodr. iii, (1825) 228.

HABITAT : II. Jiddah (Zohrab 324 !); Yaman : Unsert (Schimp 769 !).

FR. : Feb. 1836 (Schimp.).

DISTRIB. : Senegambia, Somaliland.

20. I. Spachii Baker in Oliv. Fl. Trop. Afr. ii, (1871) 92.—*I. coronilloides* Jaub. & Sp. Ill. Pl. Or. (1853-57) t. 485-6 (*non Mart.*).— ? *I. quartiniana* Rich. Fl. Abyss. i, (1847) 183 ; Oliv. l. c.

VAR. **trifoliolata** Schweinf. in Bull. Herb. Boiss. (1896) App. II, 240.

HABITAT : II. Below Wasil, 1,000—1,200 m. (S. 1142, 1933, 1200); near Manakhah, 2,000 m. (S. 1984).

FL. : Feb. and Mar. 1889 (S.). FR. : Feb. and Mar. 1889 (S.).

DISTRIB. : Eritrea, Yaman.

21. I. spicata Forsk. Fl. Aeg.-Arab. (1775) CXVIII, n. 456 and p. 138.— ? *I. endecaphylla* Hochst. ex Schweinf. Arab. Pflanzennamen, (1912) 144.

HABITAT : II. Hadiyah (Forsk.).

DISTRIB. : Yaman.

Vern. name : *Mscheter, Schiter* (Forsk.).

22. I. spinosa Forsk. Fl. Aeg.-Arab. (1775) CXVIII, n. 457 and p. 137 ; Dcne. Pl. l' Arab. Heur. in Ann. Sc. Nat. ser. 2, iv, (1835) 77 ; Vahl Symb. Bot. i, (1790) 55 ; Jaub. & Sp. Ill. Pl. Or. i, 491 ; Oliv. Fl.

Trop. Afr. ii, (1871) 77 ; Defl. Yemen (1889) 129 ; Baker in Kew Bull. (1894) 331 ; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 236.

HABITAT : I. Southern Midian (Burton !).

II. Jiddah (Fischer 76 ! 77 ! Schimp. 945 ! Zohrab 59 ! 39 ! 190 !); Tehama : Bajil (S. 587 !); near Bajil (Defl. 42); Tehama (Botta !); in the mountains (Botta !); near Hille 600 m. (S. 263); below Manakhah 2,000 m. (S. 1549); Hadiyah and Wady Surdud (Forsk.); S. of Jebel el Areys, 30 km. E. N. E. of Shuqra (Defl. 380 !); Arabia (Ehrenb. !); neighbourhood of Aden (Hunter 160 !); Aden (Beevor 54 !); Shuqra (S. 111 !).

III. Hadramaut (Hirsch 110); Hajrain, 2,600 ft. (Lunt 145 !).

FL. : Feb. 1837 (Fischer), Oct.-Mar. (Fischer).

FR. : Jan. 1889 (S.), Jan. 1894 (Lunt), Feb. 1836 (Schimp.), Mar. 1881 (S.), Mar. 1890 (Defl.).

DISTRIB. : Egpyt, Nubia, Abyssinia, Eritrea, Arabia, Somaliland.

Vern. name : *hell* (S.), *haell* (Forsk.).

VAR. **spiniflora** Schweinf. in Bull. Herb. Boiss. (1896) App. II, 237. —*I. spiniflora* Hochst. et Steud. in Schimp. Pl. Arab. n. 945.

HABITAT : II. Near Bajil (S. 878).

FL. : Jan. 1889 (S.).

DISTRIB. : Eritrea, Yaman.

23. I. tinctoria L. ; DC. Prodr. (1825) 224.

HABITAT : II. Tehama : Beha, Hajeilah (S. 887 !).

DISTRIB. : Universally cultivated.

24. I. trigonelloides Jaub. & Sp. Ill. v, (1857) 92, t. 482 ; Hook. Fl. Brit. Ind. ii, 94 ; Blatt. Fl. Aden (1915) 173.—*I. asperifolia* Hochst. in Schimp. Pl. Abyss. n. 2273.—*I. aeruginis* Schweinf. Fl. Aethiop. 11.

HABITAT : II. Aden (Beevor 60! Perry !).

DISTRIB. : Abyssinia, Arabia, Sind, Afghanistan, Punjab.

25. I. tritoides Baker in Kew Bull. (1895), p. 214 ; Journ. Bot. xli, (1903) 234.—*I. leptocarpa* Hochst. et Steud. in Schimp. Pl. Arab. n. 731 ; Blatt. Fl. Aden (1915) 172.—*I. tenuisiliqua* Schweinf. in Bull. Herb. Boiss. (1896) App. II, 241.

HABITAT : II. Jiddah (Zohrab 88 ! Fischer 78 ! Schimp. 771 ! Hildebr. !); Gumfuda and mountains near Jiddah (Ehrenb. !); Jebel el Areys, 30 km. E. N. E. of Shuqra, 200-300 m. (Defl. 437 !); Little Aden (Defl. !).

FL. : Jan. and Feb. (Fischer), Mar. 1890 (Defl.).

FR. : Dec. 1835 (Schimp.).

DISTRIB. : Nubia, Eritrea, Central and Southern Arabia, Socotra.

26. I. viscosa Lam. Encyc. iii, (1789) 247 ; Baker in Oliv. Fl. Trop. Afr. ii, (1871) 81 ; Journ. Bot. xli, (1903) 242 ; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 238.

HABITAT : II. Jebel Bura, Hille (S. 390 !); Wady Chiwiet 1,200 m. (S. 1201).

FL. : Jan. and Feb. 1889 (S.).

FR. : Jan. and Feb. 1889 (S.).

DISTRIB. : Abyssinia, Eritrea, Somaliland, Arabia.

27. T. Defiersii Baker f. in Viertelj. Naturf. Ges. Zürich, xlix, 194.

20. Tephrosia Pers.

1. T. anthylloides Hochst. ex Webb in Hook. Kew Journ. ii, (1850) 345 ; Oliv. Fl. Trop. Afr. ii, (1871) 118 ; Defl. Yemen (1889) 131 ; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 246.—*T. apollinea* Guill. et Perr. (1830—33) 197 ; Rich. Fl. Abyss. i, (1847) 187 (*non DC.*).—*T. cordofana* Hochst. ex Oliv. l. c.

HABITAT : II. Jiddah (Ehrenb. !); Wady Shigu near Bolhaf (S. 152); Aden (Birdw. !) ; Red Sea : Hakeko (Lord !).

III. Sehut, Jebel Hegwir (Hirsch 69).

FL. : Mar. 1869 (Lord), Mar. 1881 (S.).

DISTRIB. : Senegambia, Nubia, Abyssinia, Eritrea, Arabia.

Vern. name : *chazāire, Taifir, Dhafir* (Hirsch).

2. T. apollinea Link Enum. Hort. Berol. ii, 252 ; DC. Prodr. ii, (1825) 254 ; Schenk Sp. Pl. it. Aeg. Arab. & Syr. (1840) n. 224 ; Anders. Fl. Aden. (1860) 16 ; Oliv. Fl. Trop. Afr. ii, (1871) 126 ; Boiss. Fl. Or. ii, (1872) 192 ; Defl. Yemen (1889) 131 ; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 246 ; Blatt. Fl. Aden (1915) 174.—*Galega apollinea* Del. Fl. d' Eg. 144, t. 53, f. 5.

HABITAT : I. Akaba (Hart !) ; Arabia Petraea (McDonald !); Sinai (Holland !); Wady Sahdi (ex Schenk); N. and Central Midian (Burton !).

II. Yaman (Ehrenb.!); near Wasil, 900 m. (Defl. 207 !); Bajil (S. 590!); near el Hami (S. 197); Oasis of Lahaj (Defl. 120 !); Shaikh Othman (Ellenbeck); Aden (S.22 ! Hook. ! Birdw. ! Defl. !); Hanish Islands, in ravines (Slade 13 !).

FL. : Jan. 1889 (S.), Apr. 1881 (S.), Nov. 1888 (S.), Dec. 1889 (Defl.).

FR. : Jan. 1889 (S.), Nov. 1888 (S.), Dec. 1889 (Defl.).

DISTRIB. : Upper Egypt, Nubia, Libya, Abyssinia, highlands of Somaliland, Socotra, Arabia.

Vern. name : *Tawil* (Burton), *Amyanah* (Post), *Obeira*.

Note : Eaten by animals (Burton).

3. T. Boivini nov. comb.—*Pogonostigma Boivini* Jaub. & Sp. Ill. Pl. Or. v, (1853-57) t. 476.

HABITAT : II. Near Hes (Boivin).

FL. : Jan. 1845 (Boivin). FR. : Jan. 1845 (Boivin).

DISTRIB. : Endemic.

4. T. decorticans Taub. in Engl. Jahrb. xxiii, 184.

HABITAT : III. Hadramaut (Hirsch 79 !).

DISTRIB. : Somaliland, Hadramaut.

5. T. desertorum Scheele in Linnaea, xvii, (1843). p. 338.

HABITAT : II. Jiddah (Schimp. 770 ! Fischer 85 ! Zohrab 120 ! 124 !).

FL. : Mar. 1881 (S.), Dec. 1835 (Schimp.), Dec.-Jan. (Fischer).

FR. : Mar. 1881 (S.), Dec. 1835 (Schimp.), Dec.-Jan. (Fischer).

DISTRIB. : Endemic.

6. T. diffusa W. & A. Prodr. 213 ; Schweinf. in Bull. Herb. Boiss. (1896). App. II, 245.—*T. purpurea* Pers. VAR. *pumila* Baker in Hook. f. Fl. Brit. Ind. ii, pt. iv, (1876) 113.

HABITAT : II. Wasil, 1,400 m. (S. 1147 !), above Hille, 700-1,000 m. (S. 403); Aggara 600 m. (S. 1026).

FL. : Jan., Feb. 1889 (S.). FR.: Jan., Feb. 1889 (S.).

DISTRIB. : Everywhere in the tropics.

7. T. dura Baker in Kew Bull. (1894) 331.

HABITAT : III. Hadramaut ; near Shibam, 2,000 ft. (Lunt 171 !).

FR. : Jan. 1894 (Lunt).

DISTRIB. : Endemic.

8. T. elata Defl. Yemen (1889) 130.

HABITAT : II. Yaman : Foot of Mt. Sumara, 1,800 ft. (Defl. 653 !).

DISTRIB. : Endemic.

9. T. geminiflora Baker in Kew Bull. (1895) 316.

HABITAT : III. Hadramaut (Hirsch 94).

DISTRIB. : Endemic.

10. T. Hausknechtii Bornm. in Mitt. Thür. Bot. Ver. N. Folge, vi, (1894) 54.

HABITAT : Trop. Arabia (ex Bornm.).

DISTRIB. : Endemic.

11. T. lathyroides Guill. & Perr. Fl. Seneg. i, 193.

HABITAT : II. Aden (Perry ! Hook. 42 !).

FL. : Dec. 1847 (Hook.). FR. : Dec. 1847 (Hook.).

DISTRIB. : Cape Verde Islands, and ?.

12. T. persica Boiss. Diagn. Pl. Or. ser. 1, ii, 40 ; Fl. Or. ii, (1872) 192, Fl. Or. Suppl. (1888) 172.

HABITAT : IV. Masqat (Auch.-Eloy 4334 !).

DISTRIB. : Arabia, Persia.

13. T. Pogonostigma Boiss. Fl. Or. ii, (1872) 193 ; Defl. Yemen (1889) 131 ; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 247 ; Blatt. Fl. Aden (1915) 174. —*T. arabica* Steud. Nomencl. Bot. ed. 2, ii, 666.—*Pogonostigma arabicum* Boiss. Diagn. Pl. Or. ser. 1, ii, 39 ; Anders. Fl. Aden. (1860) 16.—*Psoralea arabica* Hochst. in Schimp. Pl. Arab. n. 775.—*Catacline sericea* Edgew. Journ. As. Soc. Beng. vol. xvi, p. 1214.

HABITAT : II. Foot of Mt. Kesser (Schimp. 475 !); Mt. Sidr and Kesser (Fischer 69); E. of Marana (S.1989 !); Bajil (S.1794); near Lahaj (Defl.); Aden (Anders. ! Hook.! Edgew. ! Munro ! S.39 ! Perry ! Thomson! Birdw. 171 ! Defl. 52 ! 92, Balfour ! Madden 7 ! Lunt 340 !).

III. Hadramaut (Hirsch 100).

IV. Masqat (Auch.-Eloy 4456 !).

FL. : Feb. (Fischer), Mar. 1850 (Madden), Mar. 1878 (Perry), Apr. (Lunt), Aug. 1898 (Birdw.), Nov. 1888 (S.), Dec. 1889 (Defl.).

FR. : Feb. 1836 (Schimp.), Feb. 1837 (Thomson), Mar. 1850 (Madden), Mar. 1878 (Perry), Apr. (Lunt), Aug. 1898 (Birdw.), Nov. 1888 (S.), Dec. 1889 (Defl.).

DISTRIB. : Eritrea, Arabia.

14. T. purpurea Pers.; DC. Prodr. ii, (1825) 251 ; Oliv. Fl. Trop. Afr. ii, (1871) 124 ; Hook. f. Fl. Brit. Ind, ii, pt. iv, (1876) 112 ; Baker in Kew Bull. (1894) 331.

HABITAT : III. Dhofar Mts : Coast (Bent 84 !); Hadramaut : between Sif and Hajram, 2,000 ft. (Lunt 140 !).

IV. Masqat (Bent 13 !).

FL. : Jan. 1894 (Lunt). FR. : Jan. 1894 (Lunt).

DISTRIB. : Cosmopolitan in the tropics.

VAR. **leptostachya** Schweinf. in Bull. Herb. Boiss. (1896) App. II, 245.—*T. leptostachya* DC. Prodr. ii, (1825) 251.

HABITAT : II. Shuqra (S. 132 !).

FL. : Mar. 1881 (S.). FR. : Mar. 1881 (S.).

DISTRIB. : Cosmopolitan in the tropics.

15. T. Schweinfurthii Defl. in Bull. Soc. Bot. France, xlii, (1895) 302.

HABITAT : II. Wady Moaden (Defl. 1149 !).

FL. : May 1894 (Lunt).

DISTRIB. : Endemic.

16. T. senticosa Pers. Syn. ii, 330; Hook. f. Fl. Brit. Ind. ii, pt. iv, (1876) 112; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 245.—*T. subtriflora* Hochst. in Schimp. Herb. Abyss. n. 2312; Oliv. Fl. Trop. Afr. ii, (1871) 117.

HABITAT : II. Jebel Bura, above Hille, 800 m. (S. 410 !).

FL. : Jan. 1889 (S.). FR. : Jan. 1889 (S.).

DISTRIB. : Kordofan, Abyssinia, Eritrea, Arabia, India, Ceylon.

Vern. name : *haueréh* (S.).

17. T. tomentosa Pers. Syn. ii, 329.—*Lathyrus tomentosus* Forsk. Fl. Aeg.-Arab. (1775) CXVII, n. 446 and p. 135.—*Symm elhorat* Forsk. l. c. 198, XLIII.

HABITAT : II. Wady Mor (Forsk.).

DISTRIB. : Endemic.

Vern. name : *Sonaefa, Symm elhorat* (Forsk.).

Note : Symm elhorat means fish poison and is used in the Red Sea in catching fish. cf. Forsk.

18. T. vicioides Rich. Fl. Abyss. i, (1847) 188; Oliv. Fl. Trop. Afr. ii, (1871) 117; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 246.

HABITAT : Tropical Arabia (ex Schweinf.).

DISTRIB. : Nubia, Abyssinia, Arabia.

21. Sesbania Pers.

1. S. arabica Hochst. ex Steud. Nom. ed. 2, ii, 572.

HABITAT : II. Wady Fatimah (Schimp. 881 ! Fischer 81 !) ; Tehama : Kalife (S. 229 !).

FL. : Mar. 1837 (Fischer), Dec. 1888 (S.).

FR. : Mar. (Schimp.), Mar. 1837 (Fischer), Dec. 1888 (S.).

DISTRIB. : Endemic.

Vern. name : *Homar* (S.).

2. **S. grandiflora** Pers. Syn. ii, (1807) 316; Defl. Yemen (1889) 131; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 248; Blatt. Fl. Aden (1915) 176.—*Dolichos sesban arboreus* Forsk. Fl. Aeg.-Arab. (1775) CXVII, n. 444 and p. 134.

HABITAT: II. Cultivated everywhere in the Tehama (Defl.); near Hodeidah and Mantar (Defl. 29); cult. at Shaikh Othman (Defl.! S. 1930!); Wady Zebid (Forsk.).

FL.: Dec. 1888 (Defl., S.).

DISTRIB.: Mauritius to North Australia, but often cultivated.

Vern. name: *Sesebân* (Forsk.).

3. **S. leptocarpa** DC. Prodr. ii, (1825) 265; Oliv. Fl. Trop. Afr. ii, (1871) 135; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 248 (*partim*).—? *Dolichos sesban annuus* Forsk. Fl. Aeg.-Arab. (1775) CXVII, n. 443.

HABITAT: II. Aggara, 600 m. (S. 1931!).

DISTRIB.: Senegambia, Nubia, Yaman.

Vern. name: *Hômar* (S.).

4. **S. punctata** DC. Prodr. ii, (1825) 265; Defl. Yemen (1889) 131.—*S. filiformis* Hochst. in Schimp. Herb. Abyss. n. 775.—*S. multijuga* Schweinf. ex Oliv. Fl. Trop. Afr. ii, (1871) 133.—*Dolichos aeschynome sesban* Forsk. Fl. Aeg.-Arab. (1775) 134.

HABITAT: II. Wady Harr near Hajeilah, 500—600 m. (Defl. 201).
III. Dhofar Mts.: Hofa coast (Bent 74!).

DISTRIB.: Senegambia, Guinea, Sudan, Nubia, Kordofan, Sennaar, Abyssinia, Eritrea, Yaman.

22. Colutea L.

1. **C. haleppica** Lam. Encycl. i, (1783) 353; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, iii, (1835) 266; Oliv. Fl. Trop. Afr. ii, (1871) 136; Post Fl. Syr. etc. (1896) 253; Kneuck. in Allg. Bot. Zeitsch. ix, (1903) 146.

HABITAT: I. Mt. Horeb (Auch.-Eloy 1044!); Sinai (Holland! Schimp. 160! Bove!); cultivated in Monastery of Mt. Sinai (Boiss.); Wady Aleyat (Kneuck.).

FL.: May 1835 (Schimp.).

DISTRIB.: Abyssinia, Eritrea, Arabia, Persia, Asia Minor.

Vern. name: *Sphocray* (Bové), *qasnur* (Post).

23. Astragalus L.

1. **A. abyssinicus** Hochst. et Steud. in Rich. Fl. Abyss. i, (1847) 193; Bunge Astrag. (1868-69) n. 140; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 249.

HABITAT : II. Kahil above Manakhah, 2,500 m. (S. 1423 !).
FR. : Feb. 1889 (S.).
DISTRIB. : Abyssinia, Eritrea, Yaman.
Vern. name : *'onssif* (S.).

2. **A. acinaciferus** Boiss. Diagn. Pl. Or. ser. 1, ix, 72; Bunge Astrag. (1868-69) n. 273; Boiss. Fl. Or. ii, (1872) 300; Post Fl. Syr. etc. (1896) 266.

HABITAT : I. Dead Sea to Sinai (ex Post); Arabia Petraea (McDonald !); Wady Shaikh and Ramleh (Boiss. !); Mt. Sinai (Frauenfeld).
DISTRIB. : Endemic.

3. **A. alexandrinus** Boiss. Diagn. Pl. Or. ser. 1, ix, (1849) 74; Bunge Astrag. (1868-69) n. 210; Boiss. Fl. Or. ii, (1872) 284.—*A. lanigerus* Viv. Fl. Libyc. 44 (*non Desf.*).

HABITAT : I. Wady Zewerah to Beersheba (Hart !); Beersheba (Lowne !); Arabia Petraea (Boiss. ! McDonald !).
DISTRIB. : Tripolitania, Tunisia, Egypt, Arabia, Palestine, Syria.

4. **A. amalecitanus** Boiss. Diagn. Pl. Or. ser. 1, ix, 46; Bunge Astrag. (1868-69) n. 905.

HABITAT : I. S. of Ghazah (Boiss.).
DISTRIB. : Endemic.

5. **A. annularis** Forsk. Fl. Aeg.-Arab. (1775) 139; Del. Frag. Fl. Arab. Petr. (1833) n. 81; Bunge Astrag. (1868-69) n. 75; Boiss. Fl. Or. ii, (1872) 236; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 98.

HABITAT : I. Et Tih (ex Post); Arabia Petraea (Boiss.!); Desert of Ka'a (Musch.).
DISTRIB. : N. Africa, Arabia Petraea, Palestine, Syria.
Vern. name : *Koren* (Musch.).

6. **A. arabicus** Kotschy in Sitzb. Kais. Acad. Wiss. lii, (1866) 14.

HABITAT : II. Hijaz, towards Asyr (ex Kotschy).
DISTRIB. : Endemic.

7. **A. baeticus** L. Sp. Pl. (1753) 758; Bunge Astrag (1868-69) n. 80; Boiss. Fl. Or. ii, (1872) 236.

HABITAT : I. S. of Ghazah (Boiss.).
FL. : Apr. (Boiss.).
DISTRIB. : Mediterranean region.

8. A. bombycinus Boiss. Diagn. Pl. Or. ser. 1, ii, 50; Bunge Astrag. (1868-69) n. 86; Boiss. Fl. Or. ii, (1872) 240.—*A. sultanensis* Bunge l. c. n. 87.

HABITAT: I. Arabia Petraea (McDonald !); Et Tih to Sinai (ex Post); Et Tih (Boiss.); plain of Raha, Wady es Shaikh, Serbal (Kneuck.); Desert of Sinai (Bové 195 !).

FR.: June 1832 (Bové).

DISTRIB.: Egypt, Arabia Petraea, Palestine, Assyria, Persia.

Vern. name: *Omokrum* (Bové), *durreis, khansarat-el-arus* (Post).

9. A. brachyceras Ledeb. Ind. Pl. Dorp. (1822) 3; Bunge Astrag. (1868-69) n. 53; Boiss. Fl. Or. ii, (1872) 238; Musch. Fl. Eg. i, (1912) 522.—*A. arnoceras* Bunge l. c. n. 54.—*A. hamosus* Kotschy Pl. exs. Pers. Austr. n. 228.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Egypt, Arabia Petraea, Syria, Persia, Transcaucasus, N. W. India.

Vern. name: *Deqis* (Post).

10. A. cahiricus DC. Prodr. ii, (1825) 292; Bunge Astrag. (1868-69) n. 422; Boiss. Fl. Or. ii, (1872) 420.—*A. longiflorus* Del. Fl. Eg. 112, t. 39 (*non Pall.*).—*A. isopetalus* Boiss. Diagn. Pl. Or. ser. 1, ix, 67.

HABITAT: I. Arabia Petraea (Pinard ! Boiss. !).

DISTRIB.: Egypt, Arabia Petraea, Persia, Afghanistan, Baluchistan.

Vern. name: *Asabi-el-Arus* (Post).

11. A. Camelorum C. & W. Barbey Herb. Levant 131, t. 3; Post Fl. Syr. etc. (1896) 276.

HABITAT: I. Western border of Et Tih (ex Post).

DISTRIB.: Egypt, Arabia Petraea.

12. A. Christianus L. Sp. Pl. (1753) 755; Bunge Astrag. (1868-69) n. 169; Boiss. Fl. Or. ii, (1872) 274.

HABITAT: I. Sinai Peninsula (Fox !).

FL.: Jan. 1867 (Fox).

DISTRIB.: Armenia, Anatolia, Cappadocia, Sinai.

13. A. corrugatus Bertol ex DC. Prodr. ii, (1825) 289; Bunge Astrag. (1868-69) n. 58; Boiss. Fl. Or. ii, (1872) 232.—*A. trimestris* Boiss. Fl. Or. Suppl. (1888) 175 (*partim, non L.*).

HABITAT: I. Arabia Petraea (Boiss. !); Sinai (ex Post); Wady es Shaikh (Kneuck.).

Fl. : Apr. (ex Boiss.).

DISTRIB. : Mediterranean region, Mesopotamia, Persia, Afghanistan, Baluchistan.

VAR. **brevipes** Post Fl. Syr. etc. (1896) 258.

HABITAT : I. Wady Feiran (ex Post).

DISTRIB. : Endemic.

14. A. cruciatus Link. Enum. Hort. Berol. ii, (1822) 256 ; DC. Prodr. ii, (1825) 288 ; Del. Frag. Fl. Arab. Petr. (1833) n. 82 ; Bunge Astrag. (1868-69) n. 33 ; Boiss. Fl. Or. ii, (1872) 225.—*A. stella* M. B. Taur. Cauc. ii, 191 (*non Gou.*).

HABITAT : I. Arabia Petraea (Boiss. ! De Laborde).

DISTRIB. : Morocco, Algeria, Tunis, Tripolitania, Egypt, Arabia Petraea, Syria, Palestine, Transcaucasus.

Vern. name : *Khuzam-el-qutt* (Post).

15. A. echinus DC. Astr. n. 92, t. 34 ; Bunge Astrag. (1868-69) 526 ; Boiss. Fl. Or. ii, (1872) 338 ; Kneuck. in Allg. Bot. Zeitsch. ix, (1903) 147.—*A. Barba Mosis* et *Geddesia Barba Mosis* Ehrenb. MS. in Herb. Berol.

HABITAT : I. Mt. Catherine (Boiss. !); Jebel Musa ca. 2,100 m., Jebel Catherine ca. 2,450 m. (Kneuck.).

DISTRIB. : Arabia Petraea, Palestine, Syria.

VAR. **sinaicus**.

HABITAT : I. Mt. Sinai (Schimp. 268 ! Ehrenb. !).

FL. : Aug. 1835 (Schimp.).

DISTRIB. : Endemic.

16. A. eremophilus Boiss. Diagn. Pl. Or. ser. 1, ii, 54 ; Bunge Astrag. (1868-69) n. 15.

HABITAT : I. Arabia Petraea (Mc Donald !); Sinai (ex Post).

II. Jiddah (Zohrab 126 ! 173 ! Schimp. 777! Ehrenb.!); Jiddah and Wady Fatimah (Fischer 87 !).

FL. : Jan. 1836 (Schimp.), Jan., Feb. 1837 (Fischer).

FR. : Jan. (Ehrenb.), Jan. 1836 (Schimp.), Jan., Feb. 1837 (Fischer).

DISTRIB. : Egypt, Arabia, Baluchistan.

Vern. name : *Umm-el-qurein, Fajaa-mukd* (Post).

17. A. fatimensis Hochst. in Schimp. pl. exs. 843.—*A. arabicus* Ehrenb. MS. Herb. Berol. (*non Kotschy*) ; Bunge Astrag. (1868-69) n. (; Boiss. Fl. Or. ii, (1872) 223.

HABITAT: I. Arabia Petraea (Auch.-Eloy 4452 !); Sinai (ex Post).
II. Mecca (Schimp.!); Jiddah (Zohrab 168 !); Wady Fatimah (Fischer 86 ! Schimp. !); Yaman (Ehrenb.!).
FL.: Jan. (Ehrenb.), Feb. 1837 (Fischer).
FR.: Jan. (Ehrenb.), Feb. 1837 (Fischer).
DISTRIB.: Arabia, Baluchistan, India.

18. **A. Fresenii** Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2. iii, (1835) 266; Schenk Sp. Pl. it. Aeg. Arab. & Syr. (1840) n. 229; Bunge Astrag. (1868-69) 368; Boiss. Fl. Or. ii, (1872) 261.

HABITAT: I. Arabia Petraea (Mc Donald !); Mt. Catherine (Boiss. ! Auch.-Eloy 71 !); Mt. Horeb (Bové 191 !); Mt. Sinai (Schimp. 187 ! Auch.-Eloy 1372 ! Drake 26 !); Plain Raha, foot of Jebel Musa (Kneuck.).
Fl.: Apr. 1835 (Schimp.), Apr. 1846 (Boiss.), June 1832 (Bové).
FR.: June 1832 (Bové).
DISTRIB.: Endemic.

19. **A. gyzensis** Del. Ill. Fl. d' Eg. (1813) 64; Bunge Astrag. (1868-69) n. 64; Boiss. Fl. Or. ii, (1872) 234.—*A. hauarensis* Boiss. Diagn. Pl. Or. ser. 1, ix, 63.—*A. saccharensis* Ehrenb. in Herb. Berol. et Fischerianus (ex Bunge).—*A. drepanocarpus* Hochst. in Schimp. Pl. Arab. Herb. Mus. Florent. (ex Bunge).

HABITAT: I. Arabia Petraea (Schimp. 181! 189 ! 238 ! Boiss.!); S. of Dead Sea and southward to Sinai (ex Post).
DISTRIB.: N. Africa, Arabia Petraea, Persia, Songaria.
Vern. name: *Adham-el-farah* (Post), *Dan-el-Phara* (ex Boiss.).

20. **A. hamosus** L. Sp. Pl. (1753) 1067; Bunge Astrag. (1868-69) n. 51; Boiss. Fl. Or. ii, (1872) 238.—*A. brachyceras* Boiss. Fl. Or. Suppl. (1888) 175 (*partim*).

HABITAT: I. Arabia Petraea (ex Post).
DISTRIB.: Mediterranean region, Transcaucasus, Punjab.
Vern. name: *El-Koren* (ex Boiss.).

21. **A. hispidulus** DC. Astr. 105, n. 30, t. 13; Bunge Astrag. (1868-69) n. 72; Boiss. Fl. Or. ii, (1872) 235; Post Fl. Syr. etc. (1896) 259.—*A. bidentatus* Ehrenb. (ex Bunge).

HABITAT: I. Arabia Petraea (Boiss. !); Et Tih to Sinai (ex Post).
DISTRIB.: Egypt, Arabia Petraea, Palestine.

22. **A. Kneuckeri** Freyn in Bull. Herb. Boiss. ser. 2, iv, 1113.

HABITAT: I. Between Wady Tarfa and Jebel Musa (Kneuck.).
DISTRIB.: Endemic.

23. **A. leucacanthus** Boiss. Diagn. Pl. Or. ser. 1, ix, 93; Bunge Astrag. (1868-69) n. 279; Boiss. Fl. Or. ii, (1872) 303.

HABITAT: I. Between Suez and Aijun Musa and northward (ex Post).

DISTRIB.: Egypt, Arabia Petraea.

24. **A. nummularioides** Desf. ex emend. DC. Astr. n. 131, excl. syn.; Del. Frag. Fl. Arab. Petr. (1833) n. 79; Bunge Astrag. (1868-69) n. 845.

HABITAT: I. Arabia Petraea (DeLaborde!).

DISTRIB.: Mediterranean region.

25. **A. peregrinus** Vahl Symb. Bot. i, (1790) 57; Done. Fl. Sin. in Ann. Sc. Nat. ser. 2, iii, (1835) 266; Bunge Astrag. (1868-69) n. 85; Boiss. Fl. Or. ii, (1872) 241; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 98.

HABITAT: I. Sinai desert (Bové!); Arabia Petraea (McDonald!); S. of Ghazah (Boiss.).

DISTRIB.: N. Africa, Egypt, Arabia Petraea, Palestine.

Vern. name: *Omokrun-acfa* (Bové).

26. **A. prolixus** Sieb. ex Bunge Astrag. i, (1868-69) n. 27; Boiss. Fl. Or. ii, (1872) 223; Musch. in Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 98.

HABITAT: I. Wady es Sle (Kneuck.); Jebel Nakus (Musch.).

II. Jiddah (Zohrab 172! 128!); Wady Fatimah (Fischer! Schimp. 843!).

FL.: Feb. (Fischer), Feb. 1836 (Schimp.).

FR.: Feb. (Fischer), Feb. 1836 (Schimp.).

DISTRIB.: Egypt, Nubia, Abyssinia, Dongola, Arabia, Sind, Punjab.

Vern. name: *Tanil* (Musch.).

27. **A. pseudostella** Del. Ill. Fl. d'Eg. Suppl. 64; Bunge Astrag. (1868-69) n. 31; Boiss. Fl. Or. ii, (1872) 225.—*A. sinaicus* Boiss. Diagn. Pl. Or. ser. 1, ix, 57.—*A. stella* VAR. *acutifolius* Desf. Atl. ii, 187 (ex Bunge).

HABITAT: I. Arabia Petraea (McDonald!); Mt. Sinai (Schimp 181! Auch.-Eloy 1309!).

DISTRIB.: Tunis, Algeria, Egypt, Arabia Petraea.

28. **A. radiatus** Ehrenb. MS. ex Bunge Astrag. (1868-69) n. 32; Boiss. Fl. Or. ii, (1872) 226; Post Fl. Syr. etc. (1896) 258.

HABITAT: I. Et Tih (ex Post); Arabia Petraea, towards Palestine (Boiss.!).

FL.: Mar. (Boiss.).

DISTRIB.: Algeria, Tunis, Egypt, Arabia Petraea, Palestine.

29. A. sanctus Boiss. Diagn. Pl. Or. ser. 1, ix, 47 ; Bunge Astrag. (1868-69) n. 881.

HABITAT : I. Et Tih (ex Post); Arabia Petraea (Boiss. !).

DISTRIB. : Arabia Petraea, Palestine, Syria.

30. A. Schimperi Boiss. Diagn. Pl. Or. ser. 1, ii, (1843) 53 ; Fl. Or. ii, (1872) 226 ; Post Fl. Syr. etc. (1896) 258.

HABITAT : I. Wady Feiran (Schimp. 238 !); Sinai (ex Post).

FL. : Mar. 1835 (Schimp.). FR. : Mar. 1835 (Schimp.).

DISTRIB.: Egypt, Arabia Petraea.

Vern. name : *qureieun aswad* (Post), *Kreid-um uoswed* (Schimp.).

31. A. scorpius Boiss. Diagn. Pl. Or. ser. 1, ix, 103 ; Bunge Astrag. (1868-69) n. 508.

HABITAT : I. Arabia Petraea (McDonald !).

DISTRIB. : Arabia Petraea, Persia.

32. A. Sieberi DC. Prodr. ii, (1825) 295 ; Schenk Sp. Pl. it. Aeg. Arab. & Syr. (1840) 226 ; Bunge Astrag. (1868-69) n. 277 ; Boiss. Fl. Or. ii, (1872) 301.—*A. Barba Aronis* Ehrenb. MS. (ex Bunge).—*A. radicatus* Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, iii, (1835) 268.

HABITAT : I. Desert of Sinai (Bové 193 !); Wady Barak, Wady Lebweh (Hart !); near Beersheba (Lowne !); Wady Nasb and W. Araba (Hart!); Wady es Sle, W. Tarfa, Serbal ca. 1,950 m., W. Ghurundel (Kneuck.); between Suez and Tor, Wady Shaikh (ex Schenk); Arabia Petraea (Sieber, Auch.-Eloy ! Boiss. ! Botta) ; N. and S. Midian (Burton !).

DISTRIB. : Egypt, Arabia Petraea, Midian.

Vern. name : *Sab-al-aross* (Bové), *qudad, asabi-el-arur, khansar-el-arus* (Post).

33. A. sparsus Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, iii, (1835) 267; Bunge Astrag. (1868-69) n. 267 ; Boiss. Fl. Or. ii, (1872) 299 ; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 99.

HABITAT : I. Wady Shaikh (Boiss. !); Deserts of Sinai and Tor (Bové 192 !); Wady Hebran (Schimp. 189 !); Arabia Petraea (McDonald !); foot of Serbal (Kneuck.); Sinai (Auch.-Eloy 1293 !); N. Midian (Burton !).

FL. : Mar. 1846 (Boiss.), Apr. (Boiss.).

FR. : Mar. 1846 (Boiss.), Apr. 1835 (Schimp.), June 1832 (Bové).

DISTRIB. : Endemic.

Vern. name : *Sabalarose* (Bové).

34. A. spinosus Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 98.—*Colutea spinosa* Forsk. Fl. Aeg.-Arab. (1775) 131.—*A. tumidus* Willd. Act. Berol. (1794) 26 (*partim*); Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, ii,

(1835) 268.—*A. Forskalei* Boiss. Diagn. Pl. Or. ser. 1, ix, 101; Bunge Astrag. (1868-69) n. 505.—*A. Rauwolfii* Vahl. Russ. Alep. t. 5.

HABITAT: I. Mt. Sinai (Ehrenb.! Boiss. 472! Schimp. 127! Drake 18!); Arabia Petraea (Pinard!); above Oasis Feiran (Kneuck.); N. Midian (Burton!); Desert between Suez and Tor (Bové 189!).

IV. Kuwait and neighbourhood of Regat (Pelly!).

FR.: June 1832 (Bové).

DISTRIB.: Egypt, Arabia, Palestine, Syria.

Vern. name: *Kidad* (Burton), *thimrah* (Post).

35. A. stella Gouan ex DC. Astrag. 84, n. 7; Schenk. Sp. Pl. it. Aeg. Arab. Petr. & Syr. (1840) n. 228; Bunge Astrag. (1868-69) n. 46.—*A. stella* VAR. *obtusifolius* DC. l. c. excl. var. β.

HABITAT: I. Wady es Shaikh (ex Schenk).

DISTRIB.: Mediterranean region.

36. A. tenuirugus Boiss. Diagn. Pl. Or. ser. 1, ix, 61; Bunge Astrag. (1868-69) n. 60; Boiss. Fl. Or. ii, (1872) 232.

HABITAT: I. Arabia Petraea: Hamata and Bestan (Schimp. 120! 322!); Arabia Petraea (Boiss.!); Sinai, et Tih (ex Post).

FL.: Apr. 1846 (Boiss.), May 1835 (Schimp.).

FR.: Apr. 1846 (Boiss.), May 1835 (Schimp.).

DISTRIB.: N. Africa, Arabia Petraea, Palestine.

37. A. tribuloides Del. Ill. Fl. d' Eg. (1813) n. 696, t. 64, f. 17; DC. Prodr. ii, (1825) 288; Bunge Astrag. (1868-69) n. 29; Boiss. Fl. Or. ii, (1872) 224; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 97.—*A. tribuliformis* Hochst. MS. in Pl. Schimp.

HABITAT: I. Between Suez and Sinai (Boiss.!); Wady Tarfa, Monastery of St. Catherine, foot of Jebel Serbal (Kneuck.); el Tor (Musch.).

DISTRIB.: Mediterranean region, Persia, Baluchistan, Afghanistan, Punjab, Central Asia.

Vern. name: *Ruchainu, quedd* (Musch.), *Rukhaimi qudad* (Post).

VAR. **leiocarpus** Boiss. Fl. Or. ii, (1872) 225; Post Fl. Syr. etc. (1896) 257.—*A. ammocryptus* Boiss. Diagn. Pl. Or. ser. 1, ix, 60.

HABITAT: I. Northern border of Et Tih (ex Post).

DISTRIB.: Arabia Petraea, Palestine, Persia.

VAR. **minutus** Boiss. Fl. Or. ii, (1872) 225; Post Fl. Syr. etc. (1896) 257.—*A. minutus* Boiss. Diagn. Pl. Or. ser. 1, ix, 58.

HABITAT: I. Mt. Sinai (Schimp. 181!); between Nukul and Ghazah (Boiss.!); Nukul (ex Post).

FL. : Apr. 1835 (Schimp.). FR. : Apr. 1835 (Schimp.).

DISTRIB.: Egypt, Arabia, Mesopotamia, Persia, Afghanistan, Baluchistan.

38. A. trigonus DC. Astr. (1802) n. 81 ; Bunge Astrag. (1868-69) n. 280 ; Boiss. Fl. Or. ii, (1872) 302.

HABITAT : I. Arabia Petraea (Boiss. ! Botta); Dead Sea to Sinai (ex Post).

DISTRIB. : Egypt, Arabia Petraea.

39. A. trimestris L. Sp. Pl. (1753) 761 ; Bunge Astrag. (1868-69) n. 66 ; Boiss. Fl. Or. ii, (1872) 234 ; Post Fl. Syr. etc. (1896) 259.

HABITAT : I. Et Tih (ex Post).

DISTRIB. : Egypt, Arabia Petraea.

40. A. tuberculosus DC. Astr. 33, t. 22 ; Bunge Astrag. (1868-69) n. 82 ; Boiss. Fl. Or. ii, (1872) 239.—*A. Kotschyanus* Fisch. in Kotschy Pl. Alepp. n. 252.

HABITAT : I. Ramleh (Lowne !).

FL. : Apr. (Boiss.).

DISTRIB. : Mediterranean region, Mesopotamia.

41. A. virgatus Pallas Astr. 20, n. 25, t. 18; Del. Frag. Fl. Arab. Petr. (1833) n. 78 ; Bunge Astrag. (1868-69) n. 867.—*A. varius* DC. Astr. 109, n. 34.

HABITAT : I. Arabia Petraea (De Laborde ex Del.) Non vidi sp.

DISTRIB. : S. Russia to Caspian Sea, Arabia Petraea.

24. Scorpiuorus L.

1. S. muricata L. Sp. Pl. (1753) 745 ; Boiss. Fl. Or. ii, (1872) 178 ; Musch. Fl. Eg. i, (1912) 529.

HABITAT : I. Arabia Petraea (ex Musch.).

DISTRIB. : Mediterranean region.

25. Hippocrepis L.

1. H. bicontorta Loisel Nouv. Not. (1827) 32.—*H. Cornigera* Boiss. Diagn. Pl. Or. ser. 1, ii, 102 ; Fl. Or. ii, (1872) 185.—*H. velutina* Del. Ill. Fl. d' Eg. t. 64. —*H. buceras* Del. l. c. t. 64, f. 13.—*H. divaricata* Hochst. MS. ex Boiss.

HABITAT : I. Arabia Petraea (McDonald ! Pinard !); Sinai (Auch.-Eloy 1153 !); near Ras Hamam (Schimp. 190 !); Wady Sewook and neighbourhood (Lord !); Ramleh (Post !); S. end of Dead Sea to Sinai (ex Post).

IV. In the neighbourhood of Kuwait (Pelly!).

FL.: Mar. 1835 (Schimp.), Mar. 1882 (Post), Apr. 1868 (Lord).

FR.: Mar. 1835 (Schimp.), Mar. 1882 (Post), Apr. 1868 (Lord).

DISTRIB.: Mediterranean region.

Vern. name: *Medahin* (Post).

2. **H. bisiliqua** Forsk. Fl. Aeg.-Arab. (1775) LXXI, n. 371; Musch. Fl. Eg. i, (1912) 530.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Egypt, Arabia Petraea, Mesopotamia.

3. **H. constricta** Kze. Pugill. Plant. Prim. (1838) 42; Boiss. Fl. Or. Suppl. (1888) 171; Musch. Fl. Eg. i, (1912) 531.—*H. ciliata* Boiss. Fl. Or. ii, (1872) 185, *partim* (*non Willd.*).—*H. elegantula* Hochst.

HABITAT: I. Arabia Petraea (ex Musch.).

II. Jiddah (Schimp. 939! Fischer 82! Zohrab 157!).

FL.: Mar. 1837 (Schimp., Fischer).

FR.: Mar. 1837 (Schimp.).

DISTRIB.: Mediterranean region, tropical Arabia.

4. **H. multisiliquosa** L. Sp. Pl. (1753) 744; Boiss. Fl. Or. ii, (1872) 185; Musch. Fl. Eg. i, (1912) 530.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Mediterranean region.

5. **H. unisiliquosa** L. Sp. Pl. (1753) 744; Boiss. Fl. Or. ii, (1872) 184; Musch. Fl. Eg. i, (1912) 530.—*H. monocarpa* M.B. Fl. Taur-Cauc. iii, 480.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Mediterranean region, Caucasus.

26. Hedysarum L.

1. **H. spinosissimum** Sibth. & Smith Fl. Gr. viii, 16, t. 721; Boiss. Fl. Or. ii, (1872) 513; Musch. Fl. Eg. i, (1912) 533.—*H. capitatum* VAR. *pallens* Moris Flor. Sard. t. 68, f. B.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Mediterranean region.

Vern. name: *androsarúm* (Post).

27. Taverniera DC.

1. **T. glauca** Edgew. Journ. Asiat. Soc. Beng. xvi, 1214; Anders. Fl. Aden. (1860) 17; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 249; Blatt. Fl. Aden (1915) 176.

HABITAT: II. Aden (Beevor 42! Edgew.! S. 59! Balf.! Lunt 340! Defl.!).

FL.: Jan. 1856 (Edgew.), Apr. 1894 (Lunt.), Nov. 1888 (S.).

FR.: Jan. 1880 (Balfour), Apr. 1894 (Lunt.), Mar. and Nov. (S.).

DISTRIB.: Abyssinia, Arabia.

2. **T. lappacea** DC. Prodr. ii, (1825) 339; Oliv. Fl. Trop. Afr. ii, (1871) 140; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 249.—*Hedysarum lappaecum* Forsk. Fl. Aeg.-Arab. (1775) CXVII, n. 451 and p. 136.

HABITAT: I. Naaman Island (Burton!).

II. Near el Hami (S. 171); Yaman (Ehrenb.!); Lohaja (Forsk.).

FL.: Apr. 1881 (S.). FR.: Apr. 1881 (S.).

DISTRIB.: Nubia, Arabia.

Vern. name: *Hōbb el adjais* (Forsk.).

Note: Eaten by animals (Burton).

3. **T. Schimperi** Jaub. & Sp. Illustr. Pl. Or. t. 474; Oliv. Fl. Trop. Afr. ii, (1871) 141; Blatt. Fl. Aden (1915) 177.—*T. cyclophylla* Hochst. in Schimp. Herb. Abyss. 2329.—*T. floribunda* Schweinf. Fl. Aethiop. 17.

HABITAT: II. Aden (Defl.!).

DISTRIB.: Abyssinia, Aden.

28. Onobrychis Gaertn.

1. **O. Crista galli** Lam. Fl. France, ii, (1778) 652; Schenk Sp. Pl. it. Aeg. Arab. Syr. (1840) n. 233; Boiss. Fl. Or. ii, (1872) 528; Post Fl. Syr. etc. (1896) 281.—*Hedysarum Crista galli* L. Syst. 563.

HABITAT: I. Arabia Petraea (ex Post); Wady Musa (ex Schenk).

DISTRIB.: Morocco, Algeria, Tunisia, Tripolitania, Egypt, Arabia Petraea, Palestine, Syria.

2. **O. ptolemaica** DC. Prodr. ii, (1825) 347; Dene. Fl. Sin. in Ann. Sc. Nat. ser. 2, iii, (1835) 269; Boiss Fl. Or. ii, (1872) 547; Post Fl. Syr. etc. (1896) 283.—*Hedysarum ptolemaicum* Del. Fl. Eg. 328, t. 39, f. 1.

HABITAT: I. Sinai (Auch.-Eloy 1049! Schimp. 215! Drake 96! Boiss.); Arabia Petraea (McDonald! Bové!); Dead Sea to Sinai (ex Post); Plain Raha, Wady es Shaikh, Serbal region (Kneuck.).

FL.: Apr. 1835 (Schimp.). FR.: Apr. 1835 (Schimp.).

DISTRIB.: Egypt, Arabia Petraea, Palestine.

Vern. name: *khansar-el-'Arûs* (Post).

29. Ebenus L.

1. **E. stellata** Boiss. Diagn. Pl. Or. ser. 1, ii, 100; Fl. Or. ii, (1872) 557.—*E. tragacanthoides* Jaub. & Sp. Ill. Pl. Or. 158, t. 254.—*E. horrida* and *E. ferruginea* Jaub. & Sp. l. c. 159, 160.

HABITAT: IV. Jebel Akhdhar (Auch.-Eloy 4436 !); Masqat (Auch.-Eloy 4430 !).

DISTRIB.: Arabia, Persia, Baluchistan.

VAR. **unifoliolata** Boiss. Fl. Or. ii, (1872) 557.—*E. erinacea* Jaub. & Sp. Ill. Pl. Or. t. 255.

HABITAT: IV. Masqat (Auch.-Eloy !).

DISTRIB.: Endemic.

30. Alhagi Desv.

1. **A. camelorum** Fisch. Ind. Gor. (1812) 72; Boiss. Fl. Or. ii, (1872) 559; Cooke Fl. Bomb. i, (1903) 333.

HABITAT: Arabia (ex Cooke). Non vidi sp.

DISTRIB.: Arabia, Persia, Afghanistan, Baluchistan, N. W. India.

2. **A. Maurorum** Medic. in Vorles. Churpf. Phys. Ges. ii, (1787) 397; DC. Prodr. ii, 352; Boiss. Fl. Or. ii, (1872) 558; Baker in Kew Bull. (1894) 331; Blatt. Fl. Aden (1915) 178.—*A. mannifera* Desv. Journ. Bot. i, (1813) 120.

HABITAT: I. J. Musa and Ain Musa (Hart !); Wady Ghurundel (Kneuck.); Wady Feiran (Lord); Wady Hebran (Schimp. 363 !); Sinai (Drake 107 !).

II. Aden (Birdw. 180 !).

III. Hillsides at Sibeh, 500 ft. (Lunt !).

FL.: June 1835 (Schimp.), June 1868 (Lord).

FR.: June 1868 (Lord).

DISTRIB.: Nubia, Egypt, Arabia, Syria, Mesopotamia.

Vern. name: *Aqoul* (Bové), *Âqûl* (Post).

31. Ormocarpum Beauv.

1. **O. bibracteatum** Baker in Oliv. Fl. Trop. Afr. ii, (1871) 143; Defl. Yemen (1889) 132; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 249.—*Acrotaphros bibracteata* Steud. ex Rich. Fl. Abyss. i, (1847) 207.

HABITAT: II. Jebel Bura, Hille (S. 350 !); Aggara, Hajeilah (S. 1007 !); near Hajeilah (Defl. 76 ! 116, 136); neighbourhood of Aden (Hunter !).

FL.: Jan., Feb. 1889 (S.). FR.: Jan., Feb. 1889 (S.).

DISTRIB.: Senegambia, Abyssinia, Eritrea, Somaliland, Yaman.

Vern. name: *hōmrâr* (S.).

32. Aeschynomene L.

1. **A. arabica** Defl. in Bull. Soc. Bot. France, xlii, (1895) 303.

HABITAT: II. Wady Moaden (Defl. 1150!).

FL.: May 1894 (Defl.). FR.: May 1894 (Defl.).

DISTRIB.: Endemic.

33. Stylosanthes Swartz.

1. **S. mucronata** Willd. Sp. Pl. iii, (1803) 1166; Oliv. Fl. Trop. Afr. ii, (1871) 157; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 250.—*S. setosa* Harv. & Sond. Fl. Cap. ii, 217.

HABITAT: II. Above Hille, 800 m. (S. 448!); below Wasil, 1,200 m. (S. 1263); Okeber, 900 m. (S. 863).

FL.: Jan., Feb. 1889 (S.). FR.: Jan., Feb. 1889 (S.).

DISTRIB.: Senegal, Mozambique, Zambesi, Cape, Eritrea, Yaman, India.

34. Desmodium Desv.

1. **D. gangeticum** DC. Prodr. ii, (1825) 327; Oliv. Fl. Trop. Afr. ii, (1871) 161; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 250.

HABITAT: II. Jebel Bura, Hille (S. 245!); near Wulej, 600 m. (S. 709).

FL.: Jan. 1889 (S.). FR.: Jan. 1889 (S.).

DISTRIB.: Tropical Africa, India, Malaya.

Vern. name: *Orgāsé* (S.).

2. **D. Scalpe** DC. Prodr. ii, (1825) 334; Oliv. Fl. Trop. Afr. ii, (1871) 164; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 250.—*D. Schimperi* Hochst. ex Rich. Fl. Abyss. i, (1847) 205.

HABITAT: II. Near Wasil, 1,400 m. (S. 1228!).

FL.: Feb. 1889 (S.). FR.: Feb. 1889 (S.).

DISTRIB.: Tropical Africa, Natal, Mascerene Islands, India, Malaya.

35. Alysicarpus Neck.

1. **A. nummularifolius** DC. Prodr. ii, (1825) 353; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 250.

HABITAT: II. Wulej, 600 m. (S. 867).

FL.: Jan. 1889 (S.). FR.: Jan. 1889 (S.).

DISTRIB.: Tropics of the Old World.

2. **A. rugosus** DC. Prodr. ii, (1825) 353; Oliv. Fl. Trop. Afr. ii, (1871) 171; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 250.—*A. Hochstetteri* Rich. Fl. Abyss. i, (1847) 209.

HABITAT: II. Yaman (Ehrenb.!); Wasil, 1,400 m. (S. 1321).

FL.: Feb. 1889 (S.). FR.: Feb. 1889 (S.).

DISTRIB.: Tropics of the Old World, Cape, Australia.

36. Cicer L.

1. **C. arietinum** L. Sp. Pl. (1753) 738; Boiss. Fl. Or. ii, (1872) 560; Schweinf. in Bull. Herb. Boiss. (1893) App. II, 251; Musch. Fl. Eg. i, (1912) 538; Carter in Rec. Bot. Surv. Ind. vi, (1917) 192.—*C. cuneatum* Hochst. in Schimp. Herb. Abyss. n. 810.

HABITAT: I. Arabia Petraea (ex Musch.).

II. Above Manakhah, 2,400 m. (S. 1590!).

IV. Principality of Kuwait (Cox).

DISTRIB.: Widely cultivated in tropical and sub-tropical regions.

Vern. name: *Hummus* (Post), *hamas*, *nakhi* (Cox).

37. Vicia L.

1. **V. angustifolia** L. Amoen. iv, 105; Boiss. Fl. Or. ii, (1872) 574.—*V. stricta* L. VAR. *angustifolia* Alef. in Landwirtsch. Flor. (1866) 60; Musch. Fl. Eg. i, (1912) 540.

HABITAT: I. Arabia Petraea (ex Musch.).

II. Jiddah (Zohrab 154! 301!); Manakhah, 2,800 m. (S. 1385!).

FR.: Feb. 1889 (S.).

DISTRIB.: Mediterranean region.

2. **V. Ervilia** Willd. Sp. Pl. iii, (1800) 1103; Boiss. Fl. Or. ii, (1872) 595; Post Fl. Syr. etc. (1896) 290; Musch. Fl. Eg. i, (1912) 543.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Central Europe, Mediterranean region, Persia, Afghanistan.

Vern. name: *Kirsenneh* (Post).

3. **V. Faba** L. Sp. Pl. (1753) 737; Defl. Yemen (1889) 132.

HABITAT: II. Cultivated near Amran, 2,300 m. (Defl. 631!).

DISTRIB.: Cultivated in all warm countries.

4. **V. gracilis** Loisel. Fl. Gall. ii, 148, t. 12; Boiss. Fl. Or. ii, (1872) 596; Post Fl. Syr. etc. (1896) 290; Musch. Fl. Eg. i, (1912) 543.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Central Europe, Mediterranean region.

5. **V. lutea** L. Sp. Pl. (1753) 736. VAR. *hirta* Boiss. Fl. Or. ii, (1872) 570; Post Fl. Syr. etc. (1896) 286; Musch. Fl. Eg. i, (1912) 540.—*V. lutea* Forsk. Fl. Aeg.-Arab. (1775) LXX, n. 367.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Mediterranean region, Persia.

6. **V. narbonensis** L. Sp. Pl. (1753) 737; Boiss. Fl. Or. ii, (1872) 577; Post Fl. Syr. etc. (1876) 288.

HABITAT: I. Wady Zewerah (Lowne!).

DISTRIB.: Mediterranean region, Persia.

Vern. name: *Nu'mâni-barri, Fâl-Iblis, Bakher.*

7. **V. peregrina** L. Sp. Pl. (1753) 737; Boiss. Fl. Or. ii, (1872) 576; Post Fl. Syr. etc. (1896) 287; Muech. Fl. Eg. i, (1912) 541.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Central Europe, Mediterranean region, Persia.

8. **V. salaminia** Heldr. & Sart. in Boiss. Diagn. Pl. Or. ser. 2, ii, 39; Fl. Or. ii, (1872) 591; Musch. Fl. Eg. i, (1912) 543.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Mediterranean region and Orient.

9. **V. sativa** L. Sp. Pl. (1753) 736; Forsk. Fl. Aeg.-Arab. (1775) LXX, n. 366; Del. Frag. Fl. Arab. Petr. (1833) n. 84; Boiss. Fl. Or. ii, (1872) 574; Post Fl. Syr. etc. (1896) 287.

HABITAT: I. Arabia Petraea (De Laborde).

DISTRIB.: Indigenous in Mediterranean region and Persia. Cultivated everywhere in the temperate and tropical regions.

Vern. name: *Baqiyah* (Post).

VAR. **abyssinica** Baker in Oliv. Fl. Trop. Afr. ii, (1871) 172; Schweinf. in Bull Herb. Boiss. (1896) App. II, 251.

HABITAT: II. Manakhah, 2,200 m. (S. 1385!).

FL.: Feb. 1889 (S.). FR.: Feb. 1889 (S.).

DISTRIB.: Abyssinia, Eritrea, Yaman.

VAR. **amphicarpa** Coss. & Kral. in Bull. Soc. Bot. France, iv, (1857) 40; Musch. Fl. Eg. i, (1912) 541.—*V. angustifolia* VAR. *amphicarpa* Alef. Bot. Zeitg. xx, (1862) 363.—*V. amphicarpa* L. Sp. Pl. ed. 2, (1762) 1030.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Mediterranean region.

38. Lens Gren. et Godr.

1. L. esculenta Moench. Meth. (1794) 131; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 251; Musch. Fl. Eg. i, (1912) 544.—*Eroum Lens* L. Sp. Pl. (1762) 1039; Boiss. Fl. Or. ii, (1872) 598.

HABITAT: I. Arabia Petraea (ex Musch.).

II. Wady Fatimah (Fischer 194!); near Wasil, cultivated and run wild (S. 1314).

FL.: Feb. (Fischer), Feb. 1889 (S.). FR.: Feb. 1889 (S.).

DISTRIB.: Mediterranean region, Arabia, Persia, Afghanistan, Baluchistan, widely cultivated.

Vern. name: *Belssim* (S.).

39. Lathyrus L.

1. L. annuus L. Sp. Pl. (1762) 1032; Boiss. Fl. Or. ii, (1872) 603; Musch. Fl. Eg. i, (1912) 545.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Mediterranean region.

2. L. Aphaca L. Sp. Pl. (1753) 729; Boiss. Fl. Or. ii, (1872) 602; Post Fl. Syr. etc. (1896) 292.

HABITAT: I. Arabia Petraea (ex Post).

DISTRIB.: Europe, Mediterranean region.

Vern. name: *Showarib-el-busein, hamam-el-bourg* (Post).

3. L. Cicera L. Sp. Pl. (1753) 730; Del. Frag. Fl. Arab. Petr. (1833) n. 83.

HABITAT: I. Arabia Petraea (De Laborde).

DISTRIB.: Mediterranean region, Persia, Transcaucasus.

4. L. hierosolymitanus Boiss. Diagn. Pl. Or. ser. 1, ix, 127; Fl. Or. ii, (1872) 604; Musch. Fl. Eg. i, (1912) 546.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Marmarica, Egypt, Arabia Petraea, Palestine, Syria.

5. L. marmoratus Boiss. & Blanche in Fl. Or. ii, (1872) 606; Musch. Fl. Eg. i, (1912) 547.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Marmarica, Egypt, Arabia Petraea, Palestine, Syria.

6. L. sativus L. Sp. Pl. (1753) 730; Boiss. Fl. Or. ii, (1872) 606; Defl. Yemen (1889) 224.

HABITAT: II. Yaman, cultivated (Defl.).
DISTRIB.: Europe, Mediterranean region, Abyssinia.
Vern. name: *Jilban* (Post).

40. Pisum L.

1. P. fulvum Sibth. & Sm. Fl. Graec. vii, 79, t. 688; Boiss. Fl. Or. ii, (1872) 628; Post Fl. Syr. etc. (1896) 295.
HABITAT: I. Wells of Moses (Fox!).
DISTRIB.: Arabia Petraea, Palestine, Syria, Asia Minor.

2. P. sativum L. Sp. Pl. (1753) 727.
VAR. **elatius** Alef. in Landwirtschaftl. Flora (1862) 63; Mucch. Fl. Eg. i, (1912) 548.—*P. elatius* M. B. Taur. Cauc. ii, 151; Boiss. Fl. Or. ii, (1872) 623.
HABITAT: I. Arabia Petraea (ex Musch.).
DISTRIB.: Mediterranean region, Caucasus, Persia, Himalaya.
Vern. name: *Bishleh, Bizella* (Post).

41. Abrus L.

1. A. Bottæ Defl. Yemen (1889) 132; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 252.
HABITAT: II. Round Hajeilah, 500—800 m. (Defl. 66, 228); Jebel Ras (Botta); near Bajil (S. 528!); Aggara 600 m. (S. 1843); near Hille, 600 m. (S. 1936); Wulej (S. 701).
FL.: Jan. 1889 (S.). FR.: Jan., Feb. 1889 (S.).
DISTRIB.: Endemic.
Vern. name: *Tennueb*, asb (S.).

2. A. precatorius L.; DC. Prodr. ii, (1825) 381; Oliv. Fl. Trop. Afr. ii, (1871) 175; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 252.
HABITAT: II. Near Okeber, 900 m. (S. 811!); above Hille 600—1,000 m. (S. 486).
FR.: Jan. 1889 (S.).
DISTRIB.: Tropical region.
Vern. name: *Ain-lahla, ofrâss* (S.).

42. Clitoria L.

1. C. Ternatea L. Sp. Pl. (1753) 753; Oliv. Fl. Trop. Afr. ii, (1871) 177; Defl. Yemen (1889) 132; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 252.—*Lathyrus spectabilis* Forsk. Fl. Aeg.-Arab. (1775) CXVII, n. 445 and p. 135.

HABITAT: II. Surdud (Forsk.); near Hille, 600 m. (S. 260!); round Hajeilah and Wasil, 600—800 m. (Defl. 145, 176).

FL.: Dec. 1888 (S.). FR.: Dec. 1888 (S.).

DISTRIB.: Cosmopolitan in the tropics; common in cultivation.

Vern. name: *moglagidi* (S.).

43. Glycine L.

1. **G. javanica** L. Sp. Pl. (1753) 754; DC. Prodr. ii, (1825) 242; Oliv. Fl. Trop. Afr. ii, (1871) 178; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 252.—*G. micrantha* Hochst. in Rich. Fl. Abyss. i, (1847) 212.—*G. moniliformis* Hochst. l. c. 211.

HABITAT: II. Above Hille, 1,000 m. (S. 442!); Wasil 1,400 m. (S. 1227).

FL.: Jan. 1889 (S.). FR.: Feb. 1889 (S.).

DISTRIB.: Upper Guinea, Sennaar, Abyssinia, Eritrea, Zanzibar, Natal, Tropical Asia.

44. Teramnus Swartz.

1. **T. labialis** Spreng. Syst. iii, 235; Oliv. Fl. Trop. Afr. ii, (1871) 180; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 253.—*Glycine abyssinica* Hochst. in Schimp. Herb. Abyss. n. 1057; A. Rich. Fl. Abyss. i, (1847) 212.—*Kennedya arabica* Hochst. et Steud. in Schimp. Herb. Arab. n. 900.

HABITAT: II. Above Hille, 700 m. (S. 309!); Wulej 600 m. (S. 1987); near Wasil, 1,200 m. (S. 1988).

FL.: Jan. 1889 (S.). FR.: Jan., Feb. 1889 (S.).

DISTRIB.: Tropics of Old and New World, Natal.

45. Galactia P. Br.

1. **G. tenuiflora** W. & A. Prodr. Fl. Ind. 206. VAR. **biflora** Schweinf. in Bull. Herb. Boiss. (1896) App. II, 253.

HABITAT: II. Coffee region above Hille, 1,600 m. (S. 1863!).

FL.: Jan. 1889 (S.). FR.: Jan. 1889 (S.).

DISTRIB.: Zambesiland, Eritrea, Cape, Mascarene Islands, India.

46. Canavalia Adans.

1. **C. polystachya** Schweinf. in Reliq. Kotschy, 25—28, t. XX, XXI; Bull. Herb. Boiss. (1896) App. II, 254.—*Dolichos polystachios* Forsk. Fl. Aeg.-Arab. (1775) CXVII, n. 437 and p. 134.—D. *virosus* Roxb. Hort. Beng. 55.

HABITAT: II. Wady Mor, W. Surdud, Hadiyah (Forsk.); near Wulej, Jebel Milhan, 600 m. (S. 685!); near Hille 700 m. (S. 1829); Bajil (S. 586).

FL.: Jan. 1889 (S.). FR.: Jan. 1889 (S.).

DISTRIB.: Everywhere in the tropics.

Vern. name: *sséf-er-robáck, ssoreg* (S.). The cultivated plant is called *lubia hindi*, i.e. Indian bean (S.).

Note: For medical uses see Forsk. l.c.

47. Phaseolus L.

1. P. aconitifolius Jacq. Obs. iii, 2, t. 52; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 260. — *P. palmatus* Forsk. Fl. Aeg.-Arab. (1775) 214.

HABITAT: II. Cultivated in Yaman (Forsk.); cult. near Marrana (S. 170).

FL.: Dec. 1888 (S.). FR.: Dec. 1888 (S.).

DISTRIB.: Eritrea, Yaman, India, Ceylon.

Vern. name: *gotn* (Forsk.), *gatten* (S.).

2. P. Mungo L. Mant. 101; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 260; Krause in Engl. Bot. Jahrb. xxxv, (1905) 735; Carter in Rec. Bot. Surv. Ind. vi, (1917) 192.—*P. radiatus* L. Sp. Pl. (1753) 725; Forsk. Fl. Aeg.-Arab. (1775) 214.

HABITAT: II. Okeber, 900 m. (S. 856!); near Lahaj (Ellenbeck); cult. in Yaman (Forsk.).

IV. Principality of Kuwait (Cox).

DISTRIB.: Commonly cultivated in tropical Asia.

Vern. name: *fandt* (Ellenbeck), *kuscheri* (S.), *mash* (Cox).

3. P. vulgaris L. Sp. Pl. 723; Carter in Rec. Bot. Surv. Ind. vi, (1917) 193.

HABITAT: IV. Principality of Kuwait (Cox).

DISTRIB.: Spread all over the tropical and temperale regions.

Vern. name: *lubi* (Cox).

4. P. multiflorus Willd. Sp. Pl. iii, 1030; Carter in Rec. Bot. Surv. Ind. vi, (1917) 193.

HABITAT: IV. Principality of Kuwait (Cox).

DISTRIB.: Widely cultivated.

Vern. name: *lubi ahmur* (Cox).

48. **Vigna** Savi.

1. **V. sinensis** Endl. ex Hassk. Pl. Jav. Rar. (1848) 386; Oliv. Fl. Trop. Afr. ii, (1871) 204; Baker in Kew Bull. (1894) 332; Krause in Engl. Bot. Jahrb. xxxv, (1905) 735.—*Dolichos Lubia* Forsk. Fl. Aeg.-Arab. (1775) LXX, n. 363 and p. 133.

HABITAT: II. Cultivated in the oasis of Lahaj (Defl. 115!); near Lahaj (Ellenbeck).

III. Hadramaut, cultivated at Katan, 1,150 ft. (Lunt 16 !).

FL.: Dec. 1889 (Defl.).

DISTRIB.: Cultivated throughout the tropics.

Vern. name: *Dugr* (Lunt).

VAR. **sesquipedalis** (L.) Kornicke in Correspondenzbl. Naturhist. Ver. Rheinl. Westf. (1885) 147; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 260.—*Dolichos didjre* Forsk. Fl. Aeg.-Arab. (1775) 133.

HABITAT: II. Cultivated in the Tehama near Marrana (S. 171!); sold in the market at Bajil (S. 872).

III. Hadramaut (Hirsch 31).

FL.: Dec. 1888 (S.). FR.: Dec. 1888 (S.), Jan. 1889 (S.).

DISTRIB.: Cultivated in the tropics.

Vern. name: *Digr* (Hirsch), *Lubiyak belediyah* (Post).

2. **V. variegata** Defl. Yemen (1889) 132.

HABITAT: II. Near Attara 1,800 m. (Defl. 422).

DISTRIB.: Endemic.

49. **Dolichos** L.

1. **D. Lablab** L. Sp. Pl. (1753) 725; Oliv. Fl. Trop. Afr. ii, (1871) 210; Baker in Kew Bull. (1894) 332; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 263; Carter in Rec. Bot. Surv. Ind. vi, (1917) 193.—*Lablab vulgaris* Savi ex DC. Prodr. ii, (1825) 401.—*D. crenatifructus* Steud. in Schimp. Herb. Abyss. 513.

HABITAT: II. Jiddah (Fischer 201!).

III. Hadramaut: Cultivated under the date palms at Alrail, 2,000 ft. (Lunt 130!).

IV. Masqat (Auch.-Eloy 4359!); Principality of Kuwait (Cox).

FL.: Feb. (Fischer), Dec. 1893 (Lunt).

DISTRIB.: Cultivated throughout the tropics.

Vern. name: *Libláb Lubiyah 'afinah Sheranjib* (Post), *Kischt* (S.), *lubia* (Cox).

VAR. **albiflorus** Schweinf. in Bull. Herb. Boiss. (1896) App. II, 263.—*Lablab vulgaris* VAR. *albiflorus* DC. l. c. 401.

HABITAT: II. Cultivated at Manakhah, 2,200 m. (S. 1697).

Fl.: Mar. 1889 (S.).

VAR. **purpureus** Schweinf. in Bull. Herb. Boiss. (1896) App. II, 263.—*Lablab vulgaris* Savi VAR. *purpureus* DC. l.c. 401.

HABITAT: II. Cultivated near Okeber, 900 m. (S. 837).

FR.: Jan. 1889 (S.).

2. **D. cultratus** Forsk. Fl. Aeg.-Arab. (1775) 134; Schweinf. Arab. Pflanzennamen (1912) 138.

HABITAT: II. Lohaja (Forsk.).

DISTRIB.: Endemic.

Vern. name: *didjre, kescht* (Forsk.).

3 ? **D. faba indica** Forsk. Fl. Aeg.-Arab. (1775) 133.

HABITAT: II. Jiddah (Forsk.).

DISTRIB.: Endemic.

Vern. name: *Ful hendi* (Forsk.).

4. **D. formosus** A. Rich. Fl. Abyss. i, (1807) 225; Oliv. Fl. Trop. Afr. ii, (1871) 213; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 264.

HABITAT: II. Below Manakhah, 1,900 m. (S. 1530).

FL.: Feb. 1889 (S.). FR.: Feb. 1889 (S.).

DISTRIB.: Abyssinia, Eritrea, Yaman.

50. Cajanus DC.

1. **C. indicus** Spreng. Syst. Veg. iii, 248; Oliv. Fl. Trop. Afr. ii, (1871) 216.—*C. flavus* DC. Cat. Hort. Monsp. 85, n. 43; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 254.

HABITAT: II. Cultivated above Hille, 700-1,000 m. (S. 565).

FL.: Jan. 1889 (S.). FR.: Jan. 1889 (S.).

DISTRIB.: Cultivated throughout the tropics.

Vern. name: *qischta* (S.).

51. Rhynchosia Lour.

1. **R. flavissima** Hochst. in Oliv. Fl. Trop. Afr. ii, (1871) 219; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 255.

HABITAT : II. Wasil, 1,400 m. (S. 1351 !); Aggara, 600 m. (S. 1008); Wulej, 600 m. (S. 647).

FL. : Jan., Feb. 1889 (S.).

DISTRIB. : Abyssinia, Sennaar, Yaman.

2. **R. memnonia** DC. Prodr. ii, (1825) 386 ; Dcne. Pl. l'Arab. Heur. in Ann. Sc. Nat. ser. 2, iv, (1835) 77 ; Oliv. Fl. Trop. Afr. ii, (1871) 220 ; Boiss. Fl. Or. ii, (1872) 625 ; Hook. f. Fl. Brit. Ind. ii, pt. iv, (1876) 224 ; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 254 ; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 100 ; Blatt. Fl. Aden (1915) 179.—*R. pulverulenta* Stocks in Kew Journ. Bot. iv, 147 ; Boiss. l. c. 655 ; Anders. Fl. Aden. (1860) 17.—*R. minima* DC. l. c. 386. VAR. *memnonia* Cooke, Fl. Bomb. Pres. i, 389.—*Glycine memnonia* Del. Fl. d'Eg. 100. t. 38, f. 3.

HABITAT : I. Jebel Hamam-Sidna-Musa, J. Nakus, Desert Ka'a (Musch.).

II. Yaman (Bové 234); between Behae and Hajeilah (S. 886); near Merawa (Defl. 36); Aden (S. 102 ! Defl.! Anders.! Hook.! Balfour ! Brdw.!); Little Aden (Defl.!).

FL. : Jan. 1880 (Balfour), Jan. 1889 (S.).

DISTRIB. : Egypt, Nubia, Abyssinia, Kordofan, Sennaar, highlands of Somaliland, Kilimandjaro, Angola, Lower Congo, Natal, Central and South Arabia, Sind.

Vern. name : *Robbêly, wudêneh* (Musch.).

3. **R. minima** DC. Prodr. ii, (1825) 385 ; Oliv. Fl. Trop. Afr. ii, (1871) 219 ; Defl. Yemen (1889) 133 ; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 255.—*R. nuda, R. medicaginea, R. rhombifolia, R. ervoidea* et *R. punctata* DC. l. c.

HABITAT : Near Hajeilah, 600 m. (Defl. 116 !) ; Bajil (S. 558); Wady Hille, 600 m. (S. 702); near el Hami (S. 164).

FL. : Jan. 1889 (S.). FR. : Jan. 1889 (S.), Apr. 1881 (S.).

DISTRIB. : Sierra Leone, Senegambia, Nubia, Abyssinia, Arabia, Cape. (Everywhere in the tropics).

4. **R. Totta** DC. Prodr. ii, (1825) 388 ; Harv. & Sond. Fl. Cap. i, (1860) 255 ; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 255.—*Glycine Totta* Thunb. Fl. Cap. i, 591.

HABITAT : II. Manakhah, 2,100 m. (S. 1515).

FR. : Feb. 1889 (S.).

DISTRIB. : Cape, Eritrea, Yaman.

5. **R. viscosa** DC. Prodr. ii, (1825) 387; Oliv. Fl. Trop. Afr. ii, (1871) 222; Defl. Yemen (1889) 133.—*R. stipulosa* Rich. Fl. Abyss. i, (1847) 229, t. 43.

HABITAT: II. Wady Hawayat near Hajeilah, 700 m. (Defl. 192 !).

DISTRIB.: Nubia, Abyssinia, Yaman, India, Mascarene Islands.

52. Flemingia Roxb.

1. **F. congesta** Roxb. ex Ait. Hort. Kew. ed. 2, iv, 349.—*F. rhodocarpa* Baker in Oliv. Fl. Trop. Afr. ii, (1871) 231.—*Pyrus hadiensis* Forsk. Fl. Aeg.-Arab. (1775) CXIII, n. 325 and p. 212.

HABITAT: II. Hadiyah (Forsk.).

DISTRIB.: Tropical Africa, India, China, Malay, Philippines.

Vern. name: *sfaerdjel* (Forsk.).

Note: For economic uses see Schweinf. in Schweinf. in Bull. Herb. Boiss. (1896) App. II, 204.

53. Cadia Forsk.

1. **C. purpurea** Ait. Hort. Kew. iii, (1789) 492.—*C. arabica* J. F. Gmel. (1791) 667.—*Panciatica purpurea* Piccinoli (1783) ex Fiori.—*C. varia* L'Hérit. Diss. in Mag. Enc. v, (1795) 29; Oliv. Fl. Trop. Afr. ii, (1871) 255; Defl. Yemen (1889) 133; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 223.—*Cadia* Forsk. Fl. Aeg.-Arab. (1775) CXI, n. 276 and p. 90.

HABITAT: II. Wasil, 1,200-1,400 m. (S. 1937); near Wasil, 900 m. (Defl. 211); below Manakhah, 1,800 m. (S. 1630); Jebel Bura, 1,000 m. (S. 451 !); Jebel Milhan, Okeber (S. 822 !); Wady Gubud (Defl. 535 bis !); near el Mekhader, 1,800-2,000 m. (Defl. 651); Hadiyah (Forsk.); neighbourhood of Aden (Hunter 188 !).

FL.: Jan. 1889 (S.). FR.: Jan. 1889 (S.), Apr. 1890 (Defl.),

DISTRIB.: Abyssinia, Eritrea, Somaliland, Yaman.

Vern. name: *Kadi* (Forsk.), *qadi, la'tta' h,la'ffa'h* (S.).

§ CÆSALPINIEÆ.

54. Caesalpinia L.

1. **C. pulcherrima** Swartz Obs. p. 166; Hook. Fl. Brit. Ind. ii, 255; Baker in Kew Bull. (1894) 332; Blatt. Fl. Aden (1915) 188.—*Poinciana pulcherrima* L. Sp. Pl. 380; Bot. Mag. t. 995.

HABITAT: II. Cultivated at Aden (Lunt!).

III. Shari Burrock valley, Mukalla 200-300 ft. cult. (Lunt).

DISTRIB. : Home unknown. Has been found, apparently wild, by T. H. Aplin, in December 1887, in the Tapel Choung valley, Shan States, 1,700-5,000 feet.

55. Pterolobium R. Br.

1. P. lacerans R. Br. in Salt Abyss. App. 64; Oliv. Fl. Trop Afr. ii, (1871) 264; Defl. Yemen (1889) 133.—*P. abyssinicum* A. Rich. Fl. Abyss. i, (1847) 246; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 222.—*Quartinia abyssinica* Rich. in Ann. Sc. Nat. ser. 2, xiv, 260.—*Cantuffa exosa* J. F. Gmel Syst. (1791) 677.—*C. lacerans* Chiov. in Pir. Fl. Eritr. (1903) 102 (*non Taub*).

HABITAT : II. Wasil 1,400 m. (S. 1225!); Okeber 900 m. (S. 803); near Attara (Defl. 393); near Mekhader 1,800 m. (Defl. 654).

FR.: Jan.-Feb. 1889 (S.).

DISTRIB. : Abyssinia, Eritrea, Yaman.

Vern. name : *Kéllab, Kibān* (S.).

56. Poinciana L.

1. P. elata L. Mant. p. 16; Forsk. Fl. Aeg.-Arab. (1775) CXI, n. 274 and p. 84; DC. Prodr. ii, 484; Hook. Fl. Brit. Ind. ii, 260; Oliv. Fl. Trop. Afr. ii, (1871) 266; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 222; Blatt. Fl. Aden (1915) 180.—*Caesalpinia elata* Sw. Obs. 166.—*P. Playfairii* T. Anders. MS.; Gard. Chron. (1861) 388.

HABITAT : II. Yaman (Ehrenb.!); Jebel Horeib (Lunz 3!); upper and middle region of Mt. Kesser (Fischer 74!); Wady Fatimah (Schimp. 841!); near Wulej 600 m. (S. 617); Jebel Damer (S. 484); Milhan (Forsk.); Aden (Annesley! Balfour! Perry! Playfair! Defl.! Birdw.! Hildebr.! Ellenbeck, Thomson! S. 44!).

FL. : Jan. 1889 (S.), Mar. 1837 (Schimp.), Apr. 1878 (Perry), Nov. 1888 (S.).

FR. : Jan. 1889 (S.), Mar. (Fischer), Apr. 1878 (Perry), Nov. 1888 (S.).

DISTRIB. · Nubia, Abyssinia, Eritrea, highlands of Somaliland, Usagara-Usambara, Kilimandjaro, Central and Southern Arabia, Western India (?).

Vern. name *Mschilleeh* (Forsk.), *Rumf* (S.).

57. Parkinsonia L.

1. P. aculeata L. in Hort. Cliff. 157, t. 13; Baker in Kew Bull. (1894) 332; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 97; Blatt. Fl. Aden (1915) 187.

HABITAT : I. Sinai Peninsula near the hot springs (Musch.).

II. Aden (Busse); Shaikh Othman (Defl.!).

III. Shahar, in the cultivated parts at sea-level (Lunt!).

DISTRIB. : This plant is indigenous in tropical America, but cultivated in most tropical countries. In India it is naturalized, where it is grown chiefly as a hedge plant in the drier districts.

Vern. name : *Sesebán* (Musch.).

NOTE : The natives of Aden use this plant for various purposes. The bark is employed against consumption in cattle, the flowers and seeds against fever, and the bast for the manufacture of paper.

58. Cassia L.

1. C. absus L. ; DC. Prodr. ii, (1825) 500 ; Oliv. Fl. Trop. Afr. ii, (1871) 279 ; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 221.

HABITAT : II. Coffee region above Hille, 1,000 m. (S.).

DISTRIB. : Tropical Africa, Asia.

Vern. name : *tuschmä* (S.).

2. C. acutifolia Del. Ill. Fl. d' Eg. (1813) 75 ; Baker in Kew Bull. (1894) 332.—*C. lanceolata* Collad. Hist. Cass. (1816) 93 (*non Forsk.*).—*Senna acutifolia* Batka Monogr. Senna (1866) 41.

HABITAT : I. Akaba (Hart !).

II. Near Bolhaf (S. 151 !); Wady Dhabal near el Hagar (Defl. 229 !).

III. Hadramaut : Between Tahiyeh and Alrail, 1,700 ft. (Lunt 120 !).

FL. : Feb. 1869 (Lord), Feb. 1884 (Hart), Nov. 1883 (Hart), Dec 1893 (Lunt).

FR. : Feb. 1869 (Lord), Mar. 1881 (S.).

DISTRIB. : Tropical Africa, Egypt, Arabia.

3. C. adenensis Benth. in Trans. Linn. Soc. xxxvii, (1871) 553 ; Baker in Kew Bull. (1894) 332 ; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 220 ; Blatt. Fl. Aden (1915) 185.—*Senna Hookeriana* Batka in Bot. Zeitung. n. 36, p. 263 ; Monogr. Senna (1866) 52.

HABITAT : II. Aden (Thomson ! Oliv. & Cl. ! Perry ! S. 32 ! Hildebr. ! Defl. ! Lunt ! , Kuntze, Hook. !).

III. Hadramaut : Bakram near Mukalla 200 ft. (Lunt 61 !); Sehut (Hirsch 46 a).

FL. : Jan. 1863 (Ol. & Cl.), Apr. (Thomson), June 1872 (Hildebr.), July 1878 (Perry), Nov. 1888 (S.), Dec. 1893 (Lunt).

FR. : Apr. (Thomson), June 1872 (Hildebr.), July 1878 (Perry), Nov. 1888 (S.), Dec. 1893 (Lunt).

DISTRIB. : Arabia, Somaliland.

Vern. name : *ssönna* (S.).

4. **C. angustifolia** Vahl. Symb. Bot. i, (1790) 29; Oliv. Fl. Trop. Afr. ii, (1871) 279; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 220; Blatt. Fl. Aden (1915) 184.—*C. senna* Forsk. Pietri Flor. Arab. in Herb. Brit. Mus. (1772).—*C. medica* Forsk. Fl. Aeg.-Arab. (1775) CXI, n. 271.—*Senna angustifolia* Batka Monogr. Senna (1866) 30, 44.

HABITAT: II. Jiddah (Zohrab !); Lohaja (Forsk.); Yaman (Ehrenb. !); near Hille, 760-1,000 m. (S. 494); Bajil (S. 530); Aden (Birdw., S.).

FR.: Jan. 1889 (S.).

DISTRIB.: Mozambique (near Tette), extending eastward to the desert tracts of North-Western and Peninsular India.

Vern. name: *ssonna* (S.), known in commerce under the names of Senna indica, S. meccensis, S. halepensis.

5. **C. auriculata** L. Sp. Pl. (1753) 379; Schweinf. Bull. Herb. Boiss. (1896) App. II, 221; Blatt. Fl. Aden (1915) 186.

HABITAT: II. Cultivated at Shaikh Othman (S. 1926).

FL.: Nov. 1888 (S.). Fr.: Nov. 1888 (S.).

DISTRIB.: India, Ceylon.

English name: Tanner's Cassia.

6. **C. fistula** L. Sp. Pl. (1753) 377; Forsk. Fl. Aeg.-Arab. (1775) CXI, n. 267.

HABITAT: II. Lower mountainous region (Forsk.).

DISTRIB.: Tropical Asia.

Vern. name: *chiar schambar* (Forsk.).

7. **C. holosericea** Fres. in Flora i, (1839) 54; Franch. Sect. Somal. in Miss. Révoil p. 30; Oliv. Fl. Trop. Afr. ii, 278; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 220; Blatt. Fl. Aden (1915) 183.—*C. pubescens* R. Br. in Salt Abyss. App. p. 64.—*C. Schimperi* Steud. Nomencl. Bot. ed. 2, i, 307.—*C. cana* Wenderoth in Linnæa xii, 22.—*Senna ovalifolia* Batka Monogr. Senna (1866) 50.

HABITAT: II. Jiddah (Ehrenb. ! Schimp. 780 ! Fischer 70 ! Zohrab !); Wady of Bolhaf (S. 150); Aden (Thomson ! Hook. 63 ! Perry ! Oliv. & Cl. ! S. ! Anders. ! Birdw. !); between Hodeidah and Marrana (S.); Shuqra (S. 67 !); Perim Island (Coomaraswamy !).

8. **C. nigricans** Vahl. Symb. Bot. i, (1790) 30; Oliv. Fl. Trop. Afr. ii, (1871) 280.—*C. procumbens* Forsk. Fl. Aeg.-Arab. (1775) CXI, n. 272.

HABITAT: II. Surdud (Forsk.).

DISTRIB.: Endemic.

Vern. name: *koumer* (Forsk.).

9. C. obovata Collad. Hist. Cass. p. 92, t. XV, A; DC. Prodr. ii, 492; A. Rich. Tent. Fl. Abyss. i, 249; Anders. Fl. Aden. (1860) 18; Boiss. Fl. Or. ii, (1872) 631; Hook. Fl. Brit. Ind. ii, 264; Oliv. Fl. Trop. Afr. ii, (1871) 277; Defl. Yemen (1889) 134; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 220; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 96; Blatt. Fl. Aden (1915) 182; Carter in Rec. Bot. Surv. Ind. vi, (1917) 190.—*C. senna* L. Sp. Pl. (1762) 539 (*partim*).—*C. aschrek* Forsk. Fl. Aeg.-Arab. (1775) CXI, n. 265 and p. 86.—*C. obtusa* Roxb. Hort. Beng. (1814) 31.

Habitat: I. Arabah to Sinai (ex Post); Wady Feiran (Fox!); Desert near Suez (Bové 188!); Sinai: Wady es Shaikh (Drake 99!); Wady Gurra (Schimp. 303!); N. and C. Midian (Burton!).

II. Wady Mor' (Ehrenb.!); W. Merawa (Defl. 33); near Kalife, 300 m. (S. 235); Lohaja and Mor (Forsk.); Shuqra (S. 97), Aden (Balfour! Perry! S. 1925! Defl.! Hook.! Birdw.!); Perim Island (Farmer!).

III. Sehut (Hirsch 26); Oman (Cox).

Fl.: Mar. 1881 (S.), June 1832 (Bové), June 1835 (Schimp.), July 1879 (Perry), Dec. 1888 (S.).

Fr.: June 1832 (Bové), June 1835 (Schimp.), July 1879 (Perry), Nov.-Dec. 1888 (S.).

Distrib.: W. India, Sind, Arabia, Palestine, Egypt, Nubia, Eritrea, Abyssinia, Kordofan-Sennaar, highlands of Somaliland, Senegambia, Angola, Hereroland.

Vern. name: *Senné* (Bové), *Aschrek* (Forsk.), *'Áschriq* (Hirsch), *Senâ-Mekki* (Post), *Sennemath* (Schimp.), *Jamaica Senna*, *Italian Senna* and *Country Senna*.

10. C. occidentalis L.; DC. Prodr. ii, (1825) 497; Defl. Yemen (1889) 133; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 219; Krause in Engl. Bot. Jahrb. xxxv, (1905) 735.—*C. sophera* Hochst. Herb. Schimp. Abyss. sect. i, n. 312 (*non L.*).

Habitat: II. Yaman: Ataba (Steud.!); Wady Fatimah (Schimp. 779!); near Hajeilah, 900 m. (Defl. 173!); near Hajeilah 600 m. (S.); Kalife (S.); Heathalim (Ellenbeck).

Fl.: Jan. 1862 (Steud.), Feb. 1836 (Schimp.), Jan.-Feb., Dec. (S.).

Fr.: Jan. 1862 (Steud.), Feb. 1836 (Schimp.), Jan.-Feb., Dec. (S.).

Distrib.: Cosmopolitan in the tropics.

Vern. name: *Aschirak* (Ellenb.).

11. C. oocarpa Baker in Kew Bull. (1895) 181.

Habitat: III. Coast at Merbat (Bent 69).

Distrib.: Endemic.

12. C. pumila Lam. Dict. i, 620; Hook. f. Fl. Brit. Ind. ii, pt. v, (1878) 266.

VAR. **yemensis** Defl. Yemen (1889) 134.

HABITAT: II. Near Wasil, 1,300 m. (Defl. 216!).

DISTRIB.: Endemic.

13. C. sophera L. Sp. Pl. (1753) 542; Oliv. Fl. Trop. Afr. ii, (1871) 274; Hook. Fl. Brit. Ind. ii, pt. v, (1878) 262.—*C. lanceolata* Forsk. Fl. Aeg.-Arab. (1775) CXI, n. 270 and p. 85.—*C. ligustrina* Forsk. l. c. CXI, n. 268 and p. 86.

HABITAT: II. Wady Fatimah (Fischer 71!); Surdud, Hadiyah, Jobba (Forsk.).

IV. Masqat (Auch.-Eloy 4368!); Masqat, cultivated (Boiss.).

FL.: Feb. 1837 (Fischer). FR.: Feb. 1837 (Fischer).

DISTRIB.: Cosmopolitan in the tropics, said to be indigenous in Asia.

Vern. name: *Suna*, *Kolkol* (Forsk.).

14. C. Tora L. Sp. Pl. (1753) 376; Forsk. Fl. Aeg.-Arab. (1775) CXI, n. 266 and p. 86; Defl. Yemen (1889) 133; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 221.—*C. sunsub* Forsk. l. c. CXI, n. 269 and p. 86.

HABITAT: II. Wady Fatimah (Fischer 203!); near Hajeilah 600 m. (Defl. 163); Aggara near Hajeilah 600 m. (S.); near Wulej (S.); Hadiyah, Uahfad, Surdud, near Taez (Forsk.).

Elahpad FL.: Feb. 1837 (Fischer), Feb. 1889 (S.).

FR.: Feb. 1837 (Fischer).

DISTRIB.: Cosmopolitan in the topics.

Vern. name: *kolkol*, *didjer el-akbar*, *Sunsub* (Forsk.), *gurgul* (S.).

59. Ceratonia L.

1. C. siliqua L. Sp. Pl. (1753) 1026; Defl. Yemen (1889) 134; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 219; Post Fl. Syr. etc. (1896) 297.

HABITAT: I. Wady Feiran (Lord!).

II. Cultivated at Okeber (S. 839); cult. in coffee region above Hille, 700-900 m. (S.); near Taez, 1,400 m. (Defl. 693!); near Jennat (Botta).

DISTRIB.: S. Europe, Syria, Palestine.

Vern. name: *Kharrub* (Post), *Chornub* (S.).

NOTE: Dibs is made of the pulp of the pods (Post)

60. Bauhinia L.

1. **B. inermis** Forsk. Fl. Aeg.-Arab. (1775) CXI, n. 264 and p. 85; Defl. Yemen (1889) 134; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 280.

HABITAT: II. Yaman: Milhan (Forsk.); near Wasil, 800—900 m. (Defl. 207); near Wulej (S. 791 !).

FR.: Jan. 1889 (S.).

DISTRIB.: Arabia.

Vern. name: *Henn embas, henn el bagar, Tummār, Athbir* (Forsk.).

61. Tamarindus L.

1. **T. indica** L. Sp. Pl. (1753) 34; Defl. Yemen (1889) 134; Baker in Kew Bull. (1894) 332; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 218.—*T. erythræa* Mattei in Boll. Orto. Bot. Palermo, vii, (1908) 95.

HABITAT: II. Above Hille 900 m. (S. 375), near Taez 1,300 m. (Defl. 701); near Hajeilah, Wady Harr, apparently spontaneous (Defl. 248 !).

III. Cultivated at Katan, 1,150 ft. (Lunt !); Hegwir (Hirsch 115).

FR.: Jan. 1889 (S.).

DISTRIB.: Tropical Africa, Arabia, India.

Vern. name: *Hōmer, Sabūrd* (Hirsch), *Amara*.

§ MIMOSEÆ.

62. Prosopis L.

1. **P. juliflora** DC. Prodr. ii, (1825) 447; Blatt. Fl. Aden (1915) 196.

HABITAT: II. Cultivated at Aden (Birdw. ! S. !).

DISTRIB.: Tropical America.

2. **P. spicigera** L. Mant. 68; Boiss. Fl. Or. ii, (1872) 634; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 218; Cooke Fl. Bomb. i, (1903) 439.

HABITAT: II. Yaman: near Bolhaf (S. 147 !).

FL.: Mar. 1881 (S.). FR.: Mar. 1881 (S.).

DISTRIB.: Arabia, Persia, Afghanistan, Baluchistan, India.

Vern. name: *ghâf* (S.).

3. **P. Stephaniana** Spreng. Syst. ii, (1825) 726; Boiss. Fl. Or. ii, (1872) 634; Post Fl. Syr. etc. (1896) 298; Musch. Fl. Eg. i, (1912) 456.—*Lagonychium Stephanianum* M. Bieb. Fl. Taur. Cauc. iii, 288.—*Acacia*

Stephaniana Willd. Sp. Pl. iv, 1088.—*A. heterocarpa* Del. Ill. Fl. d'Eg. 79.

HABITAT : I. Arabia Petraea (ex Musch.).
III. Wady Masile (Hirsch 43).
IV. Masqat (Auch.-Eloy 4370 !).

DISTRIB. : Egypt, Arabia, Western Asia to Turkestan and Afghanistan, India.

Vern. name : *Kharembah, Junbût, Shilsh-hilâwi, 'Aqûl, 'Uqeil* (Post).

63. Dichrostachys DC.

1. **D. nutans** Benth. in Hook. Journ. Bot. iv, (1842) 353 ; Defl. Yemen (1889) 135 ; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 218.—? *Mimosa glomerata* Forsk Fl. Aeg.-Arab. (1775) CXXIII, n. 610 and p. 177.

HABITAT : II. Near Hajeilah, 600 m. (Defl. 131 !); Aggara near Hajeilah 600 m. (S. 1006); Wasil 1,400 m. (S. 1335); above Hille 900 m. (S. 400).

FL. : Feb. 1889 (S.). FR. : Jan. 1889 (S.).

DISTRIB. : Tropical Africa, Yaman.

Vern. name : *esfih, kuschkusch, gensir* (S.).

64. Mimosa L.

1. **M. asperata** L. Benth. in Hook. Journ. Bot. iv, (1842) 400 ; Musch. Fl. Eg. i, (1912) 457.—*M. polycantha* Willd. Sp. Pl. iv, 1034 ; Boiss. Fl. Or. ii, (1872) 634.—*M. Habbas* Del. Fl. Eg. Ill. 111 (*non Link.*).

HABITAT : I. Arabia Petraea (ex Musch.).

DISTRIB. : Tropical Africa, tropical America, Orient.

Vern. name : *habbâs* (ex Musch.).

65. Acacia Willd.

1. **A. abyssinica** Hochst. ex Benth. in Hook. Lond. Journ. Bot. v, (1846) 97 ; Oliv. Fl. Trop. Afr. ii, (1871) 347 ; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 210.—*A. xiphocarpa* Hochst. in Rich. Fl. Abyss. i, (1847) 240.—*A. verugera* Defl. (*non Schweinf.*) VAR. *arabica* Defl. Yemen (1889) 136.

HABITAT : II. Wady Hadda near Sanah (Defl. 549 !); neighbourhood of Manakhah 1,900—2,500 m. (S. 1464, 1503, 1531, 1991, 1992).

FL. : Feb.-Mar. 1889 (S.). FR. : Jan. 1889 (S.).

DISTRIB. : Abyssinia, Eritrea, Yaman.

Vern. name : *ssujet, talh* (S.).

VAR. **macroloba** Schweinf. l. c. 212.

HABITAT : II. Below Wu'ej, 500 m. (S. 790 !).

FR. : Jan. 1889 (S.).
DISTRIB. : Endemic.

2. **A. arabica** Willd. Sp. Pl. iv, (1806) 1085; Schweinf. in Linnæa xxxv, 335; in Bull. Herb. Boiss. (1896) App. II, 209; Oliv. Fl. Trop. Afr. ii, (1871) 350; Benth. Trans. Linn. Soc. xxx, (1875) 506; Defl. Yemen (1889) 135; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 96; Blatt. Fl. Aden (1915) 194.—*Mimosa arabica* Lam. Dict. i, (1783) 19.—*M. nilotica* L. Sp. Pl. (1753) 521; Forsk. Fl. Aeg.-Arab. (1775) LXXVII, n. 554; CXXIII, n. 604.—*A. nilotica* Del. Fl. Aeg. (1813) 31.—*A. vera* Willd. l. c. 1085.—*A. Adansonii* Guill. et Perr. Fl. Seneg. 249.—*A. nilotica* Del. VAR. *arabica* Fiori Bos. e Painte legn. Eritrea (1909) 160.

HABITAT : I. Wady Hebran (Schimp. !); Jebel Hammam-Sidna-Musa, cult. (Musch.).

II. Near Lohaja and Beytel-Fakih, Wady Mor (Forsk.); oasis of Lahaj (Defl. 146 !); Shaikh Othman (Hirsch 11); Aden (Birdw. ! S. 36 ! Ellenb.).

IV. Central Arabia (Pelly !).

FR. : Mar. 1881 (S.).
DISTRIB. : Tropical Africa and Asia.
Vern. name : *Sunt, Garad,* (H. K.). *Saelam, Soul, Sānt, qarād* (Forsk.).

3. **A. asak** Willd. Sp. Pl. iv, (1806) 1077; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 215.—*M. asak* Forsk. Fl. Aeg.-Arab. (1775) 176. —*A. hamulosa* Benth. in Hook. Lond. Journ. i, 509; Oliv. Fl. Trop. Afr. ii, (1871) 340; Baker in Kew Bull. (1894) 332; Blatt. Fl. Aden (1915) 191.—? *A. Hunteri* Oliv. in Hook. Ic. Pl. t. 1350.

HABITAT : II. Jiddah (Fischer 72 ! Schimp. 865 !); Hadiyah (Forsk.), Aden (Perry ! Balfour ! S. 71 ! 97 ! Hook 61 ! Thomson ! Defl. 34 ! Anders. !); neighbourhood of Aden (Hunter 143 ! 156 !).

III. Hadramaut : Common on the hills and plateaux, 500—3,000 ft. (Lunt 223 !); High Plateau (Hirsch 106).

FL. : Jan. 1837 (Fischer), Feb. 1894 (Lunt), Sept. 1880 (Hunter), Dec. (S.).

FR. : Jan. 1880 (Balfour), Mar. (S.), Sept. 1880 (Hunter), Nov., Dec. 1888 (S.), Dec. 1889 (Defl.).

DISTRIB. : Eritrea, Arabia.
Vern. name : *Asak* (Forsk.).

4. **A. campoptila** Schweinf. in Bull. Herb. Boiss. (1896) App. II, 208; Baker in Kew Bull. (1894) 332.

HABITAT : II. Yaman : Near Bolhaf (S. 153 !).
III. Hadramaut : Hajrain, 2,600 ft. (Lunt !).
FL. : Mar. 1881 (S.). FR. : Mar. 1881 (S.).
DISTRIB. : Endemic.

5. **A. eburnea** Willd. Sp. Pl. iv, 1081 ; DC. Prodr. ii, (1825) 461 ; Benth. Lond. Journ. Bot. i, 501 et Trans. Linn. Soc. xxx, 511 ; Boiss. Fl. Or. ii, (1872) 637 ; Anders. Fl. Aden. (1860) 19 ; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 213 ; Blatt. Fl. Aden (1915) 189.—*Mimosa eburnea* L. Mant. 437.

HABITAT : II. Aden (Thomson ! Hook. 60 ! 64 ! 67 ! Balfour ! S.41, 96 ! 98, Defl.! Anders.! Birdw.!).

FL. : Dec. 1888 (S.). FR. : Dec. 1888 (S.).

DISTRIB. : Ceylon, Deccan, Sind, Salt Range, Subhimalayan tract and outer valleys, ascending to 3,000 feet, east as far as Oudh, Baluchistan, Afghanistan, Arabia.

6. **A. Edgeworthii** Anders. Fl. Aden. (1860) 18 ; Benth. Trans. Linn. Soc. xxx, 504 ; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 207 ; Blatt. Fl. Aden (1915) 190.—*A. erioloba* Edgew. Journ. As. Soc. Beng. xvi, 1215 (*non E. Mey.*).

HABITAT : II. Jebel el Areys, 150 m. (Defl. 372 !); Aden (Anders.! Balfour ! Thomson ! Perry ! S.42, 45 !, 1790 ! Defl. ! Edgew. ! Hook.!).

FL. : Jan. 1872 (Thomson), Mar. 1890 (Defl.), Nov. 1888—Mar. 1889 (S.).

FR. : Mar. 1890 (Defl.), May 1859 (Anders.).

DISTRIB. : Endemic.

Vern. name : *ssammor* (S.), *Khereb*, *Quaratt*.

7. **A. etbaica** Schw. in Linnaea, xxxv, 330 ; Oliv. Fl. Trop. Afr. ii, (1871) 349 ; Benth. Trans. Linn. Soc. xxx, (1875) 510.—*A. Adansonii* Martelli (1886) *non Guill. et Perr.* (ex Fiori).

HABITAT : II. Hills N. of el Jebel near Qa'taba (Defl. 253 !).
III. Hegwir (Hirsch 141).

FL. : Jan. 1890 (Defl.).

DISTRIB. : Guinea, Nubia, Abyssinia, Eritrea, Arabia.

Vern. name : *Smur*, *Herūt*, *Hörot* (Hirsch).

8. **A. Farnesiana** Willd. Sp. Pl. iv, (1805) 1083 ; Benth. in Trans. Linn. Soc. xxx, (1875) 502 ; Blatt. Fl. Aden (1915) 195.—*Mimosa scorpioides* Forsk. Fl. Aeg.-Arab. (1775) LXXVII, n. 553.

HABITAT : II. Near Shaikh Othman, cult. (Defl.!).

DISTRIB. : Indigenous in America, widely cultivated in tropical and subtropical regions.

Vern. name : *Faetne* (Forsk.), *'Anbar, Qurz* (Post), *Cassia flower* (in Europe).

9. A. flava Schweinf. in Bull. Herb. Boiss. (1896) App. II, 214. —*Mimosa flava* Forsk. Fl. Aeg.-Arab. (1775) CXXIII, n. 612 and p. 176. —*A. Ehrenbergiana* Hayne Arzneigen. x, (1845) t. 29 ; Schweinf. in Linnaea, xxxv, 352, t. 15,16 ; Oliv. Fl. Trop. Afr. ii, (1871) 352 ; Musch. Fl. Eg. i, (1912) n. 628.

HABITAT : II. Jiddah (Zohrab 144 !); Wady Fatimah and Bakara (Fischer 73 !); Jebel Bura, Hille (S.222 !); Maylat (S.602 !); near Wulej (S.631 !); Milhan, Surdud (Forsk.).

FL. : Jan. 1889 (S.), Feb. (Fischer). FR. : Jan. 1889 (S.).

DISTRIB. : Egypt, Nubia, Abyssinia, Eritrea, Arabia.

Vern. name : *Syllim* (Forsk.), *Sselam* (S.).

10. A. glaucophylla Steud. in Rich. Fl. Abyss. i, (1847) 243 ; Schweinf. in Linnaea, xxxv, 372, t. 22 ; in Bull. Herb. Boiss. (1896) App. II, 217 ; Oliv. Fl. Trop. Afr. ii, (1871) 342 ; Benth. in Trans. Linn. Soc. xxx, (1875) 516 ; Defl. Yemen (1889) 135.—*A. triacantha* Hochst. in Rich. l. c. 244. —? *Mimosa stellata* Forsk. Fl. Aeg.-Arab. (1775) CXXIII, n. 609 and p. 177.—*Acacia stellata* Willd. Sp. Pl. iv, 1078.

HABITAT : II. Jebel Milhan, Wulej (S.610 !); below Manakhah, 2,000 m. (S.1609); near Mefhak, 1,900 m. (Defl. 593).

FR. : Jan., Feb. 1889 (S.).

DISTRIB. : Abyssinia, Nubia, Eritrea, Somaliland, Yaman.

Vern. name : *dahi, tahhieh* (S.).

11. A. laeta R. Br. in Salt. Abyss. App. 65 ; Schweinf. in Linnaea, xxxv, 367, t. 19-21 ; Oliv. Fl. Trop. Afr. ii, (1871) 341 ; Benth. in Trans. Linn. Soc. xxx, (1875) 517 ; Defl. Yemen (1889) 135 ; Blatt. Fl. Aden (1915) 193.

HABITAT : II. Near Hajeilah (Defl. 134); Aden (S.40 ! Defl.!).

DISTRIB. : Abyssinia, Nubia, Eritrea, Yaman.

12. A. Lahai Steud. & Hochst.; Benth. in Hook. Lond. Journ. i, 506 ; Schweinf. in Linnaea, xxxv, 359 ; in Bull. Herb. Boiss. (1896) App. II, 215 ; Oliv. Fl. Trop. Afr. ii, (1871) 340.—*A. fasciculata* R. Br. in Salt Abyss. App. 65.—*A. Saltiana* Steud. Nom. Bot. ed. 2.

HABITAT : II. Above Hille, 700-800 m. (S.454 !); below Manakhah, 1,900 m. (S.1629).

DISTRIB. : Abyssinia, Eritrea, Yaman.

Vern. name : *Gensir, qarat* (S.).

13. A. mellifera Benth. in Hook. Lond. Journ. i, (1842) 507 ; Trans. Linn. Soc. xxx, (1875) 517 ; Schweinf. in Linnaea, xxxv, 365 ; in Bull. Herb. Boiss. (1896) App. II, 217 ; Oliv. Fl Trop. Afr. ii, (1871) 340 ; Blatt. Fl. Aden (1915) 193.—*Mimosa unguis-cati* Forsk. Fl. Aeg.-Arab. (1775) CXXIII, n. 613 and p. 176 (*non L.*).—*M. mellifera* Vahl Symb. Bot. ii, (1791) 103.—*Inga mellifera* Willd. Sp. Pl. iv. 1006.

HABITAT : II. Hille, 600 m. (S.225 !); near Wulej (S.746); foot of Jebel Damer (S.475); Surdud, Hadiyah (Forsk.); Sejid Soliman, Moglaf (S. 599 !).

III. Hadramaut : High plateau (Hirsch 108).

FL. : Dec. 1888 (S.), Jan., Mar. 1889 (S.).

FR. : Jan. 1889 (S.).

DISTRIB . : Abyssinia, Nubia, Eritrea, Kordofan, Somaliland, Togo, Arabia.

Vern. name : *dhoba, debb, smurr* (Forsk.), *dhub, Kittr, Tekker* (S.).

Note : For medical uses see Forsk. l. c.

14. A. Nefasia Schweinf. in Bull. Herb. Boiss. (1896) App. II, 209.—*Inga Nefasia* Hochst. in Rich. Fl. Abyss. i, (1847) 237.—*A. verugera* Schweinf. in Linnaea, xxxv, 340 ; Oliv. Fl. Trop. Afr. ii, (1871) 354.

HABITAT : III. Dhofar Mts. (Bent !).

DISTRIB. : Abyssinia, Eritrea, Nubia, White Nile.

15. A. Orfota Schweinf. in Bull. Herb. Boiss. (1896) App. II, 213.—*Mimosa Orfota* Forsk. Fl. Aeg.-Arab. (1775) CXXIII, n. 607 and p. 177.—*A. nubica* Benth. in Lond. Journ. Bot. i, (1842) 498 ; Trans. Linn. Soc. xxx, (1875) 511 ; Schweinf. in Linnaea xxxv, 337 ; Defl. Yemen (1889) 135 ; Blatt. Fl. Aden (1915) 192.—*A. pterygocarpa* Hochst. in Rich. Fl. Abyss. i, (1847) 239.—*A. Aucheri* Benth. in Hook. Lond. Journ. i, (1842) 499.

HABITAT : II. Surdud, Dahhi (Forsk.); Jebel Bura, below Hille (S.224 !): near Bajil (S.1785); between Bajil and Hajeilah, 300-600 m. (Defl. 156, 158, 198); Aden (Birdw. ! Perry ! Beevor!).

III. Jebel Hegwir (Hirsch 105).

FL. : Mar. 1889 (S.). FR. : Jan. 1889 (S.).

DISTRIB. : Abyssinia, Eritrea, Nubia, Somaliland, Arabia.

Vern. name : *Harchair* (Hirsch), *Orfōt* (S.).

Note : For medical uses see Forsk. l. c. 177.

16. A. Senegal Willd. Sp. Pl. iv, (1806) 1077 ; Benth. Trans. Linn. Soc. xxx, (1875) 516.—*Mimosa Senegal* L. Sp. Pl. (1753) 521.—*A. Verek* Guill. et Perr. Fl. Seneg. i, 245, t. 56.

HABITAT : III. Dhofar Mts. (Bent 157 !).
DISTRIB. : Abyssinia, Nubia, Eritrea, Kordofan, Senegal, Arabia.

17. A. Seyal Del. Fl. Eg. 142, t. 52, f. 2 ; Schweinf. in Linnaea, xxxv, 348 ; in Bull. Herb. Boiss. (1896) App. II, 214 ; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, iii, (1835) 264 ; Post Fl. Syr. etc. (1896) 299 ; Carter in Rec. Bot. Surv. Ind. vi, (1917) 189.—*A. Giraffæ* Sieb. Herb. Seneg. n. 45 (*non Willd.*).— ? *Mimosa Sejal* Forsk. Fl. Aeg.-Arab. (1775) CXXIV, n. 614 and p. 177.—*M. gummifera* Forsk. l. c. CXXIV, n. 615.

HABITAT : I. Dead Sea and southward (ex Post) ; Wady Hebran (Schimp. 365 !); neighbourhood of Sinai (Bové !).
II. Tehama : Kalife (S. 223 !).
FL. : June 1835 (Schimp.), Dec. 1888 (S.).
FR. : June 1835 (Schimp.), Dec. 1888 (S.).
DISTRIB. : Senegal, Nubia, Abyssinia, Eritrea, Egypt, Arabia.
Vern. name : *talah* (Forsk.), *Seyyâl* (Post), *Ssellem* (S.), *Talh* (Cox).
Note : Prized for the good quality of gum arabic which is a valuable article of export (Cox).

18. A. spirocarpa Hochst. in Rich. Fl. Abyss. i, (1847) 239 ; Schweinf. in Linnaea, xxxv, 322 ; in Bull. Herb. Boiss. (1896) App. II, 207 ; Oliv. Fl. Trop. Afr. ii, (1871) 352 ; Boiss. Fl. Or. ii, (1872) 635 ; Benth. Trans. Soc. xxx, (1875) 505 ; Musch. Fl. Eg. i, (1912) 461 ; Blatt. Fl. Aden (1915) 192.— ? *Mimosa tortilis* Forsk. Fl. Aeg.-Arab. (1775) CXXIII, n. 606 and p. 176.

HABITAT : II. Jebel Nakhai, 800 m. (Defl. 510 !); Bajil (S. 601 !); Shaikh Othman (S. 118); Shuqra (S. 59 ! 105); N. E. of Shuqra (Defl. 336 !); Aden (S. 19 ! 63 ! 1793, Lunt 287 ! Birdw. 178 ! 179 !).
III. Wady Hadiea, 2,000 ft. (Lunt 186 !).
FL. : Jan. 1889 (S.), Mar. 1890 (Defl.), Apr. 1894 (Lunt).
FR. : Mar. 1889 (S.).
DISTRIB. : Abyssinia, Eritrea, Nubia, Sennaar, Kordofan, Arabia.
Vern. name : *hares* (Forsk.), *ssamr*, *ssammor* (S.).
VAR. **minor** Schweinf. in Linnaea, xxxv, 323.
HABITAT : I. Moilah, 27°40′ (ex S.).
DISTRIB. : Upper Egypt, Nubia, Eritrea.

19. A. tortilis Hayne Arzneig. x, t. 31 ; Schweinf. in Linnaea, xxxv, 327 ; Oliv. Fl. Trop. Afr. ii, (1871) 352 ; Boiss. Fl. Or. ii, (1872) 636 ; Benth. Trans. Linn. Soc. xxx, (1875) 506 ; Post Fl. Syr. etc. (1896) 98 ; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 96.—*A.*

fasciculata Guill. et Perr. Fl. Seneg. 252 (*non H. B. & K.*).—*A. Perrottetii* Steud. Nom. Bot. ed. 2.

HABITAT : I. Dead Sea and southwards (ex Post); Desert Ka'a (Musch.); Wady Mokatteb (Boiss.); Wady es Sle, Wady el Leja, Jebel Catherine, Wady Aleyat, Wady Feiran (Kneuck.).

FR.: Apr. 1878 (S.).

DISTRIB. : Senegambia, Nubia, Egypt, Arabia.

Vern. name : *talh* (Musch.), *Seyyal* (Post).

20. A. Jacquemontii Benth. in Hook. Lond. Journ. Bot. i, 499 ; Carter in Rec. Bot. Surv. Ind. vi, (1917) 189.

HABITAT : IV. Without locality (Cox).

DISTRIB. : Arabia, Afghanistan, India.

Vern. name : *Babul* (Cox).

21. Acacia Sp.

HABITAT : III. Hadramaut : Between Gahfit and Sibeh, 600 ft. (Lunt 87 !).

Note : Collected by Lunt 26-12-93. Large bush, 2 ft. high, yellowish green flowers.

66. Calliandra Benth.

1. C. umbrosa Benth. in Gen. Pl. i, 597 ; Hook. f. Fl. Brit. Ind. ii, pt. v, (1878) 302 ; Blatt. Fl. Aden (1915) 197.

HABITAT : II. Cultivated at Shaikh Othman (Defl. !).

DISTRIB. : Penang.

67. Albizzia Durazzini.

1. A. Lebbek Benth. in Hook. Lond. Journ. ii, (1843) 561 ; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 96.

HABITAT : I. Cultivated in the palm garden of el Tor (Musch.).

DISTRIB. : Tropical and N. Africa and India.

Vern. name : *lebach* (Musch.).

XL. ROSACEÆ.

1. Prunus L.

1. P. Armeniaca L. Sp. Pl. (1753) 474 ; Forsk. Fl. Aeg.-Arab. (1775) CXIII, n. 324 ; Defl. Yemen (1889) 223 ; Schweinf. in Bull. Herb. Boiss.

1896) App. II, 206.—*Armeniaca vulgaris* Lam. Dict. i, 2; Boiss. Fl. Or. ii, (1872) 652.

HABITAT: II. Kahil, 2,500 m. (S. 1477!); cultivated in the mountains (Forsk.).

FL.: Feb. 1889 (S.).

DISTRIB.: Caucasus region.

Vern. name: *mischmisch* (Forsk.), *Barquq* (S.).

2. P. domestica L. Sp. Pl. (1753) 475; Forsk. Fl. Aeg.-Arab. (1775) CXIII, n. 323; Boiss. Fl. Or. ii, (1872) 652; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 206; Post Fl. Syr. etc. (1896) 304.—*P. Damascena* Boiss. ex Boiss. l. c. 652.

HABITAT: II. Cultivated above Manakhah, 2,500 m. (S. 1651); cultiv. in Yaman (Defl.!); cultiv. in the mountains (Forsk.).

FL.: Feb. 1889 (S.).

DISTRIB.: Europe, Caucasus.

Vern. name: *barquq* (Forsk.), *ngâss* (S.), *Khaukh* (Post).

2. Amygdalus L.

1. A. communis L. Sp. Pl. (1753) 473; Boiss. Fl. Or. ii, (1872) 641; Defl. Yemen (1889) 223.

HABITAT: II. Cultivated in Yaman (Defl.).

DISTRIB.: Syria, Mesopotamia, Persia.

2. A. Persica L. Sp. Pl. (1753) 472; Forsk. Fl. Aeg.-Arab. (1775) CXIII, n. 322; Defl. Yemen (1889) 223; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 206.—*Persica vulgaris* Mill. Dict. iii, 465; Boiss. Fl. Or. ii, (1872) 640.

HABITAT: II. Above Hille, 1,000 m. (S. 665!); Manakhah, 2,300 m. (S.); mountainous region, Hadiyah (Forsk.).

FL.: Jan.-Feb. 1889 (S.).

DISTRIB.: Persia, Transcaucasus.

Vern. name: *fersik*, *choch* (Forsk.), *firsik* (S.).

3. Rubus L.

1. R. arabicus Schweinf. in Bull. Herb. Boiss. (1896) App. II, 204.—*R. fruticosus* Forsk. Fl. Aeg.-Arab. (1775) CXIII, n. 328.—*R. glandulosus* VAR. *arabicus* Defl. Yemen (1889) 136.

HABITAT: II. Mountainous region (Botta); Hadiyah (Forsk.); coffee region above Hille, 900—1,000 m. (S. 499!); Regma, 900 m. (S. 974);

Wasil, 1,500 m. (S. 1235); Manakhah 1,800—2,200 m. (S. 1410, 1728, 1489); near Manakhah, 2,200 m. (Defl. 375).

DISTRIB. : Endemic.

Vern. name : *Naefaes*, *Hommaes* (Forsk.), *hammeṣs* (S.).

Note : For ancient names see Forsk. l. c.

2. **R. Petitianus** Rich. Fl. Abyss. i, (1847) 256 ; Defl. Yemen (1889) 136.

HABITAT : II. Near Manakhah, 2,200 m. (Defl.); in the mountains (Botta).

DISTRIB. : Abyssinia, Yaman.

3. **R. sanctus** Schreb. Ic. Pl. (1766) 15, t. 8 ; Musch. Fl. Eg. i, (1912) 452.—*R. discolor* W. et Nees Rub. Germ. 46, t. 20 ; Boiss. Fl. Or. ii, (1872) 695 ; Post Fl. Syr. etc. (1896) 304.

HABITAT : I. Arabia Petraea (ex Post).

DISTRIB. : Europe, N. Africa, Greece, Caucasus, Syria, Palestine, Arabia Petraea, Persia, Afghanistan.

4. Potentilla L.

1. **P. pensylvanica** Lehm. Potent. 58.—*P. pensylvanica* VAR. *strigosa* L. Mant. i, 76. VAR. *arabica* Defl. Yemen (1889) 137.—? *P. dentata* Forsk. Fl. Aeg.-Arab. (1775) CXIII, n. 329 and p. 98.

HABITAT : II. Near Manakhah, 2,200 m. (Defl. 376).

DISTRIB. : Cosmopolitan.

2. **P. reptans** L. Sp. Pl. (1753) 499 ; Boiss. Fl. Or. ii, (1872) 723 ; Defl. Yemen (1889) 137.—*P. abyssinica* Rich. Fl. Abyss. i, (1847) 257.

HABITAT: II. Cultivated ground near Sanah, 2,300 m. (Defl. 522 !).

DISTRIB. : Europe, N. Africa, Abyssinia, Arabia, Siberia.

3. **P. supina** L. Sp. Pl. (1753) 497 ; Boiss. Fl. Or. ii, (1872) 725 ; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 95.—*P. denticulosa* Ser. in DC. Prodr. ii, (1825) 573.

HABITAT : I. El Tor (Musch.).

DISTRIB. : Central and S. Europe, North and Tropical Africa, Cape, India.

Vern. name : *saghlûhl* (Aschers.)

4. **P. viscosa** Donn Hort. Cantab. ed. 2, 68 ; DC. Prodr. ii, (1825) 581.

HABITAT : Arabia (ex DC.) Non vidi sp.

DISTRIB. : Caspian region, Arabia.
Note : Perhaps a variety of P. pensylvanica.

5. Alchemilla L.

1. A. cryptanta Steud. in Rich. Fl. Abyss. i, (1847) 259 ; Oliv. Fl. Trop. Afr. ii, (1871) 377 ; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 205.

HABITAT : I. Near Manakhah, 2,000 m. (S. 1367 !); Halar, 2,600 m. (S. 246.).

DISTRIB. : Abyssinia, Yaman.

6. Poterium L.

1. P. verrucosum Ehrbg. Ind. Hort. Berol. (1829) ; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, iii, (1835) 263 ; Boiss. Fl. Or. ii, (1872) 734.—*Sanguisorba verrucosa* A. Br. Ind. Hort. Berol. (1867) App. I, 13.

HABITAT : I. Arabia Petraea (McDonald !); Cult. places of Mt. Sinai (Bové 182 !); Jebel Catherine (Drake 27 !).

FR. : June 1832 (Bové).

DISTRIB. : S. Europe, Morocco, Algeria, Tunis, Egypt, Arabia Petraea.
Vern. name : *Borass* (Bové).

7. Rosa L.

1. R. abyssinica R. Br. in Salt Abyss. (1814) App. 64 ; Oliv. Fl. Trop. Afr. ii, (1871) 381 ; Defl. Yemen (1889) 137 ; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 205.—*R. Schimperiana* Hochst. et Steud.; Rich. Fl. Abyss. i, (1847) 261.—*R. moschata* L. VAR. *abyssinica* Crép. (1879) ex Fiori.

HABITAT : II. Okeber, 900 m. (S. 832); above Attara, 1,800 m. (S. 1741); Jebel Bura, 1,000 m. (S. 504 !); Manakhah, 2,000 m. (S. 1832, 1938 !); Kahil near Manakhah (S. 1856).

FL. : Jan. 1889 (S.). FR. : Jan. 1889 (S.).

DISTRIB. : Abyssinia, Eritrea, Yaman.
Vern. name : *hagja, hommes, qarawan, aschaq* (S.).

2. R. arabica Crép. Prim. i, 123 ; Boiss. Fl. Or. Suppl. (1888) 218.—*R. rubiginosa* VAR. *sepium* DC. Prodr. ii, (1825) 617 ; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, iii, (1835) 264.—*R. rubiginosa* VAR. *arabica* Boiss. Fl. Or. ii, (1872) 687.

HABITAT : I. Jebel Catherine (Bové ! Schimp. 446 ! 723 !).

FL. : May, Aug. 1835 (Schimp.). FR. : Aug. 1835 (Schimp.).

DISTRIB. : Endemic.
Vern. name : *Ouard Berri* (Bové), *Wrt berri* (Schimp.).

3. **R. damascena** Mill. Gard. Dict. ed. 8, n. 15; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 205.

HABITAT: II. Manakhah, 2,500 m. (S. 1583 !); above Hille in the coffee region (S. 420).

DISTRIB.: Orient.

4. **R. indica** L. Sp. Pl. (1753) 492; Forsk. Fl. Aeg.-Arab. (1775) CXIII, n. 327.

HABITAT: II. Hadiyah (Forsk.) Cultivata?

DISTRIB.: China.

5. **R. villosa** L. Sp. Pl. (1753) 491; DC. Prodr. ii, (1825) 619; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2. iii, (1835) 264.

HABITAT: I. Gardens of Sinai (Bové !).

DISTRIB.: Europe, Central Asia.

8. Neurada L.

1. **N. procumbens** L. Sp. Pl. (1753) 441; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, iii, (1835) 263; Schenk Sp. Pl. it. Aeg.-Arab. & Syr. (1840) n. 209; Kotschy in Sitzb. Kais. Akad. Wiss. lii, (1866) 13; Oliv. Fl. Trop. Afr. ii, (1871) 382; Boiss. Fl. Or. ii, (1872) 735; Post Fl. Syr. etc. (1896) 309; Carter in Rec. Bot. Surv. Ind. vi, (1917) 189.—*Figaria aegyptiaca* Viv. Pl. Egypt. decad. iv, 13, t. 1.

HABITAT: I. Sinai (Auch.-Eloy 1491, Holland !); Wady Ghurundel and Ramleh (Lord !); Desert of Sinai (Bové 160 !); Ras Haman (Schimp. 240 !); Arabia Petraea (McDonald, Boiss.); between Wady Feiran and Maghura, Wady Shellal (Kneuck.); El Araba (ex Schenk); N. and S. Midian (Burton !).

II. Jiddah (Fischer 199 ! Zohrab 89 !); Hijaz (ex Kotschy).

IV. Zor Hills (Cox 44).

FL.: Feb. 1837 (Fischer), June 1832 (Bové).

FR.: Feb. 1837 (Fischer), Mar. 1835 (Schimp.), Apr. 1846 (Boiss.), Apr. 1868 (Lord), June 1832 (Bové), Nov. 1870 (Holland).

DISTRIB.: Algeria, Nubia, Egypt, Arabia, Palestine, Persia, Baluchistan, Afghanistan, N. W. India.

Vern. name: *Sa'adan* (Burton), *Sadann* (Bové).

Note: Eaten by man and beast (Burton).

9. Cydonia Tourn.

1. **C. vulgaris** Pers. Syn. ii, 40; Boiss. Fl. Or. ii, (1872) 656; Defl. Yemen (1889) 223.

HABITAT: II. Cultivated in Yaman (Defl.).

DISTRIB.: Mediterranean, Caucasus.

10. Pyrus L.

1. **P. communis** L.; Defl. Yemen (1889) 223; Schweinf in Bull. Herb. Boiss. (1896) App. II, 203.

HABITAT: II. Near Manakhah, 2,000 m. (S. 1713!); cultivated in Yaman (Defl.)

FL.: Mar. 1889 (S.).

DISTRIB.: Europe, Northern Asia, Himalaya region.

Vern. name: *Ambarût* (S.).

f. vergens ad cordatum (Desf.); Kneuck. in Allg. Bot. Zeitsch. ix, (1903) 147.

HABITAT: I. At the foot of Ras es-Safraf above the plain Raba, ca. 1,600 m. cultivated and partly run wild (Kneuck.).

11. Malus Hook. f.

1. **M. communis** Desf.; Defl. Yemen (1889) 223; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 204.

HABITAT: II. Cultivated in the coffee region above Hille, 1,000 m. (S. 664); cultivated in Yaman (Defl.).

DISTRIB.: Europe, Northern Asia, Himalaya region.

Vern. name: *Tiffah* (S.).

12. Crataegus L.

1. **C. sinaica** Boiss. Diagn. Pl. Or ser. 2, ii, 48; Fl. Or. ii, (1872) 663.—*C. Aronia* Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, iii, (1835) 264.

HABITAT: I. Mt. Sinai, Mt. Catherine (Bové 181! Schimp. 271!).

DISTRIB.: Arabia, Persia?

Vern. name: *Sarrour* (Bové).

13. Cotoneaster Medic.

1. **C. nummularia** F. et M. Ind. Petrop. ii, 34; Boiss. Fl. Or. ii, (1872) 666.

HABITAT: I. Mt. Sinai (Schimp. 270!).

DISTRIB.: N. Africa, Arabia Petraea, Syria, Asia Minor, Caucasus, Persia, Afghanistan, Baluchistan, N. W. India.

XLI. CRASSULACEAE.

1. Tillaea L.

1. **T. pharnaceoides** Hochst. in Schimp. Herb. Abyss. 104; Oliv. Fl. Trop. Afr. ii, (1871) 387; Defl. Yemen (1889) 137.—*Combesia abyssinica* Rich. Fl. Abyss. i, (1847) 307

HABITAT : II. Jebel Kahil, near Manakhah, 2,500 m. (Defl. 312 !); Jebel Shibam near Manakhah 2,600 m. (Defl. 352.).

DISTRIB. : Tropical and S. Africa, Arabia, N. W. Himalayas.

2. Crassula L.

1. C. alba Forsk. Fl. Aeg.-Arab. (1775) CIX, n. 228 and p. 60 ; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 197.—*Sedum floribus corymbosis* Forsk. l. c. CXI, n. 273.—*C. puberula* R. Br. in Salt Abyss. App.—*Rochea dichotoma* Hochst. and *R. vaginata* Hochst. in Schimp. Herb. Abyss.—*C. abyssinica* Rich. Fl. Abyss. i, (1847) 309 ; Oliv. Fl. Trop. Afr. ii, (1871) 388 ; Defl. Yemen (1889) 137.

HABITAT : II. Hadiyah and Boka (Forsk.); in the mountains (Botta); near Yerim, 2,700 m. (Defl. 641); top of J. Shibam, 2,800 m. (Defl. 303) ; Manakhah, 2,300 m. (S. 1430 !).

FL. : Feb. 1889 (S.). FR. : Feb. 1889 (S.) .

DISTRIB. : Upper Guinea, Lower Guinea, Abyssinia, Eritrea, Yaman.

3. Kalanchoe Adans.

1. K. alternans Pers. Encl. i, 446 ; Defl. Yemen (1889) 137 ; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 201.—*Cotyledon orbiculata* Forsk. Fl. Aeg.-Arab. (1775) CXII, n. 292 (*non L.*).—*C. alternans* Vahl Symb. Bot. ii, (1791) 51 (*non Haw.*).

HABITAT : Yaman : Haez (Forsk.); Manakhah, 2,200 m. (S. 1426, Defl. 305, 444); Top of Jebel Areys, 1,200 m. (Defl. 1090!).

DISTRIB. : Endemic.

Vern. name : *Chodardar* (Forsk.).

2. K. Bentii C. W. Wright ex Hook. f. Bot. Mag. t. 7765.

HABITAT : III. S. Arabia (Bent).

DISTRIB. : Endemic.

3. K. citrina Schweinf. in Bull. Herb. Boiss. (1896) App. II, 199.

HABITAT : II. Wasil, 1,400 m. (S. 1831 !).

FR. : Feb. 1889 (S.).

DISTRIB. : Eritrea, Yaman.

4. K. deficiens Aschers. & Schweinf. in Aschers.-Schweinf. Ill. Fl. d' Eg. (1887) 79, n. 452 ; Musch. Fl. Eg. i, (1912) 449.—*Cotyledon deficiens* Forsk. Fl. Aeg.-Arab. (1775) LXVI, n. 242 and p. 89.— *K. aegyptiaca* DC. Prodr. iii, 395.

HABITAT : II. Milhan (Forsk.); Jebel Sabor (Defl. 572); near Manakhah, 2,300 m. (Defl. 52 !).

DISTRIB. : Endemic in Arabia, cultivated in Egypt.
Vern. name : *ödejn* (Forsk.).

5. **K. glaucescens** Britten in Oliv. Fl. Trop. Afr. ii, (1871) 393; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 201.

HABITAT : II. Manakhah, below 1,900 m. (S. 1611 !); above Hille in coffee region, 1,000 m. (S. 373); Wasil, 1,400 m. (S. 1101, 1156); Wulej 600 m. (S. 669 !).

FL.: Jan.-Feb. 1889 (S.). FR.: Feb. 1889 (S.).

DISTRIB. : Abyssinia, Eritrea, Yaman.
Vern. name : *Schjech—Scheh, Scho-uss* (S.).

6. **K. lanceolata** Pers. Syn. i, 446; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 202.—*Cotyledon lanceolata* Forsk. Fl. Aeg.-Arab. (1775) CXI, n. 291 and p. 89; Herb. Forsk. Hafniae n. 689 ex Schweinf. l. c.—*K. glandulosa* Hochst. in Rich. Fl. Abyss. i, (1847) 312; Oliv. Fl. Trop. Afr. ii, (1871) 396.

HABITAT : II. Kurma (Forsk.); Wulej, 600 m. (S. 695 !); Wasil, 1,400 m. (S. 1919); neighbourhood of Kahil (Botta).

DISTRIB. : Abyssinia, Eritrea, Yaman.
Vern. name : *homedet er robah* (Forsk.), *herg* (S.).

7. **K. yemensis** Schweinf. in Bull. Herb. Boiss. (1896) App. II, 202-203.—*K. brachycalyx* ? Rich. VAR. *yemensis* Defl. Yemen (1889) 138.

HABITAT : II. near Raudha, 2,300 m. (Defl. 632); near Maber, 2,400 m. (Defl. 694).

DISTRIB. : Endemic.

4. Cotyledon L.

1. **C. Barbeyi** Schweinf.; Baker in Gard. Chron. xiii, (1893) 624; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 196.

HABITAT : II. Manakhah, 2,300 m. (S. 1493 !); above Hille, 1,000 m. (S. 1875).

FL. : Feb. 1889 (S.). FR. : Feb. 1889 (S.).

DISTRIB. : Eritrea, Yaman.
Vern. name : *tufluk, tiffelok* (S.).

2. **C. Umbilicus** L. Sp. Pl. (1753) 429; Oliv. in Fl. Trop. Afr. ii, (1871) 398.—*Umbilicus pendulinus* DC. Prodr. iii, 400; Del. Frag. Fl. Arab. Petr. (1833) 74; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, iii, (1835) 260.

HABITAT : I. Mt. Sinai (Bové ! Holland 125 !); Arabia Petraea (De Laborde,); Central Midian (Burton !).

FR. : Feb. 1869 (Lord).

DISTRIB. : Europe, Canaries, N. W. Africa, tropical Africa, Arabia.

5. Umbilicus DC.

1. U. horizontalis DC. Prodr. iii, (1828) 400; Boiss. Fl. Or. ii, (1872) 770; Musch. Fl. Eg. i, (1912) 447.—*U. pendulinus* DC. VAR. *horizontalis* Boiss. Fl. Or. ii, (1872) 770.

HABITAT : I. Arabia Petraea (ex Post).

DISTRIB. : Mediterranean region.

2. U. intermedius Boiss. Fl. Or. ii, (1872) 769 : Musch. Fl. Eg. i, (1912) 447.—*U. pendulinus* DC. VAR. *intermedius* Post Fl. Syr. etc. (1896) 314.

HABITAT : I. Arabia Petraea (ex Post).

DISTRIB. : Egypt, Arabia Petraea, Palestine, Syria, Mesopotamia, Armenia, Persia.

Vern. name : *Kuba es sech* (ex Boiss.).

6. Sedum L.

1. Sedum sp. Defl. Yemen (1889) 138.

HABITAT : II. Jebel Shibam, 2,800 m. (Defl.).

7. Sempervivum L.

1. S. chrysanthum Hochst. in Oliv. Fl. Trop. Afr. ii, (1871) 400; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 195.—*Aeonium leucoblepharum* Webb in Rich. Fl. Abyss. i, (1847) 314.

HABITAT : II. Top of Jebel Shibam near Manakhah, 2,900 m. (S. 1670 !).

FL. : Mar. 1889 (S.). FR. : Mar. 1889 (S.).

DISTRIB. : Abyssinia, Eritrea, Yaman.

XLII. RHIZOPHORACEAE.

1. Rhizophora L.

1. R. mucronata Lam. Dict. iv, 169; Dcne. Pl. l' Arab. Heur. in Ann. Sc. Nat. ser. 2, iv, (1835) 75; Oliv. Fl. Trop. Afr. ii, (1871) 407.

HABITAT : II. Near Haideytta (Bové 230 !).

DISTRIB. : Tropical shores of Africa, Asia and Australia.

XLIII. COMBRETACEAE.

1. Terminalia L.

1. T. Catappa L.; DC. Prodr. iii, 11; Baker in Kew Bull. (1894) 332; Krause in Engl. Bot. Jahrb. xxxv, (1905) 736.

HABITAT : II. Heathalim (Ellenb.).
III. Planted at Chail-ba-Wazir, 650 ft. (Lunt!).
DISTRIB. : India.
Vern. name : *Bechan* (Ellenb.).

2. **Terminalia sp.** ex Krause in Engl. Bot. Jahrb. xxxv, (1905) 724; Blatt. Fl. Aden (1915) 199.
HABITAT : II. Aden (Ellenb.).
DISTRIB. : Endemic.
NOTE : "This Terminalia which has been collected by Ellenbeck only and of which we have only a poor specimen, seems to be nearly allied to, and perhaps identical with, T. Kelleri Engl. & Diels of Somaliland." (Krause l. c.).

2. Anogeissus Wall.

1. **A. Bentii** Baker in Kew Bull. (1894) 332; Hook. Ic. Pl. t. 2354.
HABITAT : III. Ghail-Omar, 2,200 ft. (Lunt!).
DISTRIB. : Endemic.

3. Combretum L.

1. **C. trichanthum** Fres. Mus. Senck. ii, (1837) 155; Oliv. Fl. Trop. Afr. ii, (1871) 431.—? *C. molle* R. Br. in Salt Herb. Abyss. (1814).—*C. Schimperiana* (=*Terminalia hirta* Steud. ex A. Rich.).—*C. Rueppellianum* (=*C. reticulatum* Fres. (1837) *non Presl*) *et ferrugineum* A. Rich. (1847).
VAR. **yemense** Defl. Yemen (1889) 138.
HABITAT : II. Wady Mawad near Hajeilah, 600 m. (Defl. 120!).
DISTRIB. : Abyssinia, Kordofan, Sennaar, Eritrea, Yaman.

XLIV. MYRTACEAE.

1. Psidium L.

1. **Psidium sp.** in Defl. Yemen (1889) 138.
HABITAT : II. Yaman : Cultivated in gardens at Lahaj (Defl.).

XLV. LYTHRACEAE.

1. Ammannia Houston.

1. **A. baccifera** Koehne in Engl. Bot. Jahrb. i, (1880) 258. VAR. **aegyptiaca** Koehne l. c.; Musch. Fl. Eg. i, (1912) 671.—*A. aegyptiaca* Del. Ill. Fl. d' Eg. 75, n. 434.—*A. auriculata* VAR. *subsessilis* Boiss. Fl. Or. ii, (1872) 743.

HABITAT : I. Arabia Petraea (ex Musch.).
DISTRIB. : S. Europe, Africa, Asia.

2. Woodfordia Salisb.

1. W. floribunda Salisb. Parad. Lond. t. 42 ; Oliv. Fl. Trop. Afr. ii, (1871) 481.

HABITAT : III. Dhofar Mts. (Bent 143 !).
DISTRIB. : Abyssinia, Sennaar, S. Arabia.

3. Lythrum L.

1. L. hyssopifolium L. Sp. Pl. (1753) 447 ; Musch. Fl. Eg. i, (1912) 668.—*Pentaglossum linifolium* Forsk. Fl. Aeg.-Arab. (1775) LIX, n. 11 and p. 11.

HABITAT : I. Arabia Petraea (ex Musch.).
DISTRIB. : Europe, Mediterranean region, Abyssinia, Cape, Australia.

2. L. tribracteatum Salzm. in Benth. Cat. (1826) 98 ; Musch. Fl. Eg. i, (1912) 667.—*L. bibracteatum* DC. Prodr. iii, 81 ; Boiss. Fl. Or. ii, (1912) 740.

HABITAT : I. Arabia Petraea (ex Musch.).
DISTRIB. : Mediterranean region, Central Russia, W. Asia.

4. Lawsonia L.

1. L. inermis L. Sp. Pl. (1753) 349 ; Forsk. Fl. Aeg.-Arab. (1775) CX, n. 259 ; Defl. Yemen (1889) 226 ; Baker in Kew Bull. (1894) 332 ; Krause in Engl. Bot. Jahrb. xxxv, (1905) 736 ; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 111 ; Blatt. Fl. Aden (1915) 220.—*L. spinosa* L. Sp. Pl. (1753) 349 (*non Lour.*).—*L. alba* Lam. Enc. iii, (1789) 106.

HABITAT : I. Akaba (Hart !) .

II. Near Shaikh Othman and Lahaj (Ellenb. & Busse); Lohaja (Forsk.); oasis of Lahaj (Defl. 193); neighbourhood of Aden (Hunter 150 !); cultivated in Yaman (Defl.).

III. Cultivated at Katan, 1,150 ft. (Lunt 169!); Hadramaut, cultivated (Hirsch 75).

FL. : Dec. 1889 (Defl.).

DISTRIB. : Not exactly known ; probably indigenous in N. and E. Africa, Arabia, Persia, the drier parts of the Peninsula of India and Ceylon ; cultivated in many tropical and subtropical countries.

Vern. name : *honnum* (Ellenb.), *Henà*, *Hanòn* (Hirsch), *Henna* (Lunt), *tamr-el-hinâ* (Musch.), *Egyptian Privet.*

5. Punica L.

1. **P. granatum** L. Sp. Pl. (1753) 472; Boiss. Fl. Or. ii, (1872) 737; Defl. Yemen (1889) 223; Musch. Fl. Eg. ii, (1912) 673.

HABITAT: I. Arabia Petraea (ex Musch.).
II. Yaman, cultivated (Defl.).

DISTRIB.: Wild in the Suliman Range, Salt Range and West Himalaya.

Vern. name: *Rummar* (Post).

XLVI. ORAGRACEÆ.

1. Epilobium L.

1. **E. hirsutum** L. Sp. Pl. (1753) 347; Oliv. Fl. Trop. Afr. ii, (1871) 487; Defl. Yemen (1889) 139.—*E. foliosum* Hochst. Herb. Schimp. Abyss.

HABITAT: Yaman: near Yazil, 2,700 m. (Defl. 570!).

DISTRIB.: Europe, Africa, Asia.

XLVII. LOASACEÆ.

1. Kissenia R. Br.

1. **K. spathulata** R. Br. in Herb. Mus. Brit.; Anders. Fl. Aden. (1860) 43; Oliv. Fl. Trop. Afr. ii, (1871) 501; Baker in Kew Bull. (1894) 332; Blatt. Fl. Aden (1915) 204.—*Fissenia capensis* Endl. Gen. Pl. Suppl. II, 76 (sine descript.); Harv. Thes. Cap. t. 98.—*Cuidone mentzeloides* E. Mey. in Herb. Drège, et Presl. Bot. Bemerk. p. 73.

HABITAT: II. Aden (Balfour! Perry! Defl. 2! S. 27! Thomson! Lunt! Ellenb., Courbon! Birdw.!).
III. Hadramaut: Alrail, 2,000 ft. (Lunt!); Wady Bayren (Hirsch 37).

FL.: Mar. 1881 (S.), Apr. 1861 (Thomson), Nov. (S.), Dec. 1889 (Defl.), Dec. 1893 (Lunt).

FR.: Apr. 1861 (Thomson), Nov. 1888 (S.), Dec. 1889 (Defl.), Dec. 1893 (Lunt).

DISTRIB.: Damaraland, Namaland, Somaliland, Arabia.

Vern. name: *Schabádh* (Hirsch).

XLVIII. PASSIFLORACEÆ.

1. Adenia Forsk.

1. **A. venenata** Forsk. Fl. Aeg.-Arab. (1775) CX, n. 245 and p. 77; Defl. Yemen (1889) 139; Engl. in Engl. Bot. Jahrb. xiv, (1892) 376.—*Modecca abyssinica* Hochst. in Rich. Fl. Abyss. i, (1847) 297.

HABITAT: II. Near Hajeilah, 500—600 m. (Defl. 138!); Hadiyah (Forsk.).

DISTRIB.: Central Africa, Abyssinia, Eritrea, Yaman.

Vern. name: *Aden* (Forsk.).

Note: For medical uses see Forsk. l. c.

XLIX. CUCURBITACEÆ.

1. Lagenaria Ser.

1. **L. vulgaris** Ser. in Mem. Soc. Genève, iii, pt. i, 25, t. 2.—*Cucurbita Lagenaria* L. Sp. Pl. (1753) 1010; Forsk. Fl. Aeg.-Arab. (1775) CXXII, n. 569 and p. 167, n. 40, 41 and 42; Defl. Yemen (1889) 225.

HABITAT: II. Mor (Forsk.); cultivated in Yaman (Defl.).

DISTRIB.: Tropical Africa, India, cultivated throughout the tropics.

Vern. name: *qarâ m'dauer, dubba dibbe, qara tauvil* (Forsk.).

2. Momordica Tourn.

1. **M. Balsamina** L. Sp. Pl. (1753) 1009; Forsk. Fl. Aeg.-Arab. (1775) CXXII, n. 568; Oliv. Fl. Trop. Afr. ii, (1871) 537; Boiss. Fl. Or. ii, (1872) 757; Defl. Yemen (1889) 139.—*M. Garriepensis* E. Mey.; Rich. Fl. Abyss. i, (1847) 291.

HABITAT: II. Wady Fatimah (Fischer 61!); Wady Fatimah near Unsert (Schimp. 850!); Yaman (Ehrenb.); Tehama: Kalife (S. 207!); Oasis of Lahaj (Defl. 114); near Aïdah, 1,000 m. (Defl. 706).

III. Wady Sigem near Mukalla (Hirsch).

IV. Masqat (Auch.-Eloy 4502!).

FL.: Dec. 1888 (S.).

FR.: Feb. 1836 (Schimp.), Dec. 1888 (S.), Dec. 1889 (Defl.).

DISTRIB.: Cosmopolitan.

Vern. name: *mokahh moghadd* (Forsk.), *Guwār* (Hirsch), *Beilasán* (Post), *Mukach humack* (S.).

2. **M. Charantia** L. Sp. Pl. (1753) 1009; Oliv. Fl. Trop. Afr. ii, (1871) 537; Cogn. in DC. Monogr. Phanerog. (1881) 436; Krause in Engl. Bot. Jahrb. xxxv, (1905) 737.

HABITAT : II. Near Heathalim (Ellenb.).
DISTRIB. : Cosmopolitan in the tropics.
Vern. name : *gemim* (Ellenb.).

3. **Luffa** Tourn.

1. **L. cylindrica** Roem. Syn. fasc. 2, p. 63; Cogn. in DC. Monogr. Phanerog. iii, (1881) 456.—*L. arabum* Dill. Cat. Pl. Giss. Append. p. 157, t. 11.—*Turia monoica pentandra* Forsk. Fl. Aeg.-Arab. (1775) 165, n. 35.—*T. folüs cordatis* Forsk. l. c. CXXI, 551 and p. 166, n. 37.
HABITAT : II. Mor (Ehrenb. !); cultivated in Yaman (Forsk.).
DISTRIB. : Tropics of Old World.
Vern. name : *turia* (Forsk.).

Species dubia.

Turia Leloja Forsk. Fl. Aeg.-Arab. (1775) CXXI, n. 552 and p. 165. (=Luffa sp. ?)

4. **Ecballium** A. Rich.

1. **E. Elaterium** Rich. in Dict. Class. Hist. Nat. vi, 19; Boiss. Fl. Or. ii, (1872) 760; Post Fl. Syr. etc. (1896) 324.
HABITAT : I. Arabia Petraea (ex Post).
DISTRIB. : Mediterranean region.
Vern. name : *qiththâ-el-hamâr* (Post).
Note: The inspissated juice is an exceedingly drastic and irritating, officinal cathartic.

5. **Cucumis** L.

1. **C. daucus indicus** Forsk. Fl. Aeg.-Arab. (1775) CXXII, n. 581.
HABITAT : II. Zebid, Beit el fakih (Forsk.).
DISTRIB. : Endemic.
Vern. name : *Djussar hendi* (Forsk.).
[Indis: *Gadjer, Schekarkand* (Forsk.).]

2. **C. dipaceus** Ehrenb. in Spach Veg. Phan. vi, 211; Oliv. Fl. Trop. Afr. ii, (1871) 543; Cogn. in DC. Monogr. Phanerog. iii, (1881) 500.—*Momordica dasycarpa* Hochst.; Rich. Fl. Abyss. i, (1847) 291.
HABITAT : I. Wady Kamme (Ehrenb. !).
II. Cultivated in Yaman (Defl.).
DISTRIB. : Upper Guinea, Kordofan, Abyssinia, Nubia, Arabia.

3. **C. ficifolius** Rich. Fl. Abyss. i, (1847) 294, t. 53 bis; Cogn. in DC. Monogr. Phanerog. (1881) 493.—*C. abyssinicus* Rich. l. c.—

Bryonia obtusa Rich. l. c.—? *C. trilobatus* Forsk. Fl. Aeg.-Arab. (1775) 168.— *C. Figarei* Del. Cat. Hort. Monsp. ex Naud. in Ann. Sc. Nat. ser. 4, xi, 16; Oliv. Fl. Trop. Afr. ii, (1871) 543; Defl. Yemen (1889) 139.

VAR. **echinophorus** Naud. in Ann. Sc. Nat. ser. 4, xi, 16; Defl. Yemen (1889) 139.

HABITAT: II. Jebel Bura, Hille (S. 336 !); near Hajeilah, 600 m. (Defl. 79); Mor (Ehrenb.).

FL.: Jan. 1889 (S.). FR.: Jan. 1889 (S.).

DISTRIB.: Angola, Senegambia, Guinea, Abyssinia, Arabia.

Vern. name: *Schirwe* (S.).

VAR. **ficifolius** Naud. l. c.

HABITAT: I. Arabia Petraea (McDonald !).
II. Yaman (Botta); Aden (Thomson !).

DISTRIB.: Abyssinia, Arabia.

4. **C. inedulis** Forsk. Fl. Aeg.-Arab. (1775) CXXII, n. 580.—*C. sativus arakis* Forsk. l. c. 169.

HABITAT: II. Mor, Lohaja (Forsk.).

DISTRIB.: Endemic.

Vern. name: *Arakis* (Forsk.).

5. **C. melo** L. Sp. Pl. (1753) 1011; Forsk. Fl. Aeg.-Arab. (1775) 168; Oliv. Fl. Trop. Afr. ii, (1871) 546; Cogn. in DC. Monogr. Phanerog. (1881) 482; Defl. Yemen (1889) 225; Krause in Engl. Bot. Jahrb. xxxv, (1905) 737.

HABITAT: II. Wady Kebir (Ellenb.); cultivated in Yaman (Defl. !).

DISTRIB.: Indigenous in tropical Africa and S. Asia, cultivated in all warm and temperate regions.

Vern. name: *cherir* (Ellenb.), *Battikh asfar* (Post).

VAR. **agrestis** Naud. in Ann. Sc. Nat. ser. 4, xi, 73 and xii, 110.—*C. chate* L. Sp. Pl. (1762) 1437; Forsk. Fl. Aeg.-Arab. (1775) 168.

HABITAT: II. Jebel Bura, Hille (S. 240 !).

Vern. name: *Muqti* (Post), *Smitt* (S.).

VAR. **culta** Kurz in Journ. Asiat. Soc. Beng. (1877) pt. 2, 102; Cogn. in DC. Monogr. Phanerog. (1881) 484.—*C. sativus* VARS. *Fakus, Smilli et Schemmam*; Forsk. Fl. Aeg.-Arab. (1775) 169.—*C. orientalis ?* Forsk. l. c. CXXII, n. 579.

HABITAT: II. Lohaja (Forsk.).

Vern. name: *Smilli* (Forsk.); in Egypt: *Fakus, Schemmam* (Forsk.).

6. **C. ollœhie** Forsk. Fl. Aeg.-Arab. (1775) CXXII, n. 583.

HABITAT: II. Uahfad (Forsk.).

DISTRIB.: Endemic.
Vern. name: *Ollœhie* (Forsk.).

7. C. prophetarum L. Sp. Pl. (1762) 1436; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, iii, (1835) 261; Oliv. Fl. Trop. Afr. ii, (1871) 545; Boiss. Fl. Or. ii, (1872) 758; Baker in Kew Bull. (1894) 333; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 120; Blatt. Fl. Aden (1915) 206.—*C. arabicus* Del. Cat. Hort. Monsp. ex Naud.—*C. anguria* Forsk. Fl. Aeg.-Arab. (1775) CXXII, n. 576 and p. 168 (*non L.*)

HABITAT: I. Sinai (Auch. 2857!); Wady Kamme (Ehrenb.!); Wady Nasb (Lord!); Wady Hebran (Schimp. 134!); neighbourhood of Tor (Bové!); Wady es Sle, W. es Shaikh (Kneuck.).

II. Jiddah (Zohrab 109! 110!); very common in the Tehama (Defl.); Aden (Lunt 328! S. 11! Perry! Balfour! Perrottet! Hildebr. Defl.! Ellenb., Marchesetti, Hook.! Thoms., Anders.); Mor (Ehrenb. 166!).

III. Hadramaut: Between Sibeh and Tahiyeh, 800—900 ft. (Lunt 106! 112!).

IV. Masqat (Auch.-Eloy 4503! Bent 11!).

FL.: Mar. 1878 (Perry), Apr. 1835 (Schimp.), Apr. 1868 (Lord), Dec. 1893 (Lunt).

FR.: Feb. 1851 (Thomson), Apr. 1835 (Schimp.), Apr. 1868 (Lord), Nov. 1888 (S.), Dec. 1893 (Lunt).

DISTRIB.: Egypt, Nubia, Abyssinia, Kordofan, Arabia, Socotra, Baluchistan, Sind.

Vern. name: *henedhaï* (Musch.), *damahir* (Ibn Beïthar), *Nafi'ah* (Post).

8. C. pustulatus Hook. in Oliv. Fl. Trop. Afr. ii, (1871) 544; Cogn. in DC. Monogr. Phanerog. (1881) 495; Blatt. Fl. Aden (1915) 206.

HABITAT: I. Arabia Petraea (McDonald!).

II. Wasil, 1,400 m. (S. 1088!); Aden (Thoms.! Hook. 38! S.!).

III. Sehut (Hirsch 34).

FR.: Feb. 1851 (Thomson), Feb. 1869 (Lord), Feb. 1889 (S.).

DISTRIB.: Abyssinia, Eritrea, Somaliland, Arabia.

Vern. name: *Hádig, Hadgèt* (Hirsch).

9. C. sativus L. Sp. Pl. (1753) 1012; Defl. Yemen (1889) 225.—*C. sativus Chiar* Forsk. Fl. Aeg.-Arab. (1775) 169.

HABITAT: I. Djowf (ex Palgrave).

II. Cult. in Yaman (Defl.).

IV. Masqat (ex Palgrave)

FR.: July (Palgrave).
DISTRIB.: Probably indigenous in India.
Vern. name: *khiyár* (Post).

10. C. tuberculatus Forsk. Fl. Aeg.-Arab. (1775) CXXII, n. 582.
HABITAT: II. Mor, Surdud (Forsk.).
DISTRIB.: Endemic?
Vern. name: *dahaq* (Forsk.).

Species dubiae.

C. sativus battich Djebbal Forsk. Fl. Aeg.-Arab. (1775) 169.
C. m'heimta Forsk. l. c. CXXII, n. 578.

6. Citrullus Neck.

1. C. colocynthis Schrad in Linnaea xii, (1838) 414; Anders. Fl. Aden. (1860) 20; Oliv. Fl. Trop. Afr. ii, (1871) 548; Boiss. Fl. Or. ii, (1872) 759; Defl. Yemen (1889) 139; Blatt. Fl. Aden (1915) 207.—*Cucumis colocynthis* L. Sp. Pl. (1753) 1011; DC. Prodr. iii, 302.

HABITAT: I. Wady Nasb (Drake 66!); Ramleh (Hart!); W. Gennah (Lord!); W. Ghurundel (Hart!); Wady es Sle, W. Tarfa, W. Shellal (Kneuck.); Midian (Burton!).

II. Jiddah (Zohrab 108!); Aden (Ol. & Cl.! S.! Defl.! Anders.! Birdw.! Kuntze, Marchesetti).

III. Hadramaut: Between Sibeh and Tahiyeh, 900 ft. (Lunt 105!).

FR.: Jan. 1863 (Ol. and Cl.), Apr. 1868 (Lord), Dec. 1893 (Lunt).

DISTRIB.: Spain, Canaries, Cape Verd Islands, N. Africa, Arabia, Palestine, Sind, Punjab, Ceylon.

Vern. name: *Colocynth.* Arabic name: *Handhal*; (*dohnel-handhal* = oil of C.), *hondol* (Post).

2. C. vulgaris Schrad. in Linnaea, xii, 412; Oliv. Fl. Trop. Afr. ii, (1871) 549; Cogn. in DC. Monogr. Phanerog. iii, (1881) 508; Krause in Engl. Bot. Jahrb. xxxv, (1905) 737.—*Cucurbita Citrullus* L. Sp. Pl. (1753) 1010; Forsk. Fl. Aeg.-Arab. (1775) CXXII, n. 570 and p. 167, n. 44; Defl. Yemen (1889) 225.—*Cucurbita Citrullus Battich* Forsk. l. c. CXXII, n. 572 and p. 167, n. 43.

HABITAT: II. Hadiyah and Uahfad, Mor (Forsk.); cultivated in Yaman (Defl.); near Lahaj (Ellenb.).

DISTRIB.: Tropical Africa, Arabia.

Vern name: *dubba farakis, schurredj* (Forsk.), *hadeh, habbah* (Eilenbeck), *Jabas, Battikh akhdar* (Post).

VAR. **Kasch** nov. comb.—*Cucurbita Citrullus Kasch* Forsk. Fl. Aeg.-Arab. (1775) CXXII, n. 571 and p. 167, n. 45.

HABITAT: II. Hadiyah (Forsk.).

Vern. name: *Kasch* (Forsk.).

7. Coccinia W. & A.

1. ? **C. indica** W. & A. Prod. 347.—*Cephalandra indica* Naud. in Bent, Southern Arabia (1900) App. I, 432.

HABITAT: III. Dhofar Mts. (Bent 182 !).

DISTRIB.: Tropical Asia.

2. **C. moghadd** Aschers. in Schweinf. Pl. Nub. n. 85, 86 and 336; Cogn. in DC. Monogr. Phanerog. iii, (1881) 531.—*Turia moghadd* Forsk. Fl. Aeg.-Arab. (1775) CXXI, n. 554 and p. 166.

HABITAT: II. Mor (Ehrenb. !); Lohaja (Forsk.).

DISTRIB.: Senegambia, Central Africa, Abyssinia, Nubia, Arabia.

Vern. name: *Moghadd* (Forsk.).

8. Cucurbita L.

1. **C. maxima** Duch. in Lam. Encycl. ii, 151; Cogn. in DC. Monogr. Phanerog. iii, (1881) 544; Defl. Yemen (1889) 225; Musch. Fl. Eg. ii, (1912) 940.—*C. pepo longa* Forsk. Fl. Aeg.-Arab. (1775) CXXII, n. 573.—*Pepo longa* Forsk. l. c. 168.

HABITAT: I. Cultivated in Arabia Petraea (ex Musch.).
II. Cultivated in Yaman (Defl.); cult. at Lohaja (Forsk.).

DISTRIB.: Probably indigenous in S. Asia.

Vern. name: *Kara* (Forsk.).

Species dubiae.

C. dubia Forsk. Fl. Aeg.-Arab. (1775) CXXII, n. 574.

HABITAT: II. Cultivated in the plains of Yaman (Forsk.).

Vern. name: *Habbah* (Forsk.).

9. Blastania Kotschy & Peyr.

1. **B. fimbristipula** Kotschy & Peyr. Pl. Tin. 15, t. 7; Cogn. in DC. Monogr. Phanerog. iii, (1881) 628; Cooke Fl. Bomb. i, (1903) 543.—*Ctenolepis cerasiformis* Hook. f. in Oliv. Fl. Trop. Afr. ii, (1871) 555.

HABITAT: II. Mor (Ehrenb. !).

DISTRIB.: Senegambia, Angola, Sudan, Abyssinia, Arabia, Sind, Gujerat.

10. Corallocarpus Welw.

1. **C. Courbonii** Cogn. in DC. Monogr. Phanerog. iii, (1881) 655.—*Rhynchocarpa Courbonii* Naud. in Ann. Sc. Nat. ser. 4, xviii, 197; Boiss. Fl. Or. ii, (1872) 762.—*C. Etbaicus* Hook. f. in Oliv. Fl. Trop. Afr. ii, (1871) 567.—*C. velutinus* C. B. Clarke in Hook. f. Fl. Brit. Ind ii, pt. vi, (1879) 628; Blatt. Fl. Aden (1915) 211.

HABITAT: II. Aden (Birdw.! S.!).

IV. Near Masqat (Auch.-Eloy 4502!).

FR.: Mar. (S.).

DISTRIB.: Abyssinia, Nubia, Arabia, Sind.

2. **C. Ehrenbergii** Hook f. in Oliv. Fl. Trop. Afr. ii, (1871) 566; Cogn. in DC. Monogr. Phanerog. iii, (1881) 653.—*Rhynchocarpa Ehrenbergii* Aschers. in Schweinf. Herb. Nub. (1865) n. 61; in Schweinf. Beitr. Z. Fl. Aeth. 251.

HABITAT: II. Mt. Kara (Ehenb.!).

DISTRIB.: Abyssinia, Nubia, Arabia.

3. **C. erostris** Oliv. Fl. Trop. Afr. ii, (1871) 567; Cogn. in DC. Monogr. Phanerog. iii, (1881) 652; Defl. Yemen (1889) 139; Blatt. Fl. Aden (1915) 211.—*Rhynchocarpa erostris* Schweinf. in Verh. Zool. Bot. Ges. Wien (1868) 673.

HABITAT: II. In gardens at Merawa (Defl.); Aden (Defl.! S.!).

DISTRIB.: Nubia, Eritrea, Yaman.

4. **C. Gijef** Hook. f. in Oliv. Fl. Trop. Afr. ii, (1871) 566; Cogn. in DC. Monogr. Phanerog. iii, (1881) 657.—*Turia Gijef* Forsk. Fl. Aeg. Arab. (1775) CXXI, n. 553 and p. 166.

HABITAT: II. Mor (Ehrenb.!); Surdud (Forsk.).

DISTRIB.: Kordofan, Nubia, Arabia.

Vern. name: *Gijef* (Forsk.).

5. **C. glomeruliflorus** Schweinf. Manuskr. Sammlung Arab.-Athiop. Pflanzen; Krause in Engl. Bot. Jahrb. xxxv, (1905) 732; Blatt. Fl. Aden (1915) 210.—*Rhynchocarpa Courbonii* Defl. in Bull. Soc. Bot. France, xxxii, 349.—*Phialocarpus glomeruliflorus* Defl. l. c. xlii, 304.—*C. Gijef* Schweinf. in Herb. Berol. (ex Krause).

HABITAT: II. Jebel el Areys (Defl. 449); Aden (S. 359! Beevor! Hildebr.! Defl.!); Little Aden (Defl.!).

III. Hadramaut (Hirsch 15).

FR.: Mar. 1888 (S.).

DISTRIB.: Endemic.

6. **C. parvifolius** Cogn. in DC. Monogr. Phanerog. iii, (1881) 658; Baker in Kew Bull. (1894) 333.

HABITAT: II. Mt. Kara (Ehrenb.).

III. Hadramaut: Hills near Gambla, 1,500 ft. (Lunt 226!).

DISTRIB.: Endemic.

L. FICOIDEÆ.

1. Mesembryanthemum L.

1. **M. Forskahlei** Hochst. in Schimp. Pl. Arab. exs. ed. 2; Boiss. Fl. Or. ii, (1872) 765.—*M. geniculiflorum* Forsk. Fl. Aeg.-Arab. (1775) LXVII, n. 273 and p. 98.

HABITAT: I. Arabia Petraea (Schimp.); S. of Dead Sea (ex Post).

DISTRIB.: Egypt, Arabia Petraea.

Vern. name: *Semeh, samh* (Post).

Note: For iconomic uses see Forsk. l. c.

2. **M. Harazianum** Defl. Yemen (1889) 140.

HABITAT: II. Jebel Shibam, 2,800 m. (Defl. 337!).

DISTRIB.: Endemic.

3. **M. nodiflorum** L. Sp. Pl. (1753) 480; Forsk. Fl. Aeg.-Arab. (1775) LXVII, n. 272 and p. 98; Boiss. Fl. Or. ii, (1872) 764.

HABITAT: I. Arabia Petraea (McDonald! Schimp. 298!).

DISTRIB.: Mediterranean region.

Vern. name: *Ghassûl* (Post).

2. Aizoon L.

1. **A. canariense** L. Sp. Pl. (1753) 488; Del. Frag. Fl. Arab. Petr. (1833) n. 75; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, iii, (1835) 261; Post Fl. Syr. etc. (1896) 327.—*Glinus crystallinus* Forsk. Fl. Aeg.-Arab. (1775) LXVII, n. 262 and p. 95, t. 14.

HABITAT: I. Arabia Petraea (De Laborde! McDonald!); Wady Hebran, 2,500 ft. (Ruppell!); Dead Sea and southwards (Post); oasis Feiran (Kueuck.); Wady Nasb (Lord!); near Tor (Bové!); S. Midian (Burton!).

II. Jiddah (Fischer 3! Zohrab 77! 78!).

IV. Masqat (Auch.-Eloy 4537!).

FL.: Apr. (Lord).

DISTRIB.: Mediterranean region, Cape, Arabia, Persia, Baluchistan, N. W. India.

Vern. name: *Kushât-el-Belât, Hadaq* (Post).

2. **A. hispanicum** L. Sp. Pl. (1753) 488; Boiss. Fl. Or. ii, (1872) 765; Post Fl. Syr. etc. (1896) 327; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 84.—*Mesembryanthemum copticum* L. Sp. Pl. (1762) 688.

HABITAT: I. Arabia Petraea (Boiss.!); Sinai (ex Post).

DISTRIB.: Mediterranean region, Arabia, Persia.

Vern. name: *Ghassûl, Yashenîd* (Post).

3. Trianthema L.

1. **T. crystallina** Vahl Symb. Bot. i, (1790) 32; Anders. Fl. Aden. (1860) 20; Defl. Yemen (1889) 140; Schweinf. in Bull. Herb. (1896) App. II, 169; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 84; Blatt. Fl. Aden (1915) 213.—*Papularia crystallina* Forsk. Fl. Aeg.-Arab. (1775) CVIII, n. 199 and p. 69.

HABITAT: I. Jebel Nakus (Musch.).

II. Jiddah (Fischer 28! Zohrab 228! 273!); Dahhi (Forsk.); Wady Fatimah (Schimp. 883!); Wady Yalut (Lunz 10!); near Hajeilah (Defl. 9, 10); Aden (Lunt 350! Beevor 101! Defl.! Anders.! Birdw.! Hildebr.!); Shuqra (S. 89); Hanish Island (Slade 17!); Perim Island (Coomaraswamy!).

III. Ras Shirwen (Hirsch 172).

FL.: Feb. (Fischer), Feb. 1836 (Schimp.), Apr. 1894 (Lunt).

FR.: June 1872 (Hildebr.).

DISTRIB.: Upper Egypt, Nubia, Abyssinia, Kordofan, Arabia, Sind, Punjab.

2. **T. monogyna** L. Mant. 69; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 169; Blatt. Fl. Aden (1915) 214.

HABITAT: II. Near Hajeilah, 600 m. (S. 912); Jebel Bura, Hille (S. 242!); Kamaran Island (Bové!); Shaikh Othman (S. 124!).

DISTRIB.: Throughout India, Ceylon, and most tropical regions.

Vern. name: *Rigma* (S.).

3. **T. pentandra** L. Mant. (1762) 70; Boiss. Fl. Or. ii, (1872) 766; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 169; Post Fl. Syr. etc. (1896) 327; Blatt. Fl. Aden (1915) 213.—*Rocama prostrata* Forsk. Fl. Aeg.-Arab. (1775) CVIII, n. 200 and p. 71.

HABITAT: I. S. Midian (Burton!).

II. Jiddah (Zohrab 49! Fischer 10!); Lohaja, Surdud, Mor (Forsk.); Wady Saylet (Defl. 238!); near Hajeilah, 600 m. (S. 1065, 1994); Hille, 600 m. (S. 369!); El Hammi (S. 170); Aden (Birdw. 157!); Shuqra (S. 104).

III. Ras Shirwen (Hirsch 168).

FL.: Jan., Feb. 1837 (Fischer), Aug. 1898 (Birdw.).

FR.: Jan. 1890 (Defl.), Aug. 1898 (Birdw.).

DISTRIB.: Tropical Africa, Arabia, N. W. India.

Vern. name: *Rocama* (Forsk.).

4. **T. polysperma** Hochst. Herb. Nub. Kotsch. 68; Oliv. Fl. Trop. Afr. ii, (1871) 588; Defl. Yemen (1889) 140.

HABITAT: II. Near Mantar (Defl. 26!).

DISTRIB.: Kordofan, Nubia, Yaman.

5. **T. sedifolia** Vis. Pl. Aeg. ac Nub. 19, t. III, f. 1; Oliv. Fl. Trop. Afr. ii, (1871) 588; Defl. Yemen (1889) 140; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 169.

HABITAT: II. Near Hajeilah, 600 m. (S. 1065! Defl. 94).

DISTRIB.: Lower Guinea, Kordofan, Sennaar, Eritrea, Yaman.

VAR. **microphylla** Defl. l. c.

HABITAT: Yaman (Courbon!).

4. Orygia Forsk.

1. **O. decumbens** Forsk. Fl. Aeg.-Arab. (1775) CXIV, n. 344 and p. 103; Anders. Fl. Aden. (1860) 20; Boiss. Fl. Or. i, (1867) 755; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 169; Blatt. Fl. Aden (1915) 215.—*Portulaca decumbens* Vahl Symb. Bot. i, (1790) 33.

HABITAT: II. Musa (Forsk.); near Hille, 500 m. (S. 427); Shuqra (S. 125); Aden (Defl. 85! Lunt 282! Edgew.! Hook.! Perry! Hunter! Ellenb.).

III. Hadramaut (Hirsch 103).

FL.: Feb. 1869 (Lord), Apr. 1894 (Lunt).

FR.: Feb. 1869 (Lord), Mar. 1878 (Perry), Apr. 1894 (Lunt), Dec. 1847 (Hook.).

DISTRIB.: Africa, Arabia, Baluchistan, Sind, Punjab, Mysore.

Species dubia.

O. villosa Forsk. Fl. Aeg.-Arab. (1775) CXIV, n. 343.

HABITAT: II. Boka (Forsk.).

5. Telephium L.

1. **T. sphaerospermum** Boiss. Diagn. Pl. Or. ser. 1, iv, 12; Fl. Or. i, (1867) 754; Post Fl. Syr. etc. (1896) 165.

HABITAT: I. Wady Hebran (Schimp. 346!); Sinai Peninsula: Tor (Lord!); Sinai (ex Post); Wady Shaikh (Boiss.!).

FR.: June (Lord).

DISTRIB.: Cyrenaica, Egypt, Arabia Petraea.

6. Mollugo L.

1. **M. cerviana** Seringe MS.; DC. Prodr. i, (1824) 392; Anders. Fl. Aden. (1860) 7; Boiss. Fl. Or. i, (1867) 756; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 168; Blatt. Fl. Aden (1915) 216.—*Pharnaceum umbellatum* Forsk. Fl. Aeg.-Arab. (1775) CIX, n. 217 and p. 58.

HABITAT: II. Lohaja (Forsk.); Shuqra (S. 114); Aden (Lunt 355! Hook. 48! Defl.! Anders.! Birdw.! Perry!).

FL.: Mar. 1878 (Perry), Apr. 1894 (Lunt), Dec. 1847 (Hook.).

FR.: Mar. 1878 (Perry), Apr. 1894 (Lunt), Dec. 1847 (Hook.).

DISTRIB.: Tropical and sub-tropical countries of the Old World, S. Europe.

2. **M. Glinus** A. Rich. Fl. Abyss. i, (1847) 48; Defl. Yemen (1889) 141.—*Glinus lotoides* L. Sp. Pl. (1753) 463; Forsk. Fl. Aeg.-Arab. (1775) LXVII, n. 261, CXIII, n. 320 and p. 96; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, iii, (1835) 261; Boiss. Fl. Or. i, (1867) 755; Post Fl. Syr. etc. (1896) 165; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 84.

HABITAT: I. Wady Nasb (Hart!); Desert of Tor (Bové!).

II. Matara, Mor, Milhan (Forsk.); Jiddah (Zohrab 44! Fischer 89!); oasis of Lahaj (Defl. 125!).

III. Dhofar Mts. (Bent 222!).

FL.: Dec.-Feb. 1837 (Fischer), Dec. 1889 (Defl.).

FR.: Dec.-Feb. 1837 (Fischer), Dec. 1889 (Defl.).

DISTRIB.: Europe, N. Africa, Tropical Asia, Australia, America.

Vern. name: *haschse* (Forsk.), *Ghubeirah* (Post).

Note: For medical uses see Forsk. l. c.

3. **M hirta** Thunb. Prod. Pl. Cap. 24.—*Glinus setiflorus* Forsk. Fl. Aeg.-Arab. (1775) CXIII, n. 319 and p. 95.

HABITAT: II. Dahhi (Forsk.).

DISTRIB.: Tropical and sub-tropical regions.

4. **M. nudicaulis** Lam. Dict. iv, 234; Oliv. Fl. Trop. Afr. ii, (1871) 591; Schweinf. in Bull. Herb. Boiss. (1896) App. II, 168.

HABITAT: II. Hille, 500 m. (S. 275!); Wulej, 600 m. (S. 619).

DISTRIB.: Zambesi, Congo, Senegambia, Kordofan, Nubia, Abyssinia, Eritrea, Arabia.

7. Gisekia L.

1. G. pharnaceoides L.; DC. Prodr. xiii, pt. 2, 27; Oliv. Fl. Trop. Afr. ii, (1871) 593.

HABITAT: I. N. Midian (Burton!).
II. Jiddah (Fischer 50! Zohrab 202! 194!).

FL.: Jan. 1837 (Fischer).

DISTRIB.: Tropical and S. Africa, Arabia to India.

8. Limeum L.

1. L. indicum Stocks in Herb. Hook.; Anders. Fl. Aden. (1860) 30; Oliv. Fl. Trop. Afr. ii, (1871) 596; Blatt. Fl. Aden (1915) 217.

HABITAT: II. Aden (Ol. & Cl.! Perry! Hook.!).

FL.: Jan. 1863 (Ol. & Cl.), Mar. 1878 (Perry), Dec. 1847 (Hook.).

FR.: Jan. 1863 (Ol. & Cl.), Mar. 1878 (Perry).

DISTRIB.: Nubia, S. Arabia, Sind, Baluchistan, Punjab, Multan.

LI. UMBELLIFERÆ.

1. Anisosciadium DC.

1. A. lanatum Boiss. Fl. Or. Suppl. (1888) 261.

HABITAT: I. Midian (Burton!).

DISTRIB.: Endemic.

2. Pycnocycla Lindl.

1. P. Aucheriana Dcne. MS.; Boiss. Ann. Sc. Nat. (1844) 88; Fl. Or. ii, (1872) 952.

HABITAT: IV. Jebel Jebek (Auch.-Eloy!).

DISTRIB.: Arabia, Persia, Baluchistan.

2. P. tomentosa Dcne. Ann. Sc. Nat. ii, 719; Fl. Sin. in Ann. Sc. Nat. ser. 2. iii, (1835) 258; Jaub. & Sp. Ill. Pl. Or. t. 242; Boiss. Fl. Or. ii, (1872) 952.

HABITAT: I. Sinai (Auch.-Eloy 3715!); Wady Feiran and neighbourhood (Lord!); Wady Senneh (Drake 88!); Arabia Petraea (McDonald); Wady Hebran (Schimp. 148!); W. Ghurundel (ex Post); W. Baruk (Bové 122!).

FL.: May 1868 (Lord), June 1835 (Schimp.).

FR.: June 1835 (Schimp.).

DISTRIB.: Endemic.

Vern. name: *Teyen, beyen* (Bové), *Seseban* (Schimp.).

3. Bupleurum L.

1. **B. linearifolium** DC. Prodr. iv, 132; Boiss. Fl. Or. ii, (1872) 849.

VAR. **Schimperianum** Boiss. l.c. 850; Post Fl. Syr. etc. (1896) 343.—*B. Schimperi* Boiss. Ann. Sc. Nat. ser. 3, ii, (1844) 151.

HABITAT: I. Sinai (Ehrenb. !); Raphidim (Schimp. 290 !).

FR.: Apr. 1835 (Schimp.).

DISTRIB.: Of species: Mediterranean region, Persia, Afghanistan.
Of var.: Endemic.

2. **B. nodiflorum** Smith in Sibth. et Smith Fl. Graec. Prodr. i, (1806) 177; Boiss. Fl. Or. ii, (1872) 840; Musch. Fl. Eg. ii, (1912) n. 978.—*B. proliferum* Del. Fl. d'Eg. (1813) 61, t. 22, f. 2.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Marmarica, Egypt, Arabia Petraea, Palestine, Syria.

3. **B. semicompositum** L. Dissert. Dem. Pl. (1753) 7; Sp. Pl. (1762) 342; Musch. Fl. Eg. ii, (1912) n. 980.—*B. glaucum* Ledeb. Fl. Ross. ii, (1844-46) 261; Boiss. Fl. Or. ii, (1872) 842.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Mediterranean region, Persia.

4. **B. subovatum** Link in Spreng. Spec. Umb. Min. Cogn. (1818) 19; Wolff Umbell.-Apioid. in Engl. Pflanzenr. (1910) p. 46; Musch. Fl. Eg. ii, (1912) n. 977.—*B. protractum* Link & Hoffgg. Fl. Portug. ii, (1820) 387; Boiss. Fl. Or. ii, (1872) 836. VAR. *heterophyllum* Wolff in Engl. l. c. p. 48.

HABITAT: I. Arabia Petraea (Boiss.).

DISTRIB.: Of species: Central Europe, Mediterranean region, Persia.

4. Apium L.

1. **A. graveolens** L. Sp. Pl. (1753) 264; Dcne. Fl. Sin. in Ann. Sc Nat. ser. 2, iii, (1835) 257; Boiss. Fl. Or. ii, (1872) 856.

HABITAT: I. Cultivated ground of Mt. Sinai (Bové !).
IV. Masqat (Auch.-Eloy 4580 !).

DISTRIB.: Europe, Mediterranean region, Cape, Arabia, Baluchistan.

Vern. name: *Kurfus* (Post).

2. **A. nodiflorum** Reichb. f. Ic. Fl. Germ. xxi, 10.—*Heliosciadum nodiflorum* Koch Umb. 26; Musch. Fl. Eg. ii, (1912) 695.

HABITAT: I. Arabia Petraea (ex Musch.).
II. Wady Shurfa, Manakhab, 2,500 m. (S. 1763 !).

DISTRIB.: Europe, N. Africa, Abyssinia, Arabia, Persia.
Vern. name: *qurrah, jezar-'afârit* (Post).

5. Ammi L.

1. **A. copticum** L. Mant. 56; Boiss. Fl. Or. ii, (1872) 891; Musch. Fl. Eg. ii, (1912) 700.—*Carum copticum* Benth. et Hook. f. Gen. Pl. i, 891; Baker in Kew Bull. (1894) 333.

HABITAT: I. Arabia Petraea (ex Musch.).
III. Cultivated at Katan, 1,150 ft. (Lunt!).

DISTRIB.: Egypt, Arabia, Palestine, Persia, Afghanistan.
Vern. name: *shamar* (Lunt).

2. **A. majus** L. Sp. Pl. (1753) 243; Boiss. Fl. Or. ii, (1872) 891; Post Fl. Syr. etc. (1896) 345.

HABITAT: IV. Masqat (Auch.-Eloy 4574! 4575!).

DISTRIB.: Europe, Mediterranean region, Abyssinia.
Vern. name: *Khilleh-Sheitânîyah* (Post).

6. Pituranthos Viv.

1. **P. tortuosus** Benth. & Hook. ex Aschers.-Schweinf. Ill. Fl. Eg. (1887) 80; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 112.—*Deverra tortuosa* DC. Prodr. iv, 143; Schenk Sp. Pl. it. Aeg. Arab. & Syr. (1840) n. 195; Boiss. Fl. Or. ii, (1872) 860; Post Fl. Syr. etc. (1896) 345.

HABITAT: I. Desert of Suez (Bové 125!); between Wady Ghurundel and W. Werdan (Kneuck.); between Suez and Tor (ex Schenk); Sinai (Musch.).

FL.: June 1832 (Bové). FR.: June 1832 (Bové).

DISTRIB.: N. Africa, Arabia Petraea.
Vern. name: *Keruni* (Musch.), *Soqûkh, Oasîkh, Shebet-el-Jebel* (Post).

2. **P. triradiatus** Aschers.-Schweinf. Ill. Fl. d'Eg. (1887) 86, n. 465; Musch. Verh. Bot Ver. Prov. Brandenb. xlix, (1907) 111.—*Deverra triradiata* Hochst. in Schimp. Pl. Arab. exs. ed. 2, n. 454; Boiss. Fl. Or. ii, (1872) 861; Post Fl. Syr. etc. (1896) 345.

HABITAT: I. Sinai (ex Post); foot of Mt. Sinai (Schimp.!); Jebel Hammam-Sidna-Musa, J. Nakus, Wady es Sle, Wady Hebran, Suez to el Tor (Musch).

DISTRIB.: Egypt, Sinai Peninsula.
Vern. name: *qasûkh, Qazzuh* (Post).
Note: Eaten by amels (Musch.).

7. Petroselinum Benth.

1. P. sativum Hoffgg. Umb. Gen. i, 78; Boiss. Fl. Or. ii, (1872) 857; Defl. Yemen (1889) 225; Post Fl. Syr. etc. (1896) 344.—*Carum Petroselinum* Benth. & Hook. f. Gen. i, 891.

HABITAT: II. Cultivated in Yaman (Defl. !).

DISTRIB.: Cultivated in the Old World.

Vern. name: *Buqdunis* (Post).

8. Ptychotis DC.

1. P. arabica Anders. Fl. Aden. (1860) 21; Blatt. Fl. Aden (1915) 218.

HABITAT: II. Aden (S.! Hook.! Thomson! Defl.! Busse, Birdw.! Perry!).

FL.: Feb. 1851 (Thomson), Mar. 1878 (Perry), Apr. 1861 (Thomson), Dec. 1847 (Hook.).

FR.: Feb. 1851 (Thomson), Mar. 1878 (Perry), Apr. 1861 (Thomson), Dec. 1847 (Hook.).

DISTRIB.: Endemic.

Vern. name: *Kebsere*.

Species dubia.

9. Sison L.

1. S. ammi Forsk. Fl. Aeg.-Arab. (1775) CIX, n. 211.—An Apium sp.?

HABITAT: II. Cultivated in the plains of Yaman (Forsk.).

Vern. name: *Nachu* (Forsk.).

10. Sium L.

1. S. erectum Huds. Fl. Angl. ed. 1, 103.—*Berula angustifolia* Koch Deutschl. Fl. (1840) 433; Boiss. Fl. Or. ii, (1872) 889; Musch. Fl. Eg. ii, (1912) 700.—*S. angustifolium* L. Sp. Pl. ed. 2, 1672.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Europe, Mediterranean region.

2. ? S. latifolium L. Sp. Pl. (1753) 251; Forsk. Fl. Aeg.-Arab. (1775) CIX, n. 210.

HABITAT: II. Mountainous region of Yaman (Forsk.).

DISTRIB.: Europe, N. America.

3. S. Thunbergii DC. Prodr. iv, 125; Oliv. Fl. Trop. Afr. iii, (1877) 13; Defl. Yemen (1889) 141.

HABITAT: II. Near Sanah, 2,300 m. (Defl. 517!).

DISTRIB.: Abyssinia, Arabia, S. Africa.

11. Pimpinella L.

1. P. Anisum L. Sp. Pl. (1753) 264 ; Boiss. Fl. Or. ii, (1872) 866 ; Post. Fl. Syr. etc. (1896) 348 ; Musch. Fl. Eg. ii, (1912) 702.

HABITAT : I. Arabia Petraea (ex Musch.).

DISTRIB. : Cosmopolitan, cultivated.

Vern. name : *Yânsûn* (Post).

2. P. cretica Poir. Suppl. i, 684.

VAR. **arabica** Boiss. Fl. Or. ii, (1872) 866 ; Post Fl. Syr. etc. (1896) 249.—*P. arabica* Boiss. Ann. Sc. Nat. (1844) 130.

HABITAT : I. Sinai (ex Post); Arabia Petraea (Schimp. 281 !); Midian (Burton !).

II. Jiddah (Zohrab 182 ! 231 !).

FL. : July 1835 (Schimp.). FR. : July 1835 (Schimp.).

DISTRIB. : Of species : Mediterranean region.

Note : Eaten by sheep (Burton).

3. P. menachensis Schweinf. MS. in Herb. Kew. (*aff. P. Griffithianae & puberulae*).

HABITAT : II. Manakhah, on walls, 2,200 m. (S. 1405 !).

FL. : Mar. 1889 (S.). FR. : Mar. 1889 (S.).

DISTRIB. : Endemic.

4. P. peregrina L. Mant. 357 ; Boiss. Fl. Or. ii, (1872) 867 ; Defl. Yemen (1889) 141.—*P. hirtella* Rich. Fl. Abyss. i, (1847) 323.—*Tragium hirtellum* Hochst. Herb. Schimp. Abyss. n. 355.

HABITAT : II. Jebel Kabel, near Manakhah, 2,500 m. (Defl. 309 !).

DISTRIB. : Mediterranean region, Abyssinia, Yaman.

5. P. Tragium Vill. Daupl. ii, 606 ; Boiss. Fl. Or. ii, (1872) 871.

HABITAT : III. Coast of Dhofar (Bent 48 !).

DISTRIB. : Mediterranean region.

6. P. sp. in Defl. Yemen (1889) 141.

HABITAT : II. Near Wa'laun, 2,500 m. (Defl. 534).

Species dubia.

P. saxifraga Forsk. Fl. Aeg.-Arab. (1775) CIX, n. 214.

HABITAT : II. Mountainous region of Yaman (Forsk.).

12. Scandix L.

1. S. pinnatifida Vent. Hort. Cels. t. 14 ; Boiss. Fl. Or. ii, (1872) 916. —*S. stellata* Russell Alepp. ii, 249.

HABITAT : I. Mt. Sinai (Schimp. 117 !); Jebel Musa, ca. 1,600m., Jebel 'Arribe ca. 1,700 m., Convent of St. Catherine (Kneuck.).

FR. : Apr. 1835 (Schimp.).

DISTRIB. : Mediterranean region, inner N. Africa.

13. Fœniculum Adans.

1. F. capillaceum Gilib. Flor. Lithuan. iv, (1781) 40.—*F. officinale* All. Ped. ii, 25 ; Boiss. Fl. Or. ii, (1872) 975; Baker in Kew Bull. (1894) 333 ; Post Fl. Syr. etc. (1896) 356.—*Anethum Fœniculum* L. Sp. Pl. (1753) 263 ; Forsk. Fl. Aeg.-Arab. (1775) CIX, n. 213.

HABITAT : II. Cultivated in the mountains of Yaman (Forsk.).

III. Cultivated at Katan, 1,150 ft. (Lunt !).

DISTRIB. : Europe, N. Africa, Arabia, Persia.

Vern. name: *Razainij*, *Shumâr* (Post). *Sekamar* (Forsk.), probably a misprint for *Schamar*.

2. F. piperitum DC. Prodr. iv, 142 ; Boiss. Fl. Or. ii, (1872) 975 ; Post Fl. Syr. etc. (1896) 356.

HABITAT : I. Arabia Petraea (McDonald !).

II. Jiddah (Zohrab 286 !); Manakhah, wild on all terraces, 2,200 m. (S. 1481 !).

FL. : Feb. 1889 (S.). FR. : Feb. 1889 (S.).

DISTRIB. : Mediterranean region.

Vern. name : *Schammar* (S.).

14. Ferula L.

1. F. sinaica Boiss. Diagn. Pl. Or. ser. 1, x, 40 ; Fl. Or. ii, (1872) 987 ; Post Fl. Syr. etc. (1896) 358.

HABITAT : I. St. Catherine (Schimp. 149 !).

FL. : May 1835 (Schimp.). FR. : May 1835 (Schimp.).

DISTRIB. : Egypt, Sinai.

Vern. name : *Shûmar* (Post).

Note : Mt. St Catherine is called Um-shûmar from the large quantities of this species growing there (Post).

15. Peucedanum L.

1. P. areysianum Defl. in Bull. Soc. Bot. France, xlii, 305.

HABITAT : II. Top of Jebel el Areys, 1,200 m. (Defl. 1097 !).

FL. : Apr. 1893 (Defl.). FR. : Apr. 1893 (Defl.).

DISTRIB. : Endemic.

2. P. graveolens Benth. & Hook. f. Gen. Plant. i, 919 ; Oliv. Fl. Trop. Afr. iii, (1877) 19 ; Defl. Yemen (1889) 141.—*Anethum graveolens*

L. ; Forsk. Fl. Aeg.-Arab. (1775) CIX, n. 212 ; Boiss. Fl. Or. ii, (1872) 1026.

HABITAT : II. Near Manakhah, 2,200 m. (Defl. 367); cultivated in the plains of Yaman (Forsk.).

DISTRIB. : S. Europe, E. Mediterranean region, Arabia, Persia.

Vern. name : *Schibt* (Forsk.).

16. Zosimia Hoffm.

1. **Z. absinthifolia** DC. Prodr. iv, 195 ; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, iii, (1835) 257 ; Boiss. Fl. Or. ii, (1872) 1037 ; Post Fl. Syr. etc. (1896) 366.—*Heracleum absinthifolium* Vent. Choix t. 22.

HABITAT : I. Neighbourhood of Mt. Sinai (Bové 123 ! Schimp. 370 !); Sinai (ex Post).

DISTRIB. : Asia Minor, Syria, Arabia, Mesopotamia, Persia, Afghanistan, Baluchistan.

Vern. name : *emmehe* (Bové).

17. Coriandrum L.

1. **C. sativum L.** Sp. Pl. (1753) 256 ; Boiss. Fl. Or. ii, (1872) 920 ; Post Fl. Syr. etc. (1896) 334 ; Musch. Fl. Eg. ii, (1912) 691.

HABITAT : I. Arabia Petraea (ex Boiss.).

II. Wady Fatimah (Schimp. 975 ! Fischer 57 !).

FL. : Feb. (Fischer). FR. : Feb. (Fischer), Feb. 1837 (Schimp.).

DISTRIB. : Mediterranean region, Arabia, cultivated and run wild.

Vern. name : *Kuzbarah* (Post).

18. Daucus L.

1. **D. Broteri** Ten. Syll. Pl. (1831) 591 ; Boiss. Fl. Or. ii, (1872) 1073 ; Post. Fl. Syr. etc. (1896) 371 ; Musch. Fl. Eg. ii, (1912) 711.

HABITAT : I. Sinai (ex Musch.).

DISTRIB. : Mediterranean region.

2. **D. carota** L. Sp. Pl. (1753) 242 ; Forsk. Fl. Aeg.-Arab. (1775) CIX, n. 209 ; Boiss. Fl. Or. ii, (1872) 1076 ; Defl. Yemen (1889) 142.

HABITAT : II. Upper mountainous regions of Yaman (Forsk.); near Lahaj (Defl.).

DISTRIB. : Europe, Oriens.

Vern. name : *Djissar* (Forsk.), *Jezar* (Post).

3. **D. litoralis** Sibth. & Smith Fl. Graec. iii, 65 sub 272 ; Boiss. Fl. Or. ii, (1872) 1074. VAR. **Forskalei** Boiss. l. c. ; Post Fl. Syr. etc. (1896) 371.—*Caucalis glabra* Forsk. Fl. Aeg.-Arab. (1775) 206.

HABITAT : I. Et Tih (ex Post).
DISTRIB. : Of var. : Egypt, Arabia Petraea, Syria.

4. D. Yemensis Defl. Yemen (1889) 142.
HABITAT : II. Near Kaukaban, 2,900 m. (Defl. 628 !).
DISTRIB. : Endemic.

19. Orlaya Hoffm.

1. O. maritima Koch Gen. Umbell. (1824) 79 ; Boiss. Fl. Or. ii, (1872) 1071 ; Post Fl. Syr. etc. (1896) 370 ; Musch. Fl. Eg. ii, (1912) 710.
HABITAT : I. Arabia Petraea (ex Musch.).
DISTRIB. : Mediterranean region.

20. Caucalis L.

1. C. melanantha Benth. & Hook. f. Gen. Plant. i, 929 ; Oliv. Fl. Trop. Afr. iii, (1877) 26 ; Defl. Yemen (1889) 142.—*Daucus melananthos* Steud. in Herb. Schimp. Abyss. sec. II, n. 1145.—*Agrocharis melanantha* Hochst. in Flora (1844) 19.
HABITAT : II. Near Manakhah, alt. 2,500-2,900 m. (S. 1443 !).
FL. : Feb. 1889 (S.). FR. : Feb. 1889 (S.).
DISTRIB. : Upper Guinea, Abyssinia, Yaman.

2. C. Stocksiana Boiss. Diagn. Pl. Or. ser. 2, vi, 89 ; Fl. Or. ii, (1872) 1086.
HABITAT : IV. Masqat (Auch.-Eloy 4562 !).
DISTRIB. : Arabia, Persia, Baluchistan.

3. C. tenella Del. Illustr. Fl. d' Eg. (1813) 58, t. 21, f. 3 ; Boiss. Fl. Or. ii, (1872) 1084 ; Post Fl. Syr. etc. (1896) 375 ; Musch. Fl. Eg. ii, (1912) 715.
HABITAT : I. Arabia Petraea (ex Musch.).
DISTRIB. : Mediterranean region, Persia.

LII. CAPRIFOLIACEAE.

1. Sambucus L.

1. S. nigra L. Sp. Pl. (1753) 269 ; Boiss. Fl. Or. iii, (1875) 3 ; Post Fl. Syr. etc. (1896) 378 ; Musch. Fl. Eg. ii, (1912) 925.
HABITAT : I. Arabia Petraea (ex Musch.).
DISTRIB. : Central and S. Europe to Caucasus, widely cultivated.
Vern. name : *bailasân, balasan* (Post).
Note : A tea, made of the blossoms, is used as a sudorific drink in fever (Post).

2. Lonicera L.

1. **L. Aucheri** Jaub. & Sp. Ill. Pl. Or. i, 137, t. 73 ; Boiss. Fl. Or. iii, (1875) 6.

HABITAT : IV. J. Akhdar (Auch.-Eloy 4640 !).

DISTRIB. : Arabia, Persia.

LIII. RUBIACEAE.

1. Adina Salisb.

1. **A. microcephala** Hiern in Oliv. Fl. Trop. Afr. iii, (1877) 40 ; Havil. in Journ. Linn. Soc. Bot. xxxiii, (1897) 42.—*A. Galpini* Oliv. in Hook. Ic. Pl. t. 2386.—*A. spathellifera* Oliv. l. c.—*A. lasiantha* K. Schum. in Engl. Pfl. Ost. Afr., C. p. 378.—*Cephalanthus spathelliferus* Baker in Journ. Bot. (1882) 137.—*C. verticillatum* Boivin, fide Baill. in Adans. xii, 314.—*Nauclea microcephala* Del. Cantor. P. Mer. 67 n. 54 (1826).—*N. microcephala* DC. Prodr. v, 345.—*N. verticillata* Baill. in Adans. xii, 341 ; Defl. Yemen, 142.

HABITAT : Yaman : Wady Hawayat near Hajeilah, 600 m. (Defl. 186 !); in the mountains (Botta).

DISTRIB. : Africa, Nubia, Dar-Fertit, Angola, Mossamedes, Nyassaland, Shiré Highlands, Swaziland, Madagascar, Arabia.

Note : The wood is hard and said to resemble teak (Haviland).

2. Wendlandia Bartl.

1. **W ? arabica** Defl. in Bull. Soc. Bot. France, xliii, (1896) 104.

HABITAT : II. Jebel Reyami (Defl. 559).

FL. : May (Defl.).

DISTRIB. : Endemic.

3. Pentas Benth. & Hook.

1. **P. carnea** Benth. in Bot. Mag. t. 4086 (1844) ; Hiern. in Oliv. Fl. Trop. Afr. iii, (1877) 46.—*Sipanea carnea* Hort. ex Hook. in Bot. Mag. l. c.—*Mussaenda luteola* Hochst. in Herb. Schimp. Abyss. iii, n. 1917 ; DC. Prodr. iv, 371, syn. sub. n. 9. (1830), *non Del.*—*Ophiorrhiza lanceolata* Forsk. Fl. Aeg.-Arab. (1775) CVI, n. 117 and p. 42, n. 39.—*Manettia lanceolata* Vahl Symb. i, 12 (1790).—*Neurocarpaea lanceolata* Br. in Salt Abyss. App. iv, p. LXIV, (1814).—*Vignaldia Quartiniana* A. Rich. Fl. Abyss. i, 357.—*P. Quartiniana* Oliv. in Trans. Linn. Soc. Lond. xxix, (1873) 82, t. 46.— *P. lanceolata* Defl. Yemen (1889) 142.—*Pentanisia nervosa, P. cymosa, P. suffruticosa* Klotzsch in Peters Mossamb. 287-288.—*Pentas Klotzschii* Vatke in Oesterr. Bot. Zeitschr. xxv, (1875) 232.

HABITAT : II. Yaman : Along the roads in the neighbourhood of Manakhah, 2,200-2,400 m. (Defl. 330, 337 !); in the mountains near Hadiyah (Forsk.).

DISTRIB. : Africa : Abyssinia, Somaliland, Angola, Kilimanjaro, Zanzibar Island, Comoro Islands, Arabia.

Vern. name : *La'ja* (S.).

Note : For medical uses see Forsk. l. c.

2. **P. Schweinfurthii** Scott Elliot Journ. Linn. Soc. xxxii, 432.

HABITAT : II. Manakhah, 2,200-2,500 m. (S. 1370 !); in an elevated valley of Hijaz (Figari ex Scott Elliot); neighbourhood of Aden (Hunter 4! 20! 8! 258 !).

FL. : Mar. 1889 (S.). FR. : Mar. 1889 (S.).

DISTRIB. : Endemic.

Vern. name : Fuch (S.).

4. Oldenlandia L.

1. **O. hedyotoides** Boiss. Fl. Or. iii, (1875) 11 ; Musch. Fl. Eg. ii, (1912) 917.—*Theyodis octodon* A. Rich. Fl. Abyss. i, (1847) 364.

HABITAT : I. Arabia Petraea (ex Musch.).

DISTRIB. : Abyssinia, Sennaar, Kordofan, Nubia, Egypt.

2. **O. retrorsa** Boiss. Fl. Or. iii, (1875) 12.

HABITAT : IV. Masqat (Auch.-Eloy 4678 !).

DISTRIB. : Arabia, Sind.

3. **O. Schimperi** Anders. Fl. Aden. (1860) 21 ; Boiss. Fl. Or. iii, (1875) 11 ; Oliv. Fl. Trop. Afr. iii, (1877) 55 ; Baker in Kew Bull. (1894) 333 ; Blatt. Fl. Aden (1915) 220.—*Kohautia caespitosa* Schnizlein in Flora, xxv, Beibl. I, No. 10, p. 145.—*K. Schimperi* Hochst. et Steud. in Schimp. Pl. Abyss. No. 879.—*Hedyotis Schimperi* Presl. in Dredge Pl. Cap. exsicc., and Bot. Bem. (1844) 85 ; Kotschy in Sitzb. Kais. Akad. Wiss. lii, (1866) 7.—*H. spec. inc.* Edgew. Journ. As. Soc. Beng. xvi, 1216.—*K. arabica* Hochst.—*O. retrorsa* Boiss. l. c. 12.

HABITAT : I. In the granite region of Wady Hebran (Schimp. 186! 358 !); Sinai (Auch.-Eloy 657 !); Wady es Sle and Plain Raha (Kneuck.).

II. Jiddah (Schimp. 879 ! Fischer 45 ! Zohrab 65 ! 93 ! 221 !); Jebel Bura, 1,000 m. (S. 502 !); Yaman (Ehrenb. !); Aden (Thoms.! Madden ! Hook. 71 ! S. 23 ! Perry ! Balfour ! Anders. ! Edgew. ! Birdw. ! Ellenb.).

III. Hadramaut : Between Ghafit and Sideh 600 ft. (Lunt 82 !); Dhofar Mts. (Bent 146 !).

Fl.: Feb. 1869 (Lord), Mar. 1878 (Perry), Apr. 1861 (Thomson), Oct.—Feb. 1837 (Fischer), Nov. 1888 (S.), Nov. 1835 (Schimp.).

Fr.: Jan. 1889 (S.), Feb. 1851 (Thomson), Mar. 1878 (Perry), Apr. 1835 (Schimp.), Nov. 1835 (Schimp.), Dec. 1847 (Hook.), Dec. 1893 (Lunt).

Distrib.: Nubia, Abyssinia, Kordofan, Kilimandjaro, Zanzibar, Socotra, Arabia, Baluchistan, Sind.

4. **O. stricta** L. Mant. (1781) 200; Hook. Fl. Brit. Ind. iii, 68; Trim. Fl. Ceyl. ii, 316; O. Kuntze Rev. Gen. Pl. i, 292.—*Hedyotis maritima* Wall. Cat. 6142 (*partim*); Moon Cat. 10; Thw. Enum. 144.—*H. graminifolia* Linn. f. Suppl. i, 119.—*O. graminifolia* DC. Prodr. iv, 425.

Habitat: II. Aden (Kuntze).

Distrib.: Aden, S. India, Ceylon.

5. Pavetta L.

1. **P. longiflora** Vahl Symb. iii, (1794) 12; Defl. Yemen (1889) 142.—*Ixora occidentalis* Forsk. Fl. Aeg.-Arab. (1775) CV, n. 90.

Habitat: II. In valleys near Taez, 1,200-1,300 m. (Defl. 675, 684); Taez (Forsk.); Hille at foot of Jebel Bura (S. 715, 344!); Wulej at the foot of Jebel Milhan (S.); foot of Jebel el Aslah (Defl. 614!).

III. Ras Shirwen (Hirsch 122).

Fl.: Apr. 1890 (Defl.).

Fr.: Jan. 1889 (S.).

Distrib.: Endemic.

Vern. name: *schuaf* (Forsk.), *charfisch* (Hirsch), *Ghorejeò*, *Schüiss*, *Sserr* (S.).

2. **P. villosa** Vahl Symb. iii, 12 (*non Heyne*!); Defl. Yemen (1889) 143.

Habitat: II. Ad fauces montis Masar prope Attara, alt. 2,000 m. (Defl. 414!); Hille, Manakhah, Wasil, Wulej (S.!); Wulej, Jebel Milhan (S. 668!); Yaman (Forsk. ex Vahl).

Fr.: Jan. 1889 (S.).

Distrib.: Endemic.

Vern. name: *Bunn-el-baqar*, *Bunn-er-robach*, *Fassele*, *Hharmal*, *Sser*, *Ssar*, *Ssorä'r*, *Ssorrer* (S.).

6. Coffea L.

1. **C. arabica** L. Sp. Pl. (1753) 172; Forsk. Fl. Aeg.-Arab. (1775) CVI, n. 128; Defl. Yemen (1889) 143; Sadebeck. in Jahrb. Hambourg Wiss. Anstalt, XIV (1896) Beih. III, 89.—*C. laurifolia* Salisb. Prodr. Stirp. Hort. Chapel Allert. 62 (1796) *non H. B. & K.*

HABITAT : II. Cultivated near Attara and in the mountains of Yaman throughout, 1,000-2,200 m. (Defl. 400 !); Manakhah, cultivated (S. 1616 !); neighbourhood of Aden (Hunter 198 !).

FL. : Feb. 1889 (S.).

FR. : Feb. 1889 (S.).

DISTRIB. : Africa : Upper Guinea, Abyssinia, Angola, Mozambique Coast.

Vern. name : *Bunn* (Forsk., S.).

7. Psychotria L.

1. **P. ? arabica** Kotschy in Sitzb. Kais. Akad. Wiss. lii, (1866) 7, t. 2.

HABITAT : II. Mountainous region between Asir and Yaman (ex Kotschy).

Note : Non vidi specimen. An Pentas carnea ?

8. Anthospermum L.

1. **A. hirtum** ? Cruse Rub. Cap. 11.—*A. hirsutum* DC. Prodr. iv, 580; Defl. Yemen (1889) 145.

HABITAT : II. Yaman : in the mountains (Botta ex Defl.).

DISTRIB. : S. Africa, Yaman ?

Note : Plant not seen.

2. **A. muriculatum** Hochst. in Herb. Schimp. Abyss. ii, n. 732 ; A. Rich. Fl. Abyss. i, (1847) 345 ; Oliv. Fl. Trop. Afr. iii, (1877) 229 ; Defl. Yemen (1889) 145.

HABITAT : II. Yaman : Ravines of Jebel Shibam 2,400-2,600 m. (Defl. 345); Jebel Shibam, Manakhah (S. 1427 !).

FL. : Feb. 1889 (S.).

DISTRIB. : Abyssinia, Adoa, Eritrea, Yaman.

9. Gaillonia A. Rich.

1. **G. Aucheri** Jaub. & Sp. Ill. Pl. Or. i, 140 ; Boiss. Fl. Or. iii, (1875) 16.—*Jaubertia Aucheri* Guill. Ann. Sc. Nat. ser. 2, xv, 60.

HABITAT : IV. Masqat (Auch.-Eloy 4680 !).

DISTRIB. : Arabia, Afghanistan, Baluchistan.

2. **G. calycoptera** Jaub. & Sp. Ill. Pl. Or. i, 147, t. 80 ; Boiss. Fl. Or. iii, (1875) 15 ; Oliv. Fl. Trop. Afr. iii, (1877) 232 ; Musch. Fl. Eg. ii, (1912) 918.—*Spermacocce calyptera* Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, ii, (1834) 267.

HABITAT : I. Arabia Petraea : Garnabi (Schimp. 360 !); Sinai (Auch.-Eloy 656 ! Bové 208 ! Botta).

Fl. : June 1835 (Schimp.).

Distrib. : Nubia, Egypt, Arabia Petraea.

Vern. name : *Hedene* (Bové).

3. **G. hymenostephana** Jaub. & Sp. Ill. Pl. Or. i, 146, t. 79 ; Boiss. Fl. Or. iii, (1875) 15.—*G. humifusa* Jaub. & Sp. l. c. 139.

Habitat : IV. Masqat (Auch.-Eloy 4677 !).

Distrib. : Arabia, Baluchistan.

10. Callipeltis Stev.

1. **C. aperta** Boiss. & Buhse Aufzähl. (1856) 110 ; Fl. Or. iii, (1875) 84; DC. Prodr. v, 671 ; Post Fl. Syr. etc. (1896) 382 ; Musch. Fl. Eg. ii, (1912) 919.

Habitat : I. Wady Feiran, W. Gennah and neighbourhood (Lord !) ; Et Tih (ex Post); cultivated ground of Sinai (Bové 212 !); Mt. Sinai (Schimp. 232 !); Arabia Petraea (Mc Donald !); Central Midian (Burton !).

Fl. : Mar. 1877 (S.), Apr. 1835 (Schimp.), June 1832 (Bové), May 1868 (Lord).

Fr. : May 1868 (Lord).

Distrib. : Egypt, Arabia Petraea, Persia.

Vern. name : *Eichrik* (Bové).

Note : Eaten by cattle (Burton).

2. **C. cucullaria** Stev. in Mém. Soc. Nat. Mosc. vii, (1829) 275 ; DC. Prodr. iv, 613 ; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, ii, (1834) 270 ; Boiss. Fl. Or. iii, (1875) 83 ; Kneuck. in Allg. Bot. Zeitsch. ix, (1903) 147.—*Valantia cucullaria* L. Amoen. iv, 295.

Habitat : I. Cultivated ground of Mt. Sinai (Bové 212 ! Schimp. ! Boiss. !); Plain of Raha (Kneuck.).

Distrib. : Mediterranean region and Orient.

Vern. name : *eichrick* (Bové).

11. Rubia L.

1. **R. tinctorum** L. Sp. Pl. i, (1753) 109 ; Forsk. Fl. Aeg.-Arab. (1775) CV, n. 89 ; Boiss. Fl. Or. iii, (1875) 17 ; Reichb. Ic. XVII, t. 133, f. I—II ; Musch. Fl. Eg. ii, (1912) 919.

Habitat : I. Arabia Petraea (ex Musch.).

II. Mountainous region of Yaman, cult. (Forsk.).

Distrib. : Italy, Greece, Asia Minor, Arabia, Syria, Persia. Naturalized everywhere in the Mediterranean region.

Vern. name : *Fua* (Forsk.), *Fûwwah* (Post).

12. Galium L.

1. **G. aparine** L. Sp. Pl. (1753) 108; Oliv. Fl. Trop. Afr. iii, (1877) 245; Post Fl. Syr. etc. (1896) 386.

HABITAT: I. Arabia Petraea (ex Post).

DISTRIB.: N. temperate region, Syria, Palestine, Arabia Petraea, Abyssinia.

Vern. name: *dibbaiqah* (Post).

VAR. **hamatum** Hiern. in Oliv. Fl. Trop. Afr. iii, (1877) 246; Defl. Yemen (1889) 145.—*G. hamatum* Hochst. in Herb. Schimp. Abyss. ii, n. 675 (1842); A. Rich. Pl. Abyss. i, 345.

HABITAT: II. Jebel Kahil near Manakhah, 2,400 m. (Defl. 322!).

DISTRIB.: Abyssinia, Yaman.

2. **G. aparinoides** Forsk. Fl. Aeg.-Arab. (1775) CV, n. 87 and p. 30; Schweinf. Arab. Pflanzennamen (1912) 114.

HABITAT: II. Hadiyah (Forsk.).

DISTRIB.: Endemic.

Vern. name: *Schobodh bodha, schebette, Meschaerrcha* (Forsk.).

3. **G. ceratopodum** Boiss. Diagn. Pl. Or. ser. 1, iii, 45; Fl. Or. iii, (1875) 68.

HABITAT: IV. Masqat (Auch.-Eloy 4657!).

DISTRIB.: Arabia, Persia.

4. **G. Decaisnei** Boiss. Diagn. Pl. Or. ser 1, vi, 69; Fl. Or. iii, (1875) 77; Post Fl. Syr. etc. (1896) 389.—*G. capillare* Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, ii, (1834) 269.

HABITAT: I. On rocks of Sinai (Bové 126!); Wady Feiran (Lord!); Wady Gennah and neighbourhood (Lord!); Mt. Sinai (Schimp. 235!); Wady Aleyat (Kneuck.); Central Midian (Burton!).

IV. Masqat (Auch.-Eloy 4660!).

FL.: May 1835 (Schimp.), May 1868 (Lord), June 1832 (Bové).

FR.: May 1835 (Schimp.), May 1868 (Lord), June 1832 (Bové).

DISTRIB.: Nubia, Arabia, Palestine, Syria, Persia.

Vern. name: *Bissensey* (Bové).

5. **G. Hierosolymitanum** L. Amoen. Acad. iv, 451; Post Fl. Syr. etc. (1896) 388.

HABITAT: I. Arabia Petraea (ex Post).

DISTRIB.: Arabia Petraea, Palestine, Syria.

6. G. kahelianum Defl. Yemen (1889) 145.

HABITAT: II. Jebel Kahel near Manakhah, 2,400—2,600 m. (Defl. 281, 364!); near Manakhah (S. 1397!).

DISTRIB.: Endemic.

7. G. murale All. Flor. Pedem. i, (1785) 8, t. 77, f. 1; Boiss. Fl. Or. iii, (1875) 78; Musch. Fl. Eg. ii, (1912) 922.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Mediterranean region.

8. G. nigricans Boiss. Diagn. Pl. Or. ser. 1, fasc. iii, (1849) 48.

VAR. **brachychaetum** Boiss. Fl. Or. iii, (1875) 74; Musch. Fl. Eg. ii, (1912) 921.

HABITAT: I. Arabia Petraea: Near Nachl (Kotschy 510!).

DISTRIB.: Egypt, Arabia Petraea, Palestine, Syria.

9. G. sinaicum Boiss. Fl. Or. iii, (1875) 63; Post Fl. Syr. etc. (1896) 385; Kneuck. in Allg. Bot. Zeitsch. ix, (1903) 147.—*Asperula sinaica* Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, ii, (1834) 268.

HABITAT: I. Mt. Sinai (Bové 127! Ehrenb.! Auch.-Eloy 724! Schimp. 112! Boiss.); Convent of St. Catherine, Plain of Raha (Kneuck.).

FL.: May (ex Boiss.).

DISTRIB.: Endemic.

Vern. name: *bissensey* (Bové).

10. G. spurium L. Sp. Pl. i, (1753) 154; Boiss. Fl. Or. iii, (1875) 69; Musch. Fl. Eg. ii, (1912) 921.—VAR. **tenerum** Gr. et Godr.; Boiss. l. c.—*G. aparinoides* C. Koch in Linnaea, xvii, 33; Aschers.-Schweinf. Ill. Fl. d' Eg. Suppl. 759.—*G. tenerum* Gaud. Helv. i, 442; Kneuck. in Allg. Bot. Zeitsch. ix, (1903) 147.

HABITAT: I. Sinai (Schimp. 106! Boiss.); Mt. Catherine 1,850—1,900 m. (Kneuck.); Arabia Petraea (ex Musch.).

DISTRIB.: Greece, Egypt, Arabia Petraea, Syria, Persia.

11. G. tricorne With. Bot. Arrang. ed. 2, i, (1787-1793) 153; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, ii, (1834) 270; Boiss. Fl. Or. iii, (1875) 67; Post Fl. Syr. etc. (1896) 386.

HABITAT: I. Mt. Sinai (Bové 128!); Arabia Petraea (ex Post).

DISTRIB.: Europe, N. Africa, Arabia, Palestine, Mesopotamia, Persia, Afghanistan, Baluchistan.

Vern. name: *Silesle* (Bové), *dibbaigah* (Post).

12. **G. yemense** Kotschy Sitzb. Kais. Akad. Wiss. lii, (1866) 257.
HABITAT: II. Yaman: Neighbourhood of el Areys (ex Kotschy).
DISTRIB.: Endemic.

13. Crucianella L.

1. **C. ciliata** Lam. Dict. ii, 217; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, ii, (1834) 268; Boiss. Fl. Or. iii, (1875) 23; Post Fl. Syr. etc. (1896) 393.
HABITAT: I. Mt. Sinai (Schimp.! Bové!).
DISTRIB.: Arabia Petraea, Syria.

VAR. **hispidula** Boiss. l. c. 24; Post. l. c. 394.—*C. hispidula* Dcne. l. c. 269.
HABITAT: Mt. Catherine (Schimp. 156!); near Mt. Sinai (Bové 129!); Central Midian (Burton!).
FL.: May 1835 (Schimp.). FR.: June 1832 (Bové).
DISTRIB.: Of var.: Endemic.

2. **C. maritima** L. Sp. Pl. (1753) 109; Forsk. Fl. Aeg.-Arab. (1775) LXI, n. 90; Boiss. Fl. Or. iii, (1875) 24; Post Fl. Syr. etc. (1896) 394.
HABITAT: I. Arabia Petraea (ex Post).
DISTRIB.: Mediterranean region.

3. **C. membranacea** Boiss. Diagn. Pl. Or. ser. 1, fasc. 3, (1849) 27; Fl. Or. iii, (1875) 23; Post Fl. Syr. etc. (1896) 393; Musch. Fl. Eg. ii, (1912) 923.
HABITAT: I. Wady Sewook and neighbourhood (Lord!); Mt. Sinai, on rocks (Schimp. 139!); Et Tih and southwards (ex Post); lower Wady es Shaikh (Kneuck.).
FL.: Apr. 1868 (Lord).
DISTRIB.: Egypt, Arabia Petraea, Palestine, Syria.

14. Sherardia L.

1. **S. arvensis** L. Sp. Pl. (1753) 102; Boiss. Fl. Or. iii, (1875) 19; Post Fl. Syr. etc. (1896) 394.
HABITAT: I. Arabia Petraea (ex Post).
DISTRIB.: Europe, Mediterranean region.

15. Randia Houst.

1. **R. sp.** ex Carter in Rec. Bot. Surv. Ind. vi, (1917) 202.
HABITAT: IV. Kuwait (Cox).

LIV. VALERIANACEAE.

1. Valerianella Mœnch.

1. **V. coronata** DC. Fl. Fr. iv, 241; Boiss. Fl. Or. iii, (1875) 110; Post Fl. Syr. etc. (1896) 398.

HABITAT: I. Arabia Petraea (ex Post).

DISTRIB.: Europe, Mediterranean region, Transcaucasus, Persia.

2. **V. Szovitsiana** F. et M. Ind. Hort. Petrop. iii, (1823) 48; Boiss. Fl. Or. iii, (1875) 101; Post Fl. Syr. etc. (1896) 396.—*V. Aucheri* Boiss. Diagn. Pl. Or. ser. 1, iii, 58.

HABITAT: I. Sinai (Schimp. 451 !); Et Tih (ex Post).

DISTRIB.: Mediterranean region, Persia, Afghanistan.

3. **V. vesicaria** Mœnch Meth. 493; Boiss. Fl. Or. iii, (1875) 112; Post Fl. Syr. etc. (1896) 398.

HABITAT: I. Arabia Petraea (ex Post).

DISTRIB.: Mediterranean region, Persia.

LV. DIPSACEÆ.

1. Cephalaria Schrad.

1. **C. syriaca** Schrad. Cat. Sem. Goett. (1814) 316; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, ii, (1834) 266; Boiss. Fl. Or. iii, (1875) 120; Post Fl. Syr. etc. (1896) 400.

HABITAT: I. Arabia Petraea (Boiss. !); cultivated ground of Sinai (Bové !).

Arabia (ubi ?) (Kotschy !).

FL.: Apr. 1846 (Boiss.), June (Ehrenb.).

FR.: Apr. 1846 (Boiss.), June (Ehrenb.).

DISTRIB.: Mediterranean region, Mesopotamia, Persia, Baluchistan, Afghanistan.

VAR. **sesselis** Post l. c.

HABITAT: Bishere (Ehrenb. !).

FL.: July (Ehrenb.). FR.: July (Ehrenb.).

2. Scabiosa L.

1. **S. arabica** nov. comb.—*Pterocephalus arabicus* Boiss. Diagn. Pl. Or. ser. 1, x, 78; Fl. Or. iii, (1875) 152; Post Fl. Syr. etc. (1896) 404.

HABITAT : I. Tih escarpment (ex Post); Jebel et Tih below Rakineh, 4,000 ft. (Boiss. !).

FL. : May (Boiss.).

DISTRIB. : Endemic.

2. **S. arenaria** Forsk. Fl. Aeg.-Arab. (1775) LXI, n. 89 ; Boiss. Fl. Or. iii, (1875) 135 ; Post Fl. Syr. etc. (1896) 402 ; Musch. Fl. Eg. ii, (1912) 931.—*S. rhizantha* Viv. Fl. Libyc. 6, t. 3. f. 1, (1824).—*Asterocephalus arenarius* Vis. Pl. Aegypt. 6, t. 1, f. 1 (1836).—*S. leptopoda* Boiss. Diagn. Pl. Or. ser. 1, x, 78.

HABITAT : I. Borders of et Tih and southwards (ex Post); Arabia Petraea (Boiss. !).

DISTRIB. : Tunisia, Algeria, Egypt, Arabia Petraea.

3. **S. Aucheri** Boiss. Diagn. Pl. Or. ser. 1, fasc. 2, (1849) 111; Fl. Or. iii, (1875) 145 ; Post Fl. Syr. etc. (1896) 404 ; Musch. Fl. Eg. ii, (1912) 932.

HABITAT : I. Arabia Petraea (ex Musch.).

DISTRIB. : Egypt, Arabia Petraea, Syria.

4. **S. columbaria** L. Sp. Pl. (1753) 99 ; DC. Prodr. iv, 658 ; Boiss. Fl. Or. iii, (1875) 131 ; Oliv. Fl. Trop. Afr. iii, (1877) 252 ; Defl. Yemen (1889) 146.

HABITAT : II. Jebel Kahel near Manakhah, 2,500 m. (Defl. 306) ; Manakhah, 2,300-2,600 m. (S. 1374 !).

FL. : Feb. 1889 (S.).

DISTRIB. : Abyssinia, Lower Guinea, widley scattered over Europe and the East.

Vern. name : *Gusar-ar-rā'yä, Ward el hammam* (S.).

5. **S. eremophila** Boiss. Diagn. Pl. Or. ser. 1, fasc. x, (1849) 79 ; Fl. Or. iii, (1875) 135 ; Post Fl. Syr. etc. (1896) 402 ; Musch. Fl. Eg. ii, (1912) 931.

HABITAT : I. Borders of Et-Tih and southwards (ex Post); plain of Ramleh at foot of Jebel Tih (Boiss.).

DISTRIB. : Egypt, Arabia Petraea.

6. **S. frutescens** Hiern in Oliv. Fl. Trop. Afr. iii, (1877) 252.—*Pterocephalus frutescens* Hochst. in Herb. Schimp. Abyss. i, n. 235 ; A. Rich. Fl. Abyss. i, (1847) 369.—*P. Quartinianus* A. Rich. l. c.

VAR. **pumila** Defl. Yemen 146.

HABITAT : II. Yaman : Ravines of Jebel Hadhur near Yazil and Suq el-Khamiss, 2,400—2,800 m. (Defl. 569 ! 577 !).

DISTRIB. : Of species : Abyssinia, Eritrea, Somaliland, Yaman.

7. **S. Olivieri** Coult. Dips. 36, t. 2, f. 10 ; Boiss. Fl. Or. iii, (1875) 141 ; Post Fl. Syr. etc. (1896) 403.

HABITAT : I. Deserts of Arabia Petraea (Schimp. 364!); Et-Tih (ex Post).

DISTRIB. : Arabia Petraea, Mesopotamia, Persia, Afghanistan, Baluchistan.

8. **S. palaestina** Linn. Mant. 37 ; Del. Frag. Fl. Arab. Petr. (1833) n. 48 ; Boiss. Fl. Or. iii, (1875) 144 ; Post Fl. Syr. etc. (1896) 403.

HABITAT : I. Arabia Petraea (De Laborde).

DISTRIB. : Asia Minor, Arabia Petraea, Palestine, Syria, Mesopotamia, Persia.

9. **S. papposa** L. Sp. Pl. (1753) 101.—*S. involucrata* Sibth. et Sm. Prodr. i, (1806) 84 et Fl. Graec. ii, 11, t. 112.—*Pterocephalus papposus* Coult. Mém. Dips. 32 (1823).—*P. papposus* Hal. Consp. Fl. Graec. i, (1901) 762 ; Musch. Fl. Eg. ii, (1912) 930.—*P. involucratus* Spreug. Syst. i, (1825) 384 ; Boiss. Fl. Or. iii, (1875) 148.—*P. brevis* Coult. Mém. Dips. 32 (1823).—*P. Coulteri* Boiss. Diagn. Pl. Or. ser. 1, x, (1849) 77.

HABITAT : I. Desert Et-Tih (Boiss. !).

DISTRIB. : Greece, Creta, Egypt, Arabia Petraea, Palestine, Syria, Cyprus, Mesopotamia, Persia.

10. **S. plumosa** Sibth. Fl. Graec. ii, 11, t. 3.—*Pterocephalus plumosus* Coult. Dips. 31, t. 1, f. 15 ; Boiss. Fl. Or. iii, (1875) 147 ; Post Fl. Syr. etc. (1896) 404.

HABITAT : I. Arabia Petraea (ex Post).
II. Yaman (Ehrenb.).

DISTRIB. : Mediterranean region, Mesopotamia, Persia.

11. **S. sancta** nov. comb.—*Pterocephalus sanctus* Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, ii, (1834) 266 ; Boiss. Fl. Or. iii, (1875) 150 ; Post Fl. Syr. etc. (1896) 404.

HABITAT : I. Desert of Sinai (Bové 121 ! Ehrenb. !); Arabia Petraea (Schimp. 389 !); Mt. Catherine (Boiss. !).

FL. : June 1835 (Schimp.). FR. : June 1835 (Schimp.).

DISTRIB. : Endemic.

Vern. name : *Samma* (Bové).

12. **S. rotata** Bieb. Fl. Taur. Cauc. iii, 102 ! Boiss. Fl. Or. iii, (1875) 145 ; Carter in Rec. Bot. Surv. Ind. vi, (1917) 202.

HABITAT : IV. Zor Hills (Cox 11).
DISTRIB. : Southern Persia and Caucasia.
Vern. name : *Tarbah* (Cox).

LVI. COMPOSITAE.

1. Vernonia Schreb.

1. **V. abyssinica** Sch.-Bip. ex Hochst. in Flora, xxiv, Intell. I, 26; Oliv. Fl. Trop. Afr. iii, (1877) 288; Defl. Yemen (1889) 147.—*V. polymorpha* Vatke in Linnaea, xxxix, (1875) 476.

HABITAT : II. Wasil, 1,200 m. (S. 1173 !); near Mefhak, 1,800 m. (Defl. 604).

FL. : Feb. 1889 (S.). FR. : Feb. 1889 (S.).

DISTRIB. : Abyssinia, Eritrea, Yaman.

Note : The leaves are used as an efficacious purgative (Steudner).

2. **V. areysiana** Defl. in Bull. Soc. Bot. France, xliii, (1896) 194.
HABITAT : II. Jebel el Areys near Serrya (Defl. 987 !).
FL. : Apr. 1893 (Defl.). FR. : Apr. 1893 (Defl.).
DISTRIB. : Endemic.

3. **V. atriplicifolia** Jaub. & Sp. Ill. Pl. Or. iv, 94, t. 359 : Anders. Fl. Aden. (1860) 21 ; Boiss. Fl. Or. iii, (1875) 154 ; Oliv. Fl. Trop. Afr. iii, (1877) 270; Blatt. Fl. Aden (1915) 222.—*V. spathulata* Sch.-Bip. ex Aschers. in Schweinf. Beitr. Fl. Aethiop. 162 (*non Hochst.*).—*V. arabica* Dcne. ex Boiss. l. c.—*Chrysocoma spathulata* Forsk. Fl. Aeg.-Arab. (1775) CXIX, n. 487 and p. 147.

HABITAT : II. Yaman (ex Boiss.); Taez (Forsk.); Aden (Thomson 94! Wiesner ! Hook. f. 74! S. 9! 10 ! Balfour ! Perry ! Birdw. ! Anders. ! Defl. ! Edgew. !).

III. Hadramaut (Hirsch 6); Dhofar coast (Bent 51 !); Merbat (Bent 3 !).

IV. Masqat : J. Akhadhar (Auch.-Eloy 4791 !); in rocky places of Masqat (Bornm. 396 !).

FL. : Mar. 1878 (Perry).

FR. : Jan. 1872 (Thomson), Jan. 1893 (Bornm.), Feb. 1857 (Thomson), Mar. 1878 (Perry), Mar. 1881 (S.), Apr. 1861 (Thomson), Nov. 1888 (S.), Dec. 1847 (Hook.).

DISTRIB. : Nile Land, Somaliland, Arabia.

4. **V. Bottae** Jaub. & Sp. Ill. Pl. Or. t. 358.
HABITAT : II. Yaman (Botta).
DISTRIB. : Endemic.

5. **V. cinerascens** Sch.-Bip. in Schweinf. Fl. Aethiop. 162 ; Oliv. Fl. Trop. Afr. iii, (1877) 275 ; Defl. Yemen (1889) 146.—*V. spathulata* Hochst. in Herb. Schimp. Abyss. (1854) 2133 (*non Schultz*).

HABITAT : II. Near Hajeilah, 600 m. (Defl. 117); neighbourhood of Aden (Hunter 142 !).

DISTRIB. : Abyssinia, Eritrea, Arabia, N. W. India.

6. **V. cinerea** Less. in Linnaea (1829) 291 ; DC. Prodr. v, (1836) 24 ; Oliv. Fl. Trop. Afr. iii, (1877) 275 ; Defl. Yemen (1889) 147 ; Baker in Kew Bull. (1894) 333.

HABITAT : II. Wady Djara (Ehrenb. !); Wady Fatimah (Fischer 32 !) ; Jiddah (Zohrab 260 !).

III. Dhofar Mts. (Bent 233 !); Hafa (Bent 25 !); Derbat, 100 ft. (Bent 220 !); irrigation channels at Kilah, 3,000 ft. (Lunt 137 !).

IV. Masqat (Auch.-Eloy 4790 !).

FL. : Jan. 1894 (Lunt), Feb. (Fischer), Mar. 1869 (Lord).

FR.: Jan. 1894 (Lunt), Feb. (Fischer), Mar. (Lord).

DISTRIB. : Widely spread in tropical Africa and Asia.

VAR. β. **rotundifolia** DC. l.c ; Defl. l.c.—*Crassocephalum fatmense* Hochst. et Steud. Herb. Schimp. Arab. n. 869.

HABITAT : II. near Hajeilah, 600—1,000 m. (Defl. 109, 233 !); in the mountains (Botta).

7. **V. inulaefolia** Steud. Nom. 755 ; Rich. Fl. Abyss. i, (1847) 375 ; Kotschy in Sitzb. Kais. Akad Wiss. lii, (1866) 5 ; Oliv. Fl. Trop. Afr. iii, (1877) 286.—*V. Schimperi* Sch.-Bip. in Herb. Schimp. Abyss. i, 221 (*non DC.*).

HABITAT : II. Hijaz (ex Kotschy).

DISTRIB. : Abyssinia, Arabia.

8. **V. Schimperi** DC. Prodr. vii, 264.

HABITAT : II. Jebel Cara (Schimp. 868 type !).

FL. : Dec. 1837 (Schimp.).

FR. : Dec. 1837 (Schimp.).

DISTRIB. : Endemic.

2. Dichrocephala DC.

1. **D. chrysanthemifolia** DC. Prodr. v, (1836) 372 ; Oliv. Fl. Trop. Afr. iii, (1877) 303 ; Defl. Yemen (1889) 147.—*D. abyssinica* Sch.-Bip. in Herb. Schweinf. Abyss. i, n. 87 ; iii, n. 1847.—*D. macrocephala* Sch.-Bip. in Schweinf. Beitr. Fl. Aethiop. 145.

HABITAT : II. Manakhah, 2,200 m. (S. 1376 !); near Manakhah, 2,500 m. (Defl. 324).

FR. : Feb. 1889 (S.).

DISTRIB. : Upper Guinea, Abyssinia, Arabia, Madagascar, India.

3. Felicia Cass.

1. **F. abyssinica** Sch.-Bip. in Herb. Schimp. Abyss. sect. III, 1763; Rich. Fl. Abyss. i, (1847) 383; Oliv. Fl. Trop. Afr. iii, (1877) 306; Defl. Yemen (1889) 147.—*F. Schimperi* Hochst. et Steud.; Jaub. and Sp. Ill. Pl. Or. t. 354.—*Pulicaria viscida* R. Br. in Salt, Abyss. App.—*Detris abyssinica* Chiov. in Pir. Fl. Eritr. (1904) 166, (1908) 457.? *Aster ericaefolius* Forsk. Fl. Aeg.-Arab. (1775) CXIX, n. 50 b and p. 150.

HABITAT : II. Jebel Cara (Schimp. 858 !); Manakhah, 2,200 m. (S. 1514 !); near Manakhah (Defl. 383); near Sanah, 2,700 m. (Defl. 468 !).

FL. : Feb. 1889 (S.).

FR. : Feb. 1889 (S.), Dec. 1837 (Schimp.).

DISTRIB. : Abyssinia, Somaliland, Yaman.

2. **F. Richardi** Vatke in Linnaea, xxxix, (1875) 481; Oliv. Fl. Trop. Afr. iii, (1877) 306; Defl. Yemen (1899) 147.—*Agathaea abyssinica* Hochst. in Herb. Schimp. Abyss. sect. III, 1890.—*Aster abyssinicus* Hochst. l. c. sect. I, 37.—*Agathaea dentata* Rich. Fl. Abyss. i, (1847) 384.

HABITAT : II. Near Sanah, 2,800 m. (Defl. 488 !); in the mountains (Botta).

DISTRIB. : Abyssinia, Yaman.

4. Erigeron L.

1. **E. trilobum** Boiss. Fl. Or. iii, (1875) 168; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 122.—*Conyza triloba* Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, ii, (1834) 261.

HABITAT : I. Sinai (Auch.-Eloy 3105 !); desert of Sinai (Bové 101 !); region of Sinai (Schimp. 339 !); Wady Tarfa (Kneuck.); El Arabah to Sinai (ex Post).

IV. Masqat (Auch.-Eloy 4732 !).

FR. : June 1832 (Bové).

DISTRIB. : Endemic.

Vern. name : *Neffié* (Bové), *Qurad* (Post).

5. Conyza Less.

1. **C. aegyptiaca** Ait. Hort. Kew iii, 183.—*Erigeron aegyptiacum* L. Mant. 112; Boiss. Fl. Or. iii, (1875) 169; Post Fl. Syr. etc. (1896) 414.—*E. serratum* Forsk. Fl. Aeg.-Arab. (1775) LXXIII, n. 445 and p. 148.

HABITAT : III. Hadramaut (Hirsch 178).

DISTRIB. : Senegal, Abyssinia, Nubia, Mosambique, Arabia.

Vern. name : *Meschmû 'a* (Hirsch), *Dimsis nukhkhadh-ed-Dubbân* (Post).

2. **C. arabica** Willd. Sp. Pl. iii, 1949.—*Laggera arabica* Defl. Yemen (1889) 149.—*Erigeron decurrens* Vahl. Symb. Bot. i, (1790) 72.—*C. caule alato* Forsk. Fl. Aeg.-Arab. (1775) CXIX, n. 495 ?

HABITAT: II. Round Sanah and Raudhah, 2,300 m. (Defl. 534!).

DISTRIB.: Endemic.

3. **C. Bovei** DC. in Ann. Sc. Nat. (1834) 261.—*Erigeron Bovei* Boiss. Fl. Or. iii, (1875) 168; Post Fl. Syr. etc. (1896) 413.

HABITAT: I. Damp places of Mt. Sinai (Bové 118!); Wady es Sle (Kneuck.); Wady Hebran (Schimp. 216! 361! Ehrenb.!); Arabia Petraea (Auch.-Eloy 3106! McDonald!); S. Midian, El Wijh to Wady Haruz (Burton!).

II. Wasil, Wady Hejan, 1,200 m. (S. 1069!).

IV. Masqat (Auch.-Eloy 4727!).

FR.: Feb. 1889 (S.), Mar.-Apr. 1878 (Burton), Apr.-June 1835 (Schimp.), May 1832 (Bové), Sept. (Ehrenb.), Nov.-Feb. 1884 (Hart).

DISTRIB.: Egypt, Arabia.

Vern. name: *Gazani* (Bové), *Belleikh* (Post).

4. **C. cylindrica** Baker in Kew Bull. (1895) 317.

HABITAT: III. Hadramaut: Ras Shirwen (Hirsch 80!).

FR.: Apr. 1895 (Hirsch).

DISTRIB.: Endemic.

Vern. name: *Tabefet* (Hirsch).

5. **C. Dioscoridis** Desf. Tab. ed. 2, 114; Boiss. Fl. Or. iii, (1875) 217; Post Fl. Syr. etc. (1896) 414; Kotschy in Sitzb. Kais. Akad. Wiss. lii, (1866) 5; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 122.—*Pluchea Dioscoridis* DC. Prodr. v, (1836) 450; Oliv. Fl. Trop. Afr. iii, (1877) 329; Defl. Yemen (1889) 149; Baker in Kew Bull. (1894) 333.—*Baccharis aegyptiaca* Forsk. ex DC. l.c.

HABITAT: I. El Tor (Musch.).

II. Wady Mor (Ehrenb.!); Wulej (S. 782!); Hijaz (ex Kotschy); near Hajeilah, 600 m. (Defl. 77); near Manakhah (Defl. 429); near Lahaj (Defl. 128! Busse); Wady Kebir (Ellenbeck).

III. Tokham near Mukalla, 200 ft. (Lunt 64!).

FL.: Jan. 1889 (S.).

FR.: Jan. 1889 (S.), Mar. (Ehrenb.), Dec. 1893 (Lunt).

DISTRIB.: Tropical and S. Africa, Egypt, Arabia, Palestine.

Vern. name: *Barnûf, Kusch* (S.).

VAR. **ovalifolia** Hausskn. et. Bornm.

HABITAT: IV. Island of Bahrein (Bornm. 400!).

FL.: Jan. 1893 (Bornm.).
FR.: Jan. 1893 (Bornm.).

6. C. **Hochstetteri** Sch.-Bip. in Herb. Schimp. Abyss. i, n. 162; Oliv. Fl. Trop. Afr. iii, (1877) 312; Defl. Yemen (1889) 148.—*Erigeron Hochstetteri* Sch. Bip. ex Schweinf. Fl. Aethiop. 147.

HABITAT: II. Near Shibam, Manakhah, 2,200—2,700 m. (S. 1447!); near Manakhah (Defl. 320).

FL.: Feb. 1889 (S.).
FR.: Feb. 1889 (S.).
DISTRIB.: Abyssinia, Arabia.

7. C. **incana** Willd. Sp. Pl. iii, 1937; Oliv. Fl. Trop. Afr. iii, (1877) 318; Defl. Yemen (1889) 148.—*Erigeron incanum* Vahl Symb. Bot. i, (1790) 72.—*C. leucophylla* Schultz; A Rich. Fl. Abyss. i, (1847) 386.

HABITAT: II. Near Sanah, 2,700 m. (Defl. 433!); between Taez and Hes (Botta).

DISTRIB.: Abyssinia, Arabia.

8. C. **nana** Sch.-Bip. in Herb. Schimp. Abyss. sect. ii, n. 1170; Oliv. Fl. Trop. Afr. iii, (1877) 315; Defl. Yemen (1889) 148.

HABITAT: II. Near Kaukaban, 2,800 m. (Defl. 626!).

DISTRIB.: Abyssinia, Arabia.

9. C. **pyrrhopappa** Sch.-Bip. in Herb. Schimp. Abyss. sect. i, 10; Oliv. Fl. Trop. Afr. iii, (1877) 318; Defl. Yemen (1889) 147.—*Erigeron pyrrhopappus* Sch.-Bip. ex Schweinf. Fl. Aethiop. 147.

HABITAT: II. Bilad Awari, Wady Dhabab (Defl. 529!); Wady Hejan, Wasil, 1,000 m. (S. 1277!); near Attara, 2,000 m. (Defl. 399); near Taez, 1,300 m. (Defl. 697); Jebel Maamara (Botta).

FL.: Feb. 1889 (S.).
FR.: Feb. 1889 (S.), Apr. 1890 (Defl.).
DISTRIB.: Abyssinia, Arabia.
Vern. name: *Gjubbusse* (S.).
Note: Hirsch's specimen No. 54 collected in Wady Raida near Sèhut in Hadramaut comes very near to this species.
Vern. name: *Dīs*.

10. C. **stenodonta** Baker in Kew Bull. (1895) 316.

HABITAT: III. Hadramaut: Sel near Sehut (Hirsch 55!).

DISTRIB.: Endemic.
Vern. name: *Hatèke* (Hirsch).

11. C. stricta Willd. Sp. Pl. iii, 1922; Oliv. Fl. Trop. Afr. iii, (1877) 318; Defl. Yemen (1889) 148.

HABITAT: II. Mountains of Yaman (Botta); near Manakhah, 2,300 m. (Defl. 262); above Manakhah, 2,400 m. (S. 1597!); Wady Hejan, Wasil (S. 1068!).

III. Dhofar: Wady Nahir, 300 ft. (Bent 196!).

FL.: Feb. 1889 (S.).

FR.: Feb. 1889 (S.).

DISTRIB.: Tropical Africa, Arabia, India.

6. Psiadia Jacq.

1. P. punctulata Vatke in Oesterr. Bot. Zeitsch. xxvii, (1877) 196.—*Nidorella punctulata* DC. Prodr. v, (1836) 323.—*P. arabica* Jaub. & Sp. Ill. Pl. Or. t. 352, 353; Oliv. Fl. Trop. Afr. iii, (1877) 319; Defl. Yemen (1889) 148.—*Baccharis resiniflua* Hochst. & Steud. ex DC. Prodr. vii, (1838) 282.

HABITAT: II. Hille, Jebel Bura (S. 304!); Bilad Hojeria, Ras el Negil (Defl. 611!); Tarfa (Schimp. 872!); neighbourhood of Aden (Hunter 229, 259!).

III. Hadramaut (Hirsch 167).

FL.: Apr. 1890 (Defl.).

FR.: Jan. 1889 (S.), Apr. 1890 (Defl.), Dec. 1835 (Schimp.).

DISTRIB.: Abyssinia, Somaliland, Zanzibar, S. Africa, Yaman.

Vern. name: *schedderet er roghba, pessach* (S.).

7. Chrysocoma L.

1. C. ovata Forsk. Fl. Aeg.-Arab. (1775) CXIX, n. 486 and p. 147.

HABITAT: II. Damp places of Surdud (Forsk.).

DISTRIB.: Endemic.

8. Tarchonanthus L.

1. T. camphoratus L. Sp. Pl. (1753) 842; Defl. Yemen (1889) 149.

HABITAT: II. Near Wasil, 1,000 m. (Defl. 251!).

DISTRIB.: Tropical Africa, Eritrea, Yaman.

NOTE:—The leaves fermented in urine are used as a medicinal drink or cattle (Schimp.) ex Fiori 370.

9. Blumea DC.

1. B. aurita DC. Prodr. v, (1836) 449; Boiss. Fl. Or. iii, (1875) 216; Oliv. Fl. Trop. Afr. iii, (1877) 322; Defl. Yemen (1889) 149.—*Pluchea Kotschyi* et *Laggera aurita* Sch.-Bip. in Herb. Schimp. Abyss. exs.

HABITAT : II. Jebel Milhan, Wulej (S. 706 !) ; neighbourhood of Zeyda (Defl. 225 !); near Lahaj (Defl.).

FR.: Jan. 1889 (S.).

DISTRIB. : Senegambia, Sennaar, Nubia, Abyssinia, Egypt, Arabia, India.

2. **B. Jacquemonti** Hook. f. Fl. Brit. Ind. iii, (1881) 265.

HABITAT : III. Dhofar Mts. : Hafa (Bent 37 ! 9 ! *ex parte*).

DISTRIB. : Arabia, India.

10. Laggera Sch.-Bip.

1. **L. purpurascens** Sch.-Bip. ex Hochst. in Flora, xxiv, (1841) I. Intell. 26.—*L. pterodonta* Sch.-Bip. in Schweinf. Beitr. Fl. Aethiop. 151 ; Oliv. Fl. Trop. Afr. iii, (1877) 324.—*Serratula polygyma* Rich. Fl. Abyss. i, (1847) 457, t. 62.—*Blumea purpurascens* Rich. l. c. 395.

HABITAT : II. Wasil, 1,000 m. (S. 1115 !).

FL. : Feb. 1889 (S.).

FR. : Feb. 1889 (S.).

DISTRIB. : Sennaar, Abyssinia, Madagascar, Arabia, India.

Vern. name : *sisimme* (S.).

11. Pluchea Cass.

1. **P. indica** Less. in Linnaea (1831) 150 ; DC. Prodr. v, 451 ; Vatke in Oester. Bot. Zeitschr. (1875) 325 ; Hook. Fl. Brit. Ind. iii, (1881) 272 ; Blatt. Fl. Aden (1915) 223.

HABITAT : II. Near Shaikh Othman (Hildebr.).

FL. : June 1872 (Hildebr.).

DISTRIB. : Arabia, India, Malay Archipelago, China, Australia.

2. **P. laxa** Baker in Kew Bull. (1895) 182.

HABITAT : III. Coast of Merbat, foot of the Dhofar Mts. (Bent 7 !).

DISTRIB. : Endemic.

2. **P. mollis** Baker in Kew Bull. (1895) 182.

HABITAT : III. Dhofar : Hafa (Bent 9 ! *partim*).

DISTRIB. : Endemic.

12. Blepharispermum Wight.

1. **B. yemense** Defl. in Bull. Soc. Bot. France, xliii, (1896) 105.

HABITAT : II. Jebel el Masana (Defl. 603 !); Wady Moaden (Defl. 1159).

FL. : May (Defl.).

FR. : May (Defl.).

DISTRIB. : Endemic.

2. **B. hirtum** Oliv. in Hook. Ic. Pl. t. 2435.

HABITAT: Arabia.

DISTRIB.: Endemic.

13. Evax Gaertn.

1. **E. anatolica** Boiss. & Heldr. Diagn. Pl. Or. ser. 1, xi, 2; Fl. Or. iii, (1875) 243; Post Fl. Syr. etc. (1896) 415; Musch. Fl. Eg. ii, (1912) 972.—*E. palaestina* Boiss. l. c.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: E. Mediterranean region.

2. **E. contracta** Boiss. Diagn. Pl. Or. ser. 1, xi, 3; Fl. Or. iii, (1875) 243; Post Fl. Syr. etc. (1896) 415.

HABITAT: I. Borders of Et-Tih (ex Post).

DISTRIB.: Mediterranean region, Persia.

14. Filago L.

1. **F. spathulata** Presl. Del. Prag. 93. VAR. **prostrata** Boiss. Fl. Or. iii, (1875) 246; Post Fl. Syr. etc. (1896) 416.

HABITAT: I. Arabia Petraea (Boiss.); desert of Et-Tih and southwards (ex Post).

DISTRIB.: Europe, Mediterranean region, Persia, India.

2. **F. germanica** L. Sp. Pl. ii, 1311; Boiss. Fl. Or. iii, (1875) 246; Carter in Rec. Bot. Surv. Ind. vi, (1918) 202.

HABITAT: IV. Zor Hills (Cox).

DISTRIB.: From Persia westwards to the Canaries, also in N. W. India.

Vern. name: *Kattain* (Cox).

Note: "This species grows in sandy soils and is common round Gishaniya but has not been observed further south." (Cox).

15. Ifloga Cass.

1. **I. spicata** Sch.-Bip. apud Webb Phyt. Canar. iii, (1875) 248; Carter in Rec. Bot. Surv. Ind. vi, (1918) 202.—*Chrysocoma spicata* Forsk. Fl. Aeg.-Arab. (1775) LXXIII, n. 433.—*Trichogyne cauliflora* DC.; Kotschy in Sitzb. Kais. Akad. Wiss. lii, (1866) 6.—*I. Fontanesii* Cass. Dict. xxxvii, 13; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, ii, (1834) 265.—*Gnaphalium Ruppellii* Fres. Mus. Senck. i, 79, t. 4, f. 1.

HABITAT: I. Arabia Petraea: Hauara (Schimp. 202!); Wady Nasb (Lord!); Wady Ghurundel and Ramleh (Lord!); desert of Sinai (Bové!); Wady Rim, 3,000 ft. (Rüppell); coast of Sinai and southwards (ex Post);

Wady es Sle, Plain of Raha, Wady es Shaikh, Oasis Feiran, Wady Aleyat (Kneuck.); S. Midian (Burton !).

II. Jiddah (Fischer 9 !); Hijaz (Schimp. 1036 !).

IV. Zor Hills (Cox 63).

FL.: Feb. (Fischer).

FR.: Mar. 1835 (Schimp.), Apr. 1868 (Lord).

DISTRIB.: Spain, N. and S. Africa, Egypt, Arabia, Palestine, Syria, Afghanistan, Baluchistan, N. W. India.

Vern. name: *Kureishat-el-Judai* (Post), *Moscht* (Schimp.), Hasach (Cox).

VAR. **condensata** Boiss. Fl. Or. Suppl. (1888) 295.

HABITAT: I. Mt. Sinai (Schimp. 408 !).

16. **Lasiopogon** Cass.

1. **L. muscoides** DC. Prodr. vi, 246; Boiss. Fl. Or. iii, (1875) 224; Post Fl. Syr. etc. (1896) 417.

HABITAT: I. Arabia Petraea (McDonald ! Pinard !); Wady Hebran (Schimp. !); foot of Mt. Horeb (Auch.-Eloy 3133 !); foot of Mt. Sinai (Schimp. 182 ! Boiss.); plain of Raha, Wady es Shaikh, Convent St. Catherine (Kneuck.).

FL.: Apr. 1835 (Schimp.).

FR.: Apr. 1835 (Schimp.).

DISTRIB.: Mediterranean region, Cape.

17. **Phagnalon** Cass.

1. **P. arabicum** Boiss. Fl. Or. iii, (1875) 223.—*Varthemia arabica* Boiss. Diagn. Pl. Or. ser. 1, vi, 74.

HABITAT: IV. Masqat (Auch.-Eloy 4729 !).

DISTRIB.: Endemic.

2. **P. Harazianum** Defl. Yemen (1889) 150.

HABITAT: II. Jebel Shibam, Manakhah 2,700 m. (S. 1412 !); the same locality, 2,200—2,600 m. (Defl. 274, 441).

FL.: Feb. 1889 (S.).

FR.: Feb. 1889 (S.).

DISTRIB.: Endemic.

3. **P. hypoleucum** Sch.-Bip. Herb. Schimp. Abyss. sect. ii, n. 854; Oliv. Fl. Trop. Afr. iii, (1877) 338; Defl. Yemen (1889) 150.

HABITAT: II. Near Sanah, 2,500 m. (Defl. 479 !); in the mountains (Botta).

DISTRIB.: Abyssinia, Yaman.

4. **P. nitidum** Fres. Mus. Senck. ii, (1837) 81, t. 4, f. 2; Dcne. Fl. Sin in Ann. Sc. Nat. ser. 2, ii, (1834) 262; Boiss. Fl. Or. iii, (1875) 220; Post Fl. Syr. etc. (1896) 417.

HABITAT: I. Arabia Petraea (McDonald!); Sinai (Auch.-Eloy 3080!); Mt. Sinai (Bové 120! Schimp. 334!); Wady es Shaikh (Hart!); Wady Arbain, 5,000 ft. (Rüppell!); plain of Raha, Wady Aleyat (Kneuck.).

FL.: Apr. 1877 (S.), May 1835 (Schimp.), June 1832 (Bové).

FR.: Apr. 1877 (S.), May 1835 (Schimp.), June 1832 (Bové).

DISTRIB.: Abyssinia, Arabia, Persia, Afghanistan, Baluchistan.

Vern. name: *Honet-el-naghi* (Bové), *Khamânat-en-Na'jeh* (Post).

5. **P. rupestre** DC. Prodr. v, 396; Boiss. Fl. Or. iii, (1875) 220; Post Fl. Syr. etc. (1896) 418.—*Conyza tomentosa* Forsk. Fl. Aeg.-Arab. (1775) LXXIII, n. 444, CXIX, n. 496 and p. 148.

HABITAT: I. Arabia Petraea (Boiss.).
II. Hadiyah (Forsk.).

DISTRIB.: Mediterranean region, Persia.

Vern. name: *tom erneb, mottaej* (Forsk.).

6. **P. scalarum** Schweinf. MS. in Herb. Kew.

HABITAT: II. Wasil, on terraces, 1,400 m. (S. 1116!).

FL.: Feb. 1889 (S.).

FR.: Feb. 1889 (S.).

DISTRIB.: Endemic.

Vern. name: *Rendel Relb* (S.).

7. **P. viridifolium** Dcne. in Auch. Pl. exs.; Boiss. Fl. Or. iii, (1875) 220.

HABITAT: IV. Masqat (Auch.-Eloy 4774!).

DISTRIB.: Endemic.

18. Achyrocline Less.

1. **A. glumacea** Oliv. et Hiern. in Oliv. Fl. Trop. Afr. iii, (1877) 340; Defl. Yemen (1889) 151.—*A. luzuloides* Vatke in Linnaea xxxix, (1875) 489.—*Gnaphalium luzuloides* Sch.-Bip. Herb. Schweinf. Nub. n. 347; Beitr. Fl. Aethiop. 149.

HABITAT: II. Near Mefhak, 2,000 m. (Defl. 595!).

DISTRIB.: Senegambia, Abyssinia, Arabia.

2. **A. Schimperi** Oliv. et Hiern. in Oliv. Fl. Trop. Afr. iii, (1877) 340; Defl. Yemen (1889) 151.—*Gnaphalium adoensis* Sch.-Bip. in Herb. Schimp. Abyss. sect. i, n. 41.—*G. Schimperi* Sch.-Bip. l. c. i, n. 393.

HABITAT: II. Wady Mazeb near Manakhah, 2,200 m. (Defl. 370).

DISTRIB.: Mozambique, Abyssinia, Arabia.

19. Gnaphalium L.

1. **G. indicum** L. Sp. Pl. (1753) 852; Boiss. Fl. Or. iii, (1875) 225; Baker in Kew Bull. (1894) 334.—*G. Niliacum* Raddi in Spreng. Syst. iii, 480.

HABITAT: III. Hadramaut: Sides of irrigation channels at Khailah, 3,000 ft. (Lunt 134!).

FR.: Jan. 1894 (Lunt).

DISTRIB.: Cosmopolitan in the tropics.

2. **G. luteo-album** L. Sp. Pl. (1753) 851; Boiss. Fl. Or. iii, (1875) 224; Defl. Yemen (1889) 151; Post Fl. Syr. etc. (1896) 418.

HABITAT: II. Near Sanah, 2,300 m. (Defl. 513).
III. Dhofar Mts. (Bent 190!).
IV. Masqat (Auch.-Eloy 4782!).

DISTRIB.: Cosmopolitan.

Vern. name: *Ra'ra', Sabûn 'afrît* (Post).

3. **G. pulvinatum** Del. Ill. Fl. d'Eg. (1813) 122, t. 44, f. 1; Boiss. Fl. Or. iii, (1875) 225; Kneuck. in Allg. Bot. Zeitsch. ix, (1903) 148.

HABITAT: I. Between Feiran and Maghara (Kneuck.).

DISTRIB.: Kordofan, Egypt, Arabia Petraea, Sind, India.

20. Helichrysum Gaertn.

1. **H. abyssinicum** Sch.-Bip. Herb. Schimp. Abyss. sect. i, n. 127; ii, n. 663; Rich. Fl. Abyss. i, (1847) 423; Oliv. Fl. Trop. Afr. iii, (1877) 351; Defl. Yemen (1889) 151.

HABITAT: II. Jebel Shibam, 2,600 m. (Defl. 354!).

DISTRIB.: Mozambique, Abyssinia, Arabia.

2. **H. Chrysocoma** Sch.-Bip. in Herb. Schimp. Abyss. sect. ii, n. 836, 979; Rich. Fl. Abyss. i, (1847) 424.—*Gnaphalium fruticosum* Forsk. Fl. Aeg.-Arab. (1775) CXIX, n. 491 and p. 218.—*H. cymosum* O. & H. in Oliv. Fl. Trop. Afr. iii, (1877) 353; Defl. Yemen (1889) 151 (*non Less.*).

HABITAT: II. Bara, Kurma (Forsk.); near Attara, 2,000 m. (Defl. 423!); Jebel Shibam (Defl. 355).

DISTRIB.: Upper Guinea, Abyssinia, Mozambique, S. Africa, Arabia.

Vern. name: *Synde, Scheratat* (Forsk.).

3. **H. conglobatum** Steud. Nom. Bot. i, (1840) 738; Musch. Fl. Eg. ii, (1912) 981.—*H. siculum* Boiss. Fl. Or. iii, (1875) 229; Post Fl. Syr. etc. (1896) 418.

HABITAT : I. Arabia Petraea (ex Musch.).
DISTRIB. : E. Mediterranean region.
Vern. name :—*Bezâz-el-'adhrâ*, (Post).

4. **H. globosum** Sch.-Bip. in Herb. Schimp. Abyss. ii, n. 988 ; Oliv. Fl. Trop. Afr. iii, (1877) 354 ; Defl. Yemen (1889) 151.
HABITAT : II. J. Shibam, 2,700 m. (S. 1666 ! Defl. 340) ; J. Masar near Attara, 2,000 m. (Defl. 421).
FL.: Mar. 1889 (S.). FR. : Mar. 1889 (S.).
DISTRIB.: Upper Guinea, Abyssinia, Arabia.

5. **H. orientale** Gaertn. Fruct. ii, t. 166 ; Boiss. Fl. Or. iii, (1875) 230.— *Gnaphalium orientale* Forsk. Fl. Aeg.-Arab. (1775) CXIX, n. 490 and p. 218.
HABITAT : II. Hadiyah (Forsk.).
DISTRIB. : Asia Minor, Arabia.
Vern. name : *Adhaun-el-kelb* (Forsk.).

21. Leyssera L.

1. **L. capillifolia** DC. Prodr. vi, 279 ; Schenk Sp. Pl. it. Aeg. Arab. & Syr. (1840) n. 182 ; Boiss. Fl. Or. iii, (1875) 240 ; Post Fl. Syr. etc. (1896) 420.—*L. discoidea* Spreng. Pl. Pug. 78.
HABITAT : I. Wady Nasb (Drake 62 !) ; Sinai (Auch.-Eloy 3243 !) ; Wady Feiran and neighbourhood (Lord !) ; Wady Sewook and neighbourhood (Lord !) ; Sinai (Rüppell) ; south end of Dead Sea (ex Post) ; Arabia Petraea (Pinard ! McDonald ! Boiss.!); Wady Hebran (Schimp. 221!).
FL. : May (Rüppell).
FR. : Apr. 1835 (Schimp.), Apr.-May 1868 (Lord).
DISTRIB. : Spain, N. Africa, Nubia, Egypt, Arabia Petraea, Palestine.
Vern. name : *Simsum*, *Mashruhah* (Post).

22. Inula L.

1. **I. crithmoides** L. Sp. Pl. (1753) 883 ; Boiss. Fl. Or. iii, (1875) 195 ; Post Fl. Syr. etc. (1896) 421 ; Musch. Fl. Eg. ii, (1912) 982.
HABITAT : I. Arabia Petraea (ex Musch.).
DISTRIB.: Europe, Mediterranean region.
Vern. name : *hatab-zeiti* (Post).

2. **I. grantioides** Boiss. Diagn. Pl. Or. ser. 2, iii, 14 ; Fl. Or. iii, (1875) 195 ; Cooke Fl. Bomb. ii, 31.
HABITAT : III. Dhofar Mts. : Coast Merbat (Bent 81 !)..
DISTRIB. : Arabia, Wazaristan, Baluchistan, Sind, Kutch.

3. **I. viscosa** Ait. Hort. Kew iii, (1811) 223; Boiss. Fl. Or. iii, (1875) 198; Post Fl. Syr. etc. (1896) 421; Musch. Fl. Eg. ii, (1912) 983.—*Erigeron viscosum* L. Sp. Pl. (1753) 863.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Canaries, Mediterranean Region.

Vern. name: *'urq-et-tayyûm* (Post).

23. Grantia Boiss.

1. **G. senecionoides** Baker in Kew Bull. (1895) 317.

HABITAT: III. Hadramaut (Hirsch 14).

DISTRIB.: Endemic.

2 **G. flabellata** S. Moore in Journ. Bot. (1900) 158.

HABITAT: Oman.

DISTRIB.: Arabia.

24. Hirschia Baker.

1. **H. anthemidifolia** Baker in Kew Bull. (1895) 317.

HABITAT: III. Hadramaut (Hirsch 35).

DISTRIB.: Endemic.

25. Iphiona Cass.

1. **I. horrida** Boiss. Diagn. Pl. Or. ser. 1, vi, 80; Fl. Or. iii, (1875) 211.

HABITAT: IV. Masqat (Auch.-Eloy 4725 !).

DISTRIB.: Endemic.

2. **I. mucronata** Aschers.-Schweinf. in Aschers.-Schweinf. Ill. Fl. Eg. (1887) 86.—*I. juniperifolia* Cass. Dict. xxiii, 610; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2. ii, (1834) 263; Boiss. Fl. Or. iii, (1875) 210; Post. Fl. Syr. etc. (1896) 422.—*Chrysocoma mucronata* Forsk. Fl. Aeg.-Arab. (1775) LXXIII, n. 432 and p. 147.—*Staehelina spinosa* Vahl Symb. Bot. i, (1790) 69.

HABITAT: I. Desert of Sinai (Bové 95 !); Wady es Shaikh (Drake 98 !); Mt. Sinai (Bové 100 !); Mt. Horeb (Auch.-Eloy 3111 !); Wady Hebran (Schimp. 362 ! Rüppell).

FR.: June 1832 (Bové), June 1835 (Schimp.).

DISTRIB.: Egypt, Arabia, Palestine, Syria.

Vern. name: *Daffara* (Bové), *Zifrah Zufrah* (Post).

3. **I. scabra** Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, ii, (1834) 263; DC. Prodr. vi, 475; Anders. Fl. Aden. (1860) 22; Boiss. Fl. Or. iii, (1875)

210 ; Oliv. Fl. Trop. Afr. iii, (1877) 360 ; Post Fl. Syr. etc. (1896) 422 ; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 122 ; Blatt. Fl. Aden (1915) 224.

HABITAT : I. Dead Sea to Sinai and Egypt (ex Post) ; Hamme (Schimp. 188 !) ; Sinai (Holland ! Auch.-Eloy 3075) ; desert between Suez and Tor (Bove 104 !) ; S. Midian (Burton !).

II. Aden (S. 8. ! Thomson ! Perry ! Birdw. ! Lunt ! Anders. ! Hook. f., Defl!).

III. Sel near Sehut, Wady Raida (Hirsch 45, 183).

IV. Masqat : Mt. Chebek (Auch.-Eloy 4726!).

FL. : 1863 (Ol. & Cl.), Feb. 1851 (Thomson), Mar. 1850 (Madden), Apr. 1861 (Thomson), June 1872 (Hildebr.), Nov. 1888 (S.) Dec. 1889 (Defl.).

FR. : Jan. 1863 (Ol. & Cl.), Mar. 1835 (Schimp.), Mar. 1850 (Madden) Mar. 1878 (Perry), Mar. 1888 (S.), Apr. 1861 (Thomson), June 1872 (Hildebr.), Nov. 1888 (S.), Dec. 1889 (Defl.).

DISTRIB.: Egypt, Nubia, Eritrea, Arabia.

Vern. name : *Saffara* (Bové), *Tezfét* (Hirsch), *Dafra* (Musch.).

Note : Eaten by camels (Burton).

VAR.: **pinnatifida** Boiss. Diagn. Pl. Or. ser. 1, vi, 80; Fl. Or. iii, (1875) 211.

HABITAT : IV. Masqat : Jebel Chebek (Auch.-Eloy 4726 !)

DISTRIB.: Endemic.

4. T. subulata Baker in Kew Bull. (1894) 333.

HABITAT : III. Shari Burrock, Mukalla, 200—300 ft. growing on stony hillsides (Lunt !)

DISTRIB.: Endemic.

26. Varthemia DC.

1. V. candicans Boiss. Fl. Or. iii, (1875) 212; Post Fl. Syr. etc. (1896) 422.

HABITAT : I. Arabia Petraea (ex Post).

DISTRIB.: Tripolitania, Egypt, Arabia Petraea.

2. V. montana Boiss. Fl. Or. iii, (1875) 212; Post Fl. Syr. etc. (1896) 422.—*Chrysocoma montana* Vahl Symb. Bot. i, (1790) 70.—*V. conyzoides* Boiss. Diagn. Pl. Or. ser. 2, iii, 10.

HABITAT : I. Foot of Mt. Sinai (Schimp. 257 !) ; Wady Bavak (Hart !).

FR.: Aug. 1835 (Schimp.).

DISTRIB.: Egypt, Arabia Petraea, Palestine, Syria.
Vern. name: *hanede* (ex Boiss.), *Huneideh* (Post).
Note: Used in medicine against Diarrhœa.

27. **Pegolettia** Cass.

1. P. senegalensis Cass. Dict. xxxviii, 230; DC. Prodr. v, 481; Jaub. & Sp. Ill. Pl. Or. iv, 63, t. 341; Oliv. Fl. Trop. Afr. iii, (1877) 361; Blatt. Fl. Aden (1915) 225.—*Kuhnia arabica* Hochst. et Steud. in Herb. Schimp. Arab. Fel. n. 863; DC. Prodr. vii, 267.

HABITAT: II. Mt. Sidr and Kesser (Fischer 40!); Wady Fatimah (Schimp. 863!); Wasil, 1,000 m. (S. 1194!); Aden (Lunt!).

FL.: Mar. (Fischer), Apr. 1894 (Lunt).

FR.: Feb. 1836 (Schimp.), Feb. 1889 (S.), Apr. 1894 (Lunt).

DISTRIB.: Senegambia, Kouka, Nubia, Abyssinia, Cape Verde Islands, Tropical Arabia, Rajputana.

(Oliver and Hiern in Fl. Trop. Afr. mention also Sind, but Cooke has not included this species in his Flora of the Bombay Presidency. We have seen this plant in Jodhpur and Jaisalmer).

28. **Pulicaria** Gaertn.

1. P. adenensis Schweinf. ex O. Kuntze Rev. Gen. Pl. i, 358 et in Sched. Herb. Kew.; Blatt. Fl. Aden (1915) 227.—*P. iphionoides* O. K. ex O.Kuntze l. c.—*Varthemia arabica* T. Anders. Fl. Aden. (1860) 22 (*non Boiss.*).—*Iphiona arabica* B. Hgp. ex O. Kuntze l. c.

HABITAT: II. Neighbourhood of Zeyda (Defl. 219!); Aden (Perry! S. 26! Balfour! Hook. f.! Anders.! Thomson! Birdw.!).

FL.: Jan. 1872 (Thomson), Mar. 1878 (Perry), Apr. 1861 (Thomson), Nov. 1888 (S.), Dec. 1847 (Hook.).

FR.: Jan. 1872 (Thomson), Mar. 1878 (Perry), Apr. 1861 (Thomson), Nov. 1888 (S.), Dec. 1889 (Defl.).

DISTRIB.: Endemic.

2. P. arabica Cass. Dict. xliv, 94; Dene. Fl. Sin. in Ann. Sc. Nat. ser. 2. ii, (1834) 263; Boiss. Fl. Or. iii, (1875) 205; Defl. Yemen (1889) 151; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 123.—*Inula arabica* L. Mant. 114?

HABITAT: I. Oasis Feiran (Kneuck.); Jebel Hammam-Sidna-Musa (Musch.); Mt. Sinai (Schimp. 317!); cult. ground of Mt. Sinai (Bové!); Arabia Petraea (Mc Donald!).

II. Near Raudha, 2,300 m. (Defl. 494).

III. Dhofar Mts.: Derbat (Bent 228!).

FR.: May 1835 (Schimp.).

DISTRIB.: Europe, Mediterranean region, N. E. Africa, Arabia, Persia.
Vern. name: *ra' râ-ajâb, saghlîl, abû-aïn-safra* (Musch.).

3. P. argyrophylla Franch. in Revoil, Comali, 38.
HABITAT: II. Yaman: El Hami (S. 188!).
FL.: Apr. 1881 (S.).
FR.: Apr. 1881 (S.).
DISTRIB.: Tropical Africa, Arabia.

4. P. crispa Benth. & Hook. Gen. Pl. ii, (1873) 336; Oliv. Fl. Trop. Afr. iii, (1877) 366; Defl. Yemen (1889) 152.—*Francoeuria crispa* Cass. Dict. xxxiv, 44; Boiss. Fl. Or. iii, (1875) 206.—*Aster crispus* Forsk. Fl. Aeg.-Arab. (1775) lxxiii, n. 449 and p. 150.

HABITAT: I. Wady Bedr (Kaiser 44!); Sinai (Holland! Schimp. 293!); Desert of Sinai (Bové 110!); Arabia Petraea (McDonald!).

II. Near Attara, 200 m. (Defl. 418); Hijaz (Kotschy); Wasil, 1,300 m. (S. 1148!); Jiddah (Zohrab 100!).

III. Hadramaut (Hirsch 155); Khailah, 3,000 ft. (Lunt 139!).

IV. Masqat: Nezue (Auch.-Eloy 4738!).

FL.: Jan. 1894 (Lunt), Feb. 1889 (S.), Apr. 1877 (S.), June 1832 (Bové), Dec. 1891 (Kaiser).

FR.: Jan. 1894 (Lunt), Feb. 1889 (S.), Apr. 1877 (S.), June 1832 (Bové), July 1835 (Schimp.), Dec. 1891 (Kaiser).

DISTRIB.: N. and Tropical Africa, Egypt, Arabia, Persia, N. India.
Vern. name: *Desdas* (Bové), *Dehded* (Kaiser), *Qutqât, Sabût, Ra'râ', Tajâr, Kanâf, Afrakh, Dithdâth, Karwân* (Post).

5. P. Ehrenbergiana Schultz ex Herb. Schweinf. Aethiop.; Defl. Yemen (1889) 152.

HABITAT: II. Jiddah (Zohrab 71!); Wady Djara and Isl. of Ketumbat (Ehrenb.!).

DISTRIB.: Aethiopia, Yaman.

6. P. grandidentata Jaub. & Sp. Ill. Pl. Or. t. 345.
HABITAT: II. Yaman (Botta).
FL.: Nov. 1837 (Botta).
FR.: Nov. 1837 (Botta).
DISTRIB.: Endemic.

7. P. glutinosa Jaub. & Sp. Ill. Pl. Or. t. 348; Blatt. Fl. Aden (1915) 227.—*Platychaete glutinosa* Boiss. Diagn. Pl. Or. ser. 1, xi, 5; Fl. Or. iii (1875) 208.

HABITAT: II. Aden (Hildebrandt, Ellenb.).
IV. Masqat (Auch.-Eloy 4728!).
DISTRIB.: Endemic.

8. **P. inuloides** DC. Prodr. v, 480.—*P. longifolia* Boiss. Diagn. Pl. Or. ser. 2, iii, 16; Fl. Or. iii, (1875) 202; Post Fl. Syr. etc. (1896) 423.—*P. arabica* et *Conyza Bovei* Schimp. Pl. exs. Arab. (*non Boiss.*).

HABITAT: I. Sinai to Egypt (ex Post); Mt. Sinai (Schimp. 216! 317!).
II. Wady Nahemi above Attara, 1,800 m. (S. 1774!).
FL.: Mar. 1889 (S.).
FR.: Mar. 1889 (S.).
DISTRIB.: N. Africa, Egypt, Arabia, Palestine, Syria.

9. **P. leucophylla** Baker in Kew Bull. (1894) 333; Defl. in Bull. Soc. Bot. France, xliii, (1896) 108.—*P. areysiana* Defl. MS. ex Defl. l. c.

HABITAT: II. Jebel el Areys (Defl. 393! 400, 861, 913, 986, 1015).
III. Hadramaut: Between Tokham and Ghafit, 200 ft. (Lunt 67!); Wady Gerzid, 500 ft. (Bent 171!).
FL.: Apr. and May (Defl.), Dec. 1893 (Lunt).
FR.: Dec. 1893 (Lunt).
DISTRIB.: Endemic.
Vern. name: *kharla* (Defl.).

10. **P. menachensis** Schweinf. MS. in Herb. Kew.

HABITAT: II. El Ejan on Jebel Shibam (S. 1586!); above Manakhah (S.!).
FL.: Feb. 1889 (S.).
FR.: Feb. 1889 (S.).
DISTRIB.: Endemic.
NOTE: Very near *P. petiolaris* Jaub. & Sp.

11. **P. orientalis** Jaub. & Sp. Ill. Pl. Or. t. 342; Boiss. Fl. Or. iii, (1875) 203; Defl. Yemen (1889) 152.

HABITAT: II. Jebel Damer near Bajil (S. 660!); Mor (Ehrenb.!); between Sanah and Raudha (Defl. 498); round Hes and Taez (Botta).
IV. Masqat (Auch.-Eloy 4739!).
FL.: Jan. 1889 (S.).
FR.: Jan. 1889 (S.).
DISTRIB.: Abyssinia, Arabia.
Vern. name: *monass* (S.).

12. P. petiolaris Jaub. & Sp. Ill. Pl. Or. t. 344; Oliv. Fl. Trop. Afr. iii, (1877) 364; Defl. Yemen (1889) 151.—*P. chrysopsioides* Sch.-Bip. ex Aschers. & Schweinf. Enum. 286; Kotschy in Sitzb. Kais. Akad. Wiss. lii, (1866) 5.

HABITAT: II. Hijaz (ex Kotschy); round Hes and Taez (Botta); Wasil, 1,300 m. (S. 1132!), near Wasil, 900 m. (Defl. 223); near Manakhah 2,500 m. (Defl. 307); near Sanah, 2,600 m. (Defl. 464, 478!).

FL.: Feb. 1889 (S.).

FR.: Feb. 1889 (S.).

DISTRIB.: Abyssinia, Nubia, Sennaar, Arabia.

13. P. Schimperi DC. Prodr. vii, 285.

HABITAT: II. Jiddah (Fischer 35! Zohrab 68! 141!).

FL.: Nov.-Feb. 1837 (Fischer).

DISTRIB.: Endemic.

14. P. sicula Moris Fl. Sard. ii, 363; Boiss. Fl. Or. iii, (1875) 205.—*Jasonia sicula* DC. ex Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, ii, (1834) 261.

HABITAT: I. Damp places near Mt. Sinai (Bové 111!).

DISTRIB.: S. Europe, Sinai.

15. P. undulata DC. Prodr. v, 479; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, ii, (1834) 263; Pl. l'Arab. Heur. in Ann. Sc. Nat. ser. 2, iv, (1835) 79; Schenk Sp. Pl. it. Aeg.-Arab. & Syr. (1840) n. 172; Boiss. Fl. Or. iii, (1875) 202; Oliv. Fl. Trop. Afr. iii, (1877) 365; Defl. Yemen (1889) 151; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 122.—*Inula odora* Forsk. Fl. Aeg.-Arab. (1775) CXIX, n. 505 and p. 150.—*P. desertorum* DC. Prodr. v, 478; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, ii, (1834) 263.

HABITAT: I. Desert of Sinai (Auch.-Eloy 3845! Bové 109!); Sinai (Holland!); Wady Gennah and neighbourhood (Lord); Desert of Suez and Tor (Bové 117!); Wady Hebran (Schimp. 227!); Arabia Petraea (Mc Donald!); Dead Sea to Sinai (ex Post); Wady Zewerah (Hayne!); Wady Arbain, 5,000 ft. (Rüppell); Jebel Hammam-Sidna-Musa (Musch.); Wady es Sle, Wady Tarfa, Oasis Feiran (Kneuck.); N. Midian (Burton!).

II. Oasis of Lahaj (Defl. 124!); Jiddah (Schimp. 908!); Wady Mor, Lohaja, Surdud (Forsk.).

FL.: Jan. 1837 (Schimp.).

FR.: Jan. 1837 (Schimp.), Apr. 1835 (Schimp.), Apr. 1877 (S.), May 1868 (Lord), June 1832 (Bové), Dec. 1889 (Defl.).

DISTRIB.: Senegal, Nubia, Egypt, Arabia, Syria.

Vern. name: *Damsis, ra'rá* (Aschers.), *Desdas* (Bové), *Munis, Neschusch, chaa* (Forsk.), *Rabur Rabbul* (Post).

16. P. gnaphalodes Boiss. Diagn. Pl. Or. ser. 1, vi, 76; Fl. Or. iii, 203: Carter in Rec. Bot. Surv. Ind. vi, (1918) 203.—*Strabonia gnaphalodes* DC. Prodr. v, 481.

HABITAT: IV. Principality of Kuwait (Cox).

DISTRIB.: W. Tibet, Turkestan, Afghanistan, Persia, Arabia.

Vern. name: *Nafeej* (Cox).

29. Geigeria Griessel.

1. G. alata Benth. & Hook. f. Gen. Pl. ii, 337; Oliv. Fl. Trop. Afr. iii, (1877) 368; Baker in Kew Bull. (1894) 333.—*Cichorium alatum* Hochst. et Steud. ex DC. Prodr. vii, 75.

HABITAT: II. Sandy plain near Bakaram, Mt. Sidr and Kesser (Fischer 33!); Wady Fatimah (Schimp. 853!).

III. Cultivated ground at Katan, 1,100 ft. (Lunt 153!).

FL.: Jan. 1894 (Lunt), Feb. 1836 (Schimp.), Feb. 1837 (Fischer).

FR.: Jan. 1894 (Lunt), Feb. 1836 (Schimp.).

DISTRIB.: Tropical Africa, Arabia.

30. Gymnarrhena Desf.

1. G. micrantha Desf. Mem. Mus. Paris, iv, 1, t. 1; Boiss. Fl. Or. iii, (1875) 240; Post Fl. Syr. etc. (1896) 424.—*Frankia Schimperi* Hochst. et Steud. in Schimp. Pl. Arab.—*Cryptadia euphratensis* Chesney Narr. Euph. 441, t. 95.

HABITAT: I. Between Suez and El Tor (Schimp. 899!); Arabia Petraea (Boiss.); Sinai to Dead Sea (ex Post).

FR.: May 1835 (Schimp.).

DISTRIB.: Spain, N. Africa, Egypt, Arabia Petraea, Palestine, Syria, Mesopotamia, Persia, Afghanistan, Baluchistan.

See Steudel, neber ein neues Pflanzengenus, Medicinisches Corresponzblatt, Würtemberg. ärztlichen Ver. vol. vi, no. 50, p. 394.

31. Rhanterium Desf.

1. R. epapposum Oliv. Ic. Pl. 1367.

HABITAT: IV. Central Arabia (Pelly!).

DISTRIB.: Arabia, Baluchistan.

NOTE: The brushwood of this portion of the desert.

The bushes branch from the ground. They are about one foot and a half high and from 2-5 ft. in circumference and where abundant from 3-6 ft. apart. The root is club-shaped and easily dragged from the ground (Pelly).

32. Anvillea DC.

1. **A. Garcini** DC. Prodr. v, 487; Boiss. Fl. Or. iii, (1875) 181; Post Fl. Syr. etc. (1896) 424.——*Buphthalmum arabicum* Del. Frag. Fl. Arab. Petr. (1833) n. 46, f. 4.

HABITAT: I. Egypt to Sinai (ex Post); Arabia Petraea (De Laborde); Central Midian (Burton !).

IV. Central Arabia: Shallow valleys and hollows (Pelly).

Fl.: Feb. (Pelly).

DISTRIB.: Egypt, Arabia, Palestine, Syria, Mesopotamia, Persia.

Vern. name: *Nu'Kud* (Burton).

33. Odontospermum Neck.

1. **O. graveolens** Sch.-Bip. in Webb et Berth. Phyt. Canar. ii, 232; Oliv. Fl. Trop. Afr. iii, (1877) 370; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 123.—*Buphthalmum graveolens* Forsk. Fl. Aeg.-Arab. (1775) 151.—*Asteriscus graveolens* DC. Prodr. v, 486; Boiss. Fl. Or. iii, (1875) 179; Post Fl. Syr. etc. (1896) 425.

HABITAT: I. Wady el Ain (Hart !); Wady Nasb (Lord !); Sinai (Drake 103 ! Auch.-Eloy 3083 !); desert of Suez and Sinai (Bové 116 !); Wadies about Dead Sea to Sinai (ex Post); Jebel Nakus (Musch.); Wady Sewook and neighbourhood (Lord !); Arabia Petraea (McDonald ! Boiss.!); Wady Barek and W. Lebweh (Hart !).

FL.: Mar. 1846 (Boiss.), Apr. 1868 (Lord), June 1832 (Bové).

FR.: Mar. 1846 (Boiss.), Apr. 1868 (Lord), June 1832 (Bové).

DISTRIB.: N. Africa, Egypt, Arabia Petraea.

Vern. name: *nimwâr, qassaikah, buheineh, nuqd* (Post).

Camels very fond of this plant (Lord).

2. **O. pygmaeum** Benth. & Hook. ex Aschers.-Schweinf. Ill. Fl. d'Eg. Suppl. (1889) 760; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 123.—*Asteriscus pygmaeus* Coss. et Dur. Sert. Thunet. 26; Boiss. Fl. Or. iii, (1875) 179; Post Fl. Syr. etc. (1896) 425.—*A. aquaticus* VAR. *pygmaeus* DC. Prodr. vii, 287 (quoad pl. arabicam).

HABITAT: I. Wady Ghurundel (Hart !); Oasis Feiran, Maghara (Kneuck.); Wady Gennah and neighbourhood (Lord !); Sinai (Auch.-Eloy 3094 !); Wady Hebran (Schimp. 336 !); Jebel Hammam—Sidna—Musa, Jebel Nakus, desert of Ka'a (Musch.); S. Midian: El Wijh to Wady Hami (Burton !).

FL.: Apr. 1835 (Schimp.).

FR.: May 1868 (Lord).

DISTRIB.: N. Africa, Arabia Petraea, Palestine, Persia, Baluchistan.

Vern. name: *nuqûd* (Post).

3. **O. Schimperi** Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 124.—*Asteriscus Schimperi* Boiss. Fl. Or. iii, (1875) 180; Post Fl. Syr. etc. (1896) 425.

HABITAT: I. Arabia Petraea: Used (Schimp. 719!); Sinai (ex Post).

DISTRIB.: Endemic.

34. Pallenis Cass.

1. **P. spinosa** Cass. in Dict. Sc. Nat. xxxvii, (1825) 275; Boiss. Fl. Or. iii, (1875) 180; Post Fl. Syr. etc. (1896) 425; Musch. Fl. Eg. ii, (1912) 989.—*Buphthalmum spinosum* L. Sp. Pl. (1753) 903.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Mediterranean region.

Vern. name: *Bakhûr Mariam* (Post).

35. Ambrosea L.

1. **A. maritima** L. Sp. Pl. (1753) 988; Boiss. Fl. Or. iii, (1875) 252; Post Fl. Syr. etc. (1896) 426; Musch. Fl. Eg. ii, (1912) 992.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Mediterranean region, Senegambia, Nubia.

Vern. name: *'Anbarîyeh, 'Useirah, Ghubeirah, Demsis* (Post).

36. Xanthium L.

1. **X. spinosum** L. Sp. Pl. (1753) 987; Boiss. Fl. Or. iii, (1875) 252; Post Fl. Syr. etc. (1896) 427; Musch. Fl. Eg. ii, (1912) 993.

HABITAT: I. Arabia Petraea (ex Musch.).

II. Wady el Kebir near Zeyda (Defl. 201!).

FL.: Dec. 1889 (Defl.).

DISTRIB.: S. Europe, Egypt, Arabia, Syria.

Vern. name: *Badhinjân-teridqi* (Post).

37. Eclipta L.

1. **E. erecta** L. Mant. ii, 286; Krause in Engl. Bot. Jahrb. xxxv, (1905) 737.—*E. alba* Hassk. Pl. Jav. Rar. 528; Oliv. Fl. Trop. Afr. iii, (1877) 373; Defl. Yemen (1889) 152.—*Micrelium tolak* Forsk. Fl. Aeg.-Arab. (1775) CXX, n. 511 and p. 153.

HABITAT: II. Near Hajeilah, 500-600 m. (Defl. 162, 170); Aggara, Hajeilah (S. 1031!); Wady Fatimah (Fischer 60!); Wady el Kebir in neighbourhood of Zeyda (Defl. 222!); Wady Kebir near Heathalim (Ellenb.); Hadiyah (Forsk.).

III. Dhofar Mts.: River bed at Derbat (Bent 223!); common in stream beds, foot of Dhofar Mts. (Bent 158!).

FL. : Jan. 1890 (Defl.), Feb. 1837 (Fischer), Feb. 1889 (S.).
FR. : Jan. 1890 (Defl.), Feb. 1889 (S.).
DISTRIB. : Cosmopolitan in warm countries.
Vern. name : *tolak* (Forsk.).

38. Sclerocarpus Jacq.

1. **S. africanus** Jacq. Ic. Pl. Rar. ii, 17, t. 176 ; Oliv. Fl. Trop. Afr. iii, (1877) 374 ; Defl. Yemen (1889) 152.

HABITAT : II. Near Wasil, 1,000 m. (Defl. 240 !).

DISTRIB. : Upper Guinea, Kordofan, Abyssinia, Mosambique, Arabia, India.

39. Blainvillea Cass.

1. **B. Gayana** Cass. in Dict. xlvii, 190 ; Oliv. Fl. Trop. Afr. iii, (1877) 375.

HABITAT : II. Wasil, 1,000 m. (S. 1193 !) ; Wady Djara near Gunfude in fields (Ehrenb.).

FL. : Feb. 1889 (S.).
FR. : Feb. 1889 (S.), Feb. (Ehrenb.).
DISTRIB. : Senegambia, Abyssinia, Arabia.

2. **B. latifolia** DC. in Wight Contrib. 17 ; Prodr. v, (1836) 492 ; Hook. f. Fl. Brit. Ind. iii, (1881) 305.—*B. rhomboidea* Cass. Dict. Sc. Nat. xxix, 494 ; Oliv. Fl. Trop. Afr. iii, (1877) 375.

HABITAT : II. Trop. Arabia (ex Oliver).

DISTRIB. : Kordofan, Abyssinia, Zambesi, Arabia, Tropical Asia, Australia, America.

40. Wedelia Jacq.

1. **W. abyssinica** Vatke in Oesterr. Bot. Zeitschr. (1875) 327 ; Oliv. Fl. Trop. Afr. iii, (1877) 377 ; Defl. Yemen (1889) 153.

HABITAT : II. Near Ibb, 1,800 m. (Defl. 660 !).

DISTRIB. : Abyssinia, Arabia.

41. Bidens L.

1. **B. pilosa** L. Sp. Pl. (1753) 832 ; Oliv. Fl. Trop. Afr. iii, (1877) 392 ; Defl. Yemen (1889) 153.—*B. abyssinica* Sch.-Bip. in Walp. Rep. vi, 167.

HABITAT : II. Near Wasil, 1,000 m. (Defl. 231 !) ; near Manakhah, 2,200 m. (Defl. 428).

DISTRIB. : Cosmopolitan in hot countries.

42. Chrysanthellum Rich.

1. C. sp.—*Bidens apiifolia* Forsk. Fl. Aeg.-Arab. (1775) CXIX, n. 481.

HABITAT: II. Hadiyah (Forsk.).

Vern. name: *sis* (Forsk.).

43. Anacyclus L.

1. **A. alexandrinus** Willd. Sp. Pl. iii, 2173; Boiss. Fl. Or. iii, (1875) 322; Musch. Fl. Eg. ii, (1912) 1005.—*Santolina terrestris* Forsk. Fl. Aeg.-Arab. (1775) LXXIII, n. 435 and p. 147.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: N. Africa, Arabia Petraea.

44. Achillea L.

1. **A. arabica** Kotschy in Sitzb. Kais. Akad. Wiss. lii, (1866) 5, t. I. B.

HABITAT: II. Between Jiddah and the boundaries of Asyr (ex Kotschy).

DISTRIB.: Endemic.

2. **A. auriculata** Willd. Sp. Pl. iii, 2203.—*A. semipectinata* Desf. Cat. Herb. Par. (1829) 403; DC. Prodr. vi, 27; Schenk Sp. Pl. it. Aeg. Arab. & Syr. (1840) n. 176.—*A. aegyptiaca* Hort.

HABITAT: I. Desert of Sinai (ex Schenk).

DISTRIB.: Orient.

3. **A. fragrantissima** Sch.-Bip. in Flora, xxxviii, 13; Boiss. Fl. Or. iii, (1875) 272; Post Fl. Syr. etc. (1896) 430.—*Santolina fragrantissima* Forsk. Fl. Aeg.-Arab. (1775) LXXIII, n. 436 and p. 147

HABITAT: I. Foot of Mt. Sinai (Bové 105! Schimp. 382! ex Boiss.); Sinai to Coelesyria (ex Post).

DISTRIB.: Egypt, Arabia Petraea, Palestine, Syria, Mesopotamia.

Vern. name: *Keysum, Babouneg, Gjasum* (ex Boiss.), *Gazoum* (Bové), *Keisum gebeli* (Forsk.), *Qaisûn, Babûnij, Bu'aiterân* (Post).

NOTE: For medical uses see Forsk. l. c.

4. **A. Santolina L.** Sp. Pl. (1753) 896; Del. Frag. Fl. Arab. Petr. (1833) n. 45; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, ii, (1834) 264; Boiss. Fl. Or. iii, (1875) 266.

HABITAT: I. Cultiv. ground near St. Catherine (Bové 99!); Arabia Petraea (De Laborde).

FL.: June 1832 (Bové).

DISTRIB.: N. Africa, Egypt, Arabia Petræa, Palestine, Syria, Asia Minor, Persia.

Vern. name: *Rebey-el-ghebel* (Bové).

45. **Diotis** Desf.

1. **D. maritima** Smith Engl. Fl. iii, 403; Boiss. Fl. Or. iii, (1875) 253; Post Fl. Syr. etc. (1896) 430; Musch. Fl. Eg. ii, (1912) 1007.

HABITAT : I. Arabia Petraea (ex Musch.).

DISTRIB. : Europe, Mediterranean region.

Vern. name : *Hashishat-er-Rih* (Post).

46. **Anthemis** L.

1. **A. Chia** L. Sp. Pl. (1753) 894; Boiss. Fl. Or. iii, (1875) 311 Post Fl. Syr. etc. (1896) 435; Musch. Fl. Eg. ii, (1912) 1003.

HABITAT : I. Arabia Petraea (ex Musch.).

DISTRIB. : Italy, Greece, Egypt, Arabia Petraea, Syria, Asia Minor.

2. **A. Cotula** L. Sp. Pl. (1753) 894; Boiss. Fl. Or. iii, (1875) 315; Post Fl. Syr. etc. (1896) 435.

HABITAT : I. Arabia Petraea (ex Post).

II. Jiddah (Zohrab 70 !).

DISTRIB. : Europe, Mediterranean region, Arabia, Caucasus, Siberia.

Vern. name : *Fuss-el-kilâb, Qahwân* (Post).

3. **A. deserta** Boiss. Fl. Or. iii, (1875) 305; Post. Fl. Syr. etc. (1896) 434; Kneuck. in Allg. Bot. Zeitsch. ix, (1903) 148; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 124.—*A. peregrina* Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2 ii, (1834) 264 (*non L.*).

HABITAT : I. Arabia Petr.: Ras Hamam (Schimp. 399!); Wady Ramleh, between Tor and Mt. Sinai (ex nota in H. K. !); Wady Ramleh (Bové 102!); Wady es Shaikh (Kneuck.); N., Central and S. Midian (Burton !).

FL. : Mar. 1835 (Schimp.), June 1832 (Bové).

FR. : Mar. 1835 (Schimp.), June 1832 (Bové).

DISTRIB. : Egypt, Arabia.

Vern. name : *Rébégan* (Bové), *Qurbayan* (Post), *Erebeijan* (Schimp.).

NOTE: Eaten by camels (Burton).

4. **A. melampodina** Del. Fl. d' Eg. 351, t. 45, f. 1; Boiss. Fl. Or. iii, (1875) 309; Post Fl. Syr. etc., (1896) 434.

HABITAT : I. Arabia Petraea (McDonald ! Pinard !); Sinai (Auch.-Eloy 3264 !); Sinai to Egypt (ex Post).

IV. In the neighbourhood of Kuwait (Pelly !).

Fl. : Feb. (Pelly).

DISTRIB. : Egypt, Arabia, Palestine.

Vern. name : *Qurbayán* (Post).

5. **A. microsperma** Boiss. & Kotschy Diagn. Pl. Or. ser. 2, v, 108; Fl. Or. iii, (1875) 298; Post Fl. Syr. etc. (1896) 433.

HABITAT: I. Arabia Petraea (ex Post).

DISTRIB.: Egypt, Arabia Petraea.

6. **A. philistea** Boiss. Fl. Or. iii, (1875) 302; Post Fl. Syr. etc. (1896) 433.

HABITAT: I. Arabia Petraea (ex Post).

DISTRIB.: Arabia Petraea, Palestine.

7. **A. retusa** Del. Ill. Fl. d'Eg. (1813) 105 (*non Link*).—*A. Kakirica* Vis. Pl. Aeg. p. 36, t. 6; Boiss. Fl. Or. iii, (1875) 316; Post Fl. Syr. etc. (1896) 436.

HABITAT: I. Convent of St. Catherine (Boiss. !).

DISTRIB.: Egypt, Arabia Petraea.

8. **A. rotata** Boiss. Fl. Or. iii, (1875) 318; Post Fl. Syr. etc. (1896) 436.—*A. arvensis* VAR. *incrassata* Aschers.-Schweinf. in Aschers.-Schweinf. Ill. Fl. Eg. 90, n. 560 (*non Boiss.*).

HABITAT: I. Arabia Petraea (Boiss.); Sinai to Egypt (ex Post).

DISTRIB.: Cyrenaica, Egypt, Arabia Petraea, Cyprus.

9. **A. odontostephana** Boiss. Diagn. Pl. Or. ser. 1, vi, 85; Fl. Or. iii, (1875) 319; Carter in Rec. Bot. Surv. Ind. vi, (1918) 203.

HABITAT: IV. Zor Hills (Cox 37).

DISTRIB.: Sind, Punjab, Baluchistan, Afghanistan, Persia, Arabia.

Vern. name: *Chahwiyan* (Cox).

"It is common especially in the sand hills but grows everywhere out of the swamps. Grazing animals feed on it but not very freely". (Cox).

47. Chrysanthemum L.

1. **C. coronarium** L. Sp. Pl. (1753) 890; Boiss. Fl. Or. iii, (1875) 336; Post Fl. Syr. etc. (1896) 438.

HABITAT: I. Wady Raphidim (Schimp. 96!).

DISTRIB.: Mediterranean region.

Vern. name: *Adharyûn* (Post).

48. Pyrethrum Gaertn.

1. **P. santolinoides** DC. in Dene. Fl. Sin. in Ann. Sc. Nat. ser. 2, ii, (1834) 264; Boiss. Fl. Or. iii, (1875) 353; Post Fl. Syr. etc. (1896) 439.—*Santolina sinaitica* Fres. Mus. Senck. 83.—*Tanacetum sinaicum* Del. ex Dene. l. c.

HABITAT: I. Desert of Sinai (Bové 96! Schimp. 315! Botta); Sinai 6,500 ft. (Rüppell).

FL.: May (ex Post).

DISTRIB.: Endemic.

Vern. name: *Meur* (ex Boiss.), *Murr* (Post).

49. Matricaria L.

1. **M. aurea** Boiss. Fl. Or. iii, (1875) 324; Post Fl. Syr. etc. (1896) 440.—*Cotula aurea* L. Sp. Pl. (1762) 1257.

HABITAT: I. Arabia Petraea (Boiss.! Pinard).

FL.: Mar. 1846 (Boiss.).

FR.: Mar. 1846 (Boiss.).

DISTRIB.: Mediterranean region, Mesopotamia, Persia.

Vern. name: *Bábânij* (Post).

2. **M. auriculata** Musch. Fl. Eg. ii, (1912) 1011.—*Chamaemelum auriculatum* Boiss. Diagn. Pl. Or. ser. 1, xi. 23; Fl. Or. iii, (1875) 327; Post Fl. Syr. etc. (1896) 437.

HABITAT: I. Arabia Petraea (Boiss.!); Et-Tih (ex Post).

DISTRIB.: Egypt, Arabia Petraea, Palestine.

3. **M. sp.** ex Carter in Rec. Bot. Surv. Ind. vi, (1918) 203.

HABITAT: IV. Zor Hills (Cox 7).

Vern. name: *Gargas, Garais* (Cox).

For uses see Carter l. c.

50. Cotula L.

1. **C. cinerea** Del. Ill. Fl. d'Eg. (1813) 131, t. 47, f. 4; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, ii, (1834) 265.—*Brocchia cinerea* Vis. Pl. Aeg. 35; Boiss. Fl. Or. iii, (1875) 358; Post Fl. Syr. etc. (1896) 440; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 124.

HABITAT: I. Wady Nasb (Lord!); Et Tih to Sinai (ex Post); Wady Ghurundel (Hart!); Desert of Tor (Bové 103!); Arabia Petraea (Boiss.!); Jebel Hammam-Sidna-Musa, Jebel Nakus, Desert Ka'a (Musch.).

FL.: Apr. 1868 (Lord), June 1832 (Bové).

FR.: Apr. 1868 (Lord), June 1832 (Bové).

DISTRIB.: N. Africa, Nubia, Egypt, Arabia Petraea.

Vern. name: *rubian* (ex Boiss.), *Afrach, Sekrân, Qurbayân Qurbiyân* (Post).

51. Artemisia L.

1. **A. Abrotanum** L. Sp. Pl. (1753) 845; Defl. Yemen (1889) 153.

HABITAT: II. Between Sanah and Raudha, 2,300 m. (Defl. 499).

DISTRIB.: Europe, temperate Asia.

2. **A. abyssinica** Sch.-Bip. in Herb. Schimp. Abyss. sect. III, n. 1862; Rich. Fl. Abyss. i, (1847) 420; Oliv. Fl. Trop. Afr. iii, (1877) 400. —*A. pontica* Forsk. Fl. Aeg.-Arab. (1775) CXIX, n. 489.

HABITAT: II. Cultivated in the plains and mountains of Yaman (Forsk.).

DISTRIB.: Abyssinia, Yaman.

Vern. name: *Baetran, Ghobaejre, Rand* (Forsk.).

3. **A. arborescens** L. Sp. Pl. (1762) 1188; Boiss. Fl. Or. iii, (1875) 372; Post Fl. Syr. etc. (1896) 441; Krause in Engl. Bot. Jahrb. xxxv, (1905) 737.

HABITAT: II. Near Lahaj (Busse).

DISTRIB.: Mediterranean region, Arabia.

Vern. name: *athalán, ibser* (Ellenbeck).

4. **A. Herba alba** Asso. Syn. Stirp. Arag. (1779) 117, t. 8, f. 1; Boiss. Fl. Or. iii, (1875) 365; Post Fl. Syr. etc. (1896) 440; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 125.

HABITAT: I. Wady er-Raha (Holland!); Wady Barak and Wady Lebweh (Hart!); Wady es Sle, Wady Hebran, Jebel Hammam-Sidna-Musa (Musch.).

DISTRIB.: Canaries, N. Africa, Arabia Petraea, Palestine, Syria, Persia, Afghanistan.

Vern. name: *ghorêrâ* (Musch.), *shîh, ghureirah* (Post).

5. **A. judaica** L. Amoen. ii, (1756) 463; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, ii, (1834) 265; Schenk Sp. Pl. it. Aeg. Arab. & Syr. (1840) n. 180; Boiss. Fl. Or. iii, (1875) 371; Post Fl. Syr. etc. (1896) 441; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 124.

HABITAT: I. Sinai: Om Shomer (Drake 38!); Desert of Suez and Sinai (Bové 98!); Wady Shaikh (Schimp. 128! Rüppell); Sinai to Egypt (ex Post); Arabia Petraea (Pinard! McDonald!); Desert of Ka'a (Musch.); all over the Sinai Peninsula (Kneuck.).

FL.: Mar. 1877 (S.), Apr. 1835 (Schimp.), June 1832 (Bové).

FR.: Mar. 1877 (S.), Apr. 1835 (Schimp.), June 1832 (Bové).

DISTRIB.: Egypt, Arabia Petraea.

Vern. name: *Berterann, Baskarann ou chejh* (Bové), *Bu'laiterân* (Post).

Baätheran (Schimp.), "*schyh*" of Genes. II, 5—XXI, 5, the "*schib*" of Holy Abbas and of Aviconna (Musch.).

Note: The Bedouins put branches of this plant into the nose of the camel in order to prevent the camel-fly from laying its eggs in the nostrils of the animal (Kneuck.).

Arabian wormwood from whence worm powder.

6. **A. monosperma** Del. Fl. Eg. 120, t. 43, f. 1; Boiss. Fl. Or. iii, (1875) 368; Post Fl. Syr. etc. (1896) 440; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 124.—*A. Delileiana* Bess. Suppl. 89.—*Oligosporus monospermus* Dcne. Pl. Bov. n. 172.

HABITAT: I. Coast of Et-Tih and Sinai (ex Post); in the neighbourhood of Tor (Bové 108 !).

FL.: Dec. 1832 (Bové).

FR.: Dec. 1832 (Bové).

DISTRIB.: Egypt, Arabia Petraea, Palestine, Syria.

Vern. name: *adeh* (Bové), *lellel* (Musch.), *adah* (Post).

52. Cineraria L.

1. **C. abyssinica** Sch.-Bip. in Herb. Schimp. Abyss. i, n. 335; Rich. Fl. Abyss. i, (1847) 433; Oliv. Fl. Trop. Afr. iii, (1877) 404; Defl. Yemen (1889) 153.

HABITAT: II. Near Yerim, 2,500 m. (Defl.); round Taez (Botta).

DISTRIB.: Abyssinia, Arabia.

2. **C. Schimperi** Sch.-Bip. in Herb. Schimp. Abyss. i, n. 184; Oliv. Fl. Trop. Afr. iii, (1877) 404; Defl. Yemen (1889) 153.—*Senecio lyratipartitus* Schultz l.c. iii, n. 1843; Rich. Fl. Abyss. i, (1847) 439.

HABITAT: II. Wasil, 1,400 m. (S.1131 !); near Manakhah 2,000 m. (Defl. 431 !); round Hes and Taez (Botta).

FL.: Feb. 1889 (S.).

FR.: Feb. 1889 (S.).

DISTRIB.: Abyssinia, Arabia.

53. Emilia Cass.

1. **E. sonchifolia** DC. Prodr. vi, 302; Oliv. Fl. Trop. Afr. iii, (1877) 405.—*Cacalia sonchifolia* L. Sp. Pl. (1753) 835; Forsk. Fl. Aeg.-Arab. (1775) CXIX, n. 485.

HABITAT: II. Hadiyah (Forsk.).

DISTRIB.: Asia and tropical Africa, Arabia.

Vern. name: *Saela, Oud el kárah* (Forsk.).

54. Notonia DC.

1. **N. obesa** Defl. in Bull. Soc. Bot. France, xliii, (1896) 108.

HABITAT: II. Top of Jebel el Areys (Defl. !).

DISTRIB.: Endemic.

2. **N. semperviva** Aschers. in Schweinf. Beitr. Fl. Aethiop. 152, n. 792; Defl. Yemen (1889) 153.—*Cacalia semperviva* Forsk. Fl. Aeg.-Arab.

(1775) CXIX, n. 484 and p. 146.—*C. sempervirens* Vahl Symb. Bot. iii, (1794) 92.—*N. trachycarpa* Kotschy in Pl. Binder (1866) 21, t. 8; Oliv. Fl. Trop. Afr. iii, (1877) 408.

HABITAT: II. Near Sanah, 2,400—2,600 m. (Defl. 475!); near Boka (Forsk.).

DISTRIB.: Abyssinia, Arabia.

55. Senecio L.

1. **S. auriculatus** Vahl. Symb. Bot. i, (1790) 72, t. 18.—*S. lyratus* Forsk. Fl. Aeg.-Arab. (1775) CXIX, n. 497 and p. 148 (*non L. neque DC.*).

HABITAT: II. Hadiyah, Barah (Forsk.).

DISTRIB.: Endemic.

Vern. name: *Mekatkat, horimrim* (Forsk.).

2. **S. biflorus** Vahl Symb. Bot. i, (1790) 72.—*S. linifolius* Forsk. Fl. Aeg.-Arab. (1775) CXIX, n. 502.

HABITAT: II. Djobba (Forsk.).

DISTRIB.: Endemic.

3. **S. bipartitus** Sch.-Bip. ex Defl. Yemen (1889) 155, nomen.

HABITAT: II. Between Hes and Taez (Botta).

DISTRIB.: Arabia.

4. **S. coronopifolius** Desf. Flor. Atlant. ii, (1798) 273; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, ii, (1834) 266; Boiss. Fl. Or. iii, (1875) 390; Carter in Rec. Bot. Surv. India vi, (1918) 203.—*S. squalidus* Forsk. Fl. Aeg.-Arab. (1775) LXXIII, n. 447 (*non L.*).

HABITAT: I. Foot of Mt. Sinai (Schimp.!); neighbourhood of Tor (Bové!); Wady es Sle, Oasis Feiran, between Feiran and Mahara (Kneuck.).

IV. Zor Hills (Cox 25); common on the sand hills near Ras Sandlafa (Cox).

DISTRIB.: Mediterranean region, Siberia, Tibet, Western Himalayas.

Vern. name: *Qurâi, jerjir, murier* (Post), zimloog (Cox).

5. **S. flavus** Sch.-Bip. in Webb & Benth. Phyt. Canar. iii, (1847) 317.—*S. Decaisnei* DC. Prodr. iii, 342; Boiss. Fl. Or. iii, (1875) 386; Post Fl. Syr. etc. (1896) 442; Kneuck. in Allg. Bot. Zeitsch. ix, (1903) 148.—*Crassocephalum flavum* Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, ii, (1834) 266.

HABITAT: I. Desert of Sinai (Bové!); Dead Sea to Sinai and Egypt (ex Post); Wady Shaikh, Wady Mokatteb, Wady Feiran (Schimp. 994! Boiss.); Desert Ka'a, Wady es Sle, Wady Tarfa, Wady es Shaikh, between Feiran and Mahara (Kneuck.).

DISTRIB. : Canaries, Algeria, Egypt, Arabia Petraea, Palestine, Persia, Afghanistan, Baluchistan.

Vern. name: *Richoub* (Bové), *Hammâd-Bahâyim, Murârah, a'âbi'el—' arâs* (Post).

f. **subsimplex** Bornm. in Kneuck. l. c.

HABITAT : Kneucker found it in the same localities where he noted the type.

DISTRIB. : Endemic.

6. **S. hadiensis** Forsk. Fl. Aeg.-Arab. (1775) CXIX, n. 498 and p. 149, t. XIX ; Defl. Yemen (1889) 153.

HABITAT: II. Wasil 1,400 m. (S. 1218 !); round Hes and Taez (Botta) ; Jebel Masar 1,800—2,000m. (Defl. 396 !) ; near Yerim, 2,600 m. (Defl. 655) ; Hadiyah (Forsk.).

FL. : Feb. 1889 (S.).

FR. : Feb. 1889 (S.).

DISTRIB. : Endemic.

Vern. name : *Saela abjad, chodrab, Saela el bakar* (Forsk.), *Chosla, vel chàrrua* (S.).

7. **S. harazianus** Defl. Yemen (1889) 154.

HABITAT : II. Jebel Shibam, Wady Shurfa (S. 1574 !) ; Jebel Masar and Jebel Shibam, 2,400 m. (Defl. 329, 426 !).

FL. : Feb. 1889 (S.).

FR. : Feb. 1889 (S.).

DISTRIB. : Endemic.

8. **S. kleinioides** ? Oliv. & Hiern in Oliv. Fl. Trop. Afr. iii, (1877) 421.

HABITAT : III. Mukalla (Hirsch 60).

DISTRIB. : Abyssinia, Arabia ?

Note : Specimen incomplete.

9. **S. odorus** Defl. Yemen (1889) 155.—*Cacalia odora* Forsk. Fl. Aeg.-Arab. (1775) CXIX, n. 483 and p. 146 ; A. Berger in Monatsschr. Kakt. (1905) 38.—*S. Scottii* Balf. f. in Proc. Roy. Soc. Edin. xi, (1882) 841, t. XL.—*Kleinia odora* DC. Prodr. vi, 339.—*S. Forskalii* Baill. Hist. Pl. viii, 308.

HABITAT : II. Near Sanah, 2,300 m. (Defl. 543) ; near Wasil, 1,000—1,200 m. (Defl. 241) ; Wasil, 1,300 m. (S. 1100 !) ; round Taez (Botta) ; Hadiyah (Forsk.).

III. Hadramaut (Hirsch 13).

FL. : Feb. 1889 (S.).

FR. : Feb. 1889 (S.).

DISTRIB. : Arabia, Socotra.....
Vern. name : *Edcher* (Forsk.), *Kérssab*, alias *Kohamm* (S.).

10. S. pendulus Defl. Yemen (1889) 155.—*Cacalia pendula* Forsk. Fl. Aeg.-Arab. (1775) CXIX, n. 482 and p. 145 ; Vahl Symb. Bot. iii, (1794) 90.—*Kleinia pendula* DC. Prodr. vi, 339.

HABITAT : II. Between Hes and Taez (Botta) ; Hadiyah (Forsk.).

DISTRIB. : Endemic.

Vern. name : *Kaad* (Forsk.).

NOTE : For medical uses see Forsk. l. c.

11. S. Schimperi Sch.-Bip. in Herb. Schimp. Abyss. sect. I, n. 144 et sect. II, n. 1880 ; Rich. Fl. Abyss. i, (1847) 435 ; Oliv. Fl. Trop. Afr. iii, (1877) 412.

HABITAT : II. Wasil, 1,300 m. (S. 1106 !) ; between Hes and Taez (Botta).

FL. : Feb. 1889 (S.).

FR. : Feb. 1889 (S.).

DISTRIB. : Abyssinia, Arabia.

Vern. name : *gúrrere* (S.).

12. S. subscandens Hochst. Herb. Schimp. Abyss. sect. III, n. 1926 ; Rich. Fl. Abyss. i, (1847) 434 ; Oliv. Fl. Trop. Afr. iii, (1877) 421.

HABITAT : II. Wasil, Wady Hejan, 1,000 m. (S. 1266 !) ; between Hes and Taez (Botta).

FL. : Feb. 1889 (S.).

FR. : Feb. 1889 (S.).

DISTRIB. : Mozambique, Abyssinia, Yaman.

Vern. name : *Charrua* (S.).

13. S. Sumarae Defl. Yemen (1889) 154.

HABITAT : II. Jebel el Sumara, 2,500 m. (Defl. 648).

DISTRIB. : Endemic.

14. S. vernalis Waldst. & Kit. Pl. Rar. Hung. i, 23, t. 24 ; Boiss. Fl. Or. iii, (1875) 389 ; Post Fl. Syr. etc. (1896) 442.

HABITAT : I. Arabia Petraea (ex Post).

DISTRIB. : Europe, N. Africa, E. Mediterranean region, Persia.

56. Euryops Cass.

1. E. arabicus Steud in Schimp. Pl. n. 852 ; Jaub. & Sp. Ill. Pl. Or. t. 355 ; Kotschy in Sitzb. Kais. Akad. Wiss. lii, (1866) 6 ; Boiss. Fl. Or.

iii, (1875) 415 ; Defl. Yemen (1889) 156.—*Caraea pinifolia* Hochst. ex. Oliv. Fl. Trop. Afr. iii, (1877) 423.

HABITAT : II. Jebel Cara and near Tayfa (Schimp. 852 !) ; near Sanah 2,700 m. (Defl. 471 !) ; near Beytadran, 2,500 m. (Defl. 567) ; near Dhamar, 2,400 m. (Defl 636) ; Hijaz (ex Kotschy) ; neighbourhood of Aden (Hunter 262 !).

IV. Masqat : Jebel Akhadhar (Auch.-Eloy 4712 !).

FL. : Dec. 1835 (Schimp.).

FR. : Dec. 1835 (Schimp.).

DISTRIB. : Endemic.

NOTE : For iconomic uses see Defl. 156.

57. Calendula L.

1. C. aegyptiaca Desf. Cat. Hort. Paris (1804) 100 ; Boiss. Fl. Or. iii, (1875) 419 ; Post Fl. Syr. etc. (1896) 444 ; Musch: Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 125.

HABITAT : I. Arabia Petraea (McDonald ! Boiss.!) ; N. & C. Midian (Burton!).

II. Manakhah, in lucerne, 2,500 m. (S. 1474 !).

IV. Neighbourhood of Kuwait (Pelly !).

FL. : Feb. 1889 (S., Pelly).

FR. : Feb. 1889 (S.).

DISTRIB. : Mediterranean region.

Vern. name : *tobb' aïny, muttên,' aïn esch-schems* (Aschers.), *Kahleh* (Post).

2. C. arvensis L. Sp. Pl. (1762) 1303 ; Del. Frag. Fl. Arab. Petr. (1833) n. 43 ; Boiss. Fl. Or. iii, (1875) 418 ; Post Fl. Syr. etc. (1896) 444 ; Carter in Rec. Bot. Serv. Ind. vi, (1918) 204.

HABITAT : I. Between Akaba and Suez (Milne !) ; Arabia Petraea (McDonald ! De Laborde !).

IV. Neighbourhood of Kuwait (Pelly !) ; Zor Hills (Cox 6), grows everywhere except in the swamps (Cox).

FL. : Jan. 1874 (Milne).

FR. : Jan. 1874 (Milne).

DISTRIB. : Europe, Canaries, N. Africa, Arabia, Palestine, Syria, Persia.

Vern. name : *Hanwa* (Cox).

Camels feed on it, but the Bedouins believe that it is fatal to camels to eat much of this plant (Cox).

3. C. persica C. A. Mey. Enum. 72 ; Boiss. Fl. Or. iii, (1875) 418 ; Post Fl. Syr. etc. (1896) 444.—*C. arvensis* M. B. Taur. Cauc. iii, 596 (*non L.*).

HABITAT : I. S. and W. borders of Et Tih (ex Post).

DISTRIB. : N. Africa, Egypt, Arabia Petraea, Palestine, Syria, Persia, Afghanistan.

58. Tripteris Less.

1. T. Vaillantii Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, ii, (1834) 260; Kotschy in Sitzb. Kais. Akad. Wiss. lii, (1866) 6; Boiss. Fl. Or. iii, (1875) 420; Oliv. Fl. Trop. Afr. iii, (1877) 424; Defl. Yemen (1889) 157; Post Fl. Syr. etc. (1896) 445.—*T. cheiranthifolia* Sch.-Bip. in Herb. Schimp. Abyss. i, n. 345 and iii, n. 1480.

HABITAT : I. Nakkeb (Schimp. 384!); Mt. Hor and Petra (Hart!); Mt. Sinai (Bové).

II. Manakhah, 2,300-2,500 m. (S. 1415!); Wasil, 1,400 m. (S. 1346!); near Manakhah, 2,300 m. (Defl. 276, 376); Asyr (ex Kotschy).

FL. : Feb. 1889 (S.), June 1835 (Schimp.).

FR. : Feb. 1889 (S.), June 1835 (Schimp.).

DISTRIB. : Abyssinia, Somaliland, Arabia.

Vern. name : *Jahdab, Marrar* (S.).

59. Gundelia L.

1. G. Tournefortii L. Sp. Pl. (1753) 814; Boiss. Fl. Or. iii, (1875) 421; Post Fl. Syr. etc. (1896) 445; Musch. Fl. Eg. ii, (1912) 1020.

HABITAT : I. Arabia Petraea (ex Musch.).

DISTRIB. : Eastern Mediterranean, Persia.

Vern. name : *'akkâb, Ka'âb, Ku'aib* (Post).

60. Echinops L.

1. E. glaberrimus DC. ex Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, ii, (1834) 260; Boiss. Fl. Or. iii, (1875) 427; Post Fl. Syr. etc. (1896) 446.—*E. spinosus* Bové exs. (*non L.*).

HABITAT : I. Mt. Sinai (Lord!); Wady Feiran (Lord!); Desert of Sinai (Bové 112!); Arabia Petraea (McDonald! Schimp. 267!); Et Tih (ex Post).

FR. : May 1868 (Lord), June 1832 (Bové).

DISTRIB. : Egypt, Arabia Petraea.

Vern. name : *Khashir* (Post).

NOTE : The only plant growing on the boulders of granite (Lord).

2. E. spinosus L. Mant. i, (1767) 119; Boiss. Fl. Or. iii, (1875) 429; Oliv. Fl. Trop. Afr. iii, (1877) 431; Defl. Yemen (1889) 157; Post Fl. Syr. etc. (1896) 446.—*Echinops* Forsk. Fl. Aeg.-Arab. (1775) CXIX, n. 480.

HABITAT: I. Central and S. Midian (Burton !).

II. Manakhah, 2,000 m. (S. 1533 ! 1733 ! Defl. 379) ; round Sanab, Kaukaban, Amran (Defl.).

III. Dhofar Mts., 2,000 ft. (Bent 188 !).

FL.: Feb. 1889 (S.).

FR.: Feb. 1889 (S.), Apr. 1878 (S.).

DISTRIB.: Abyssinia, Egypt, Arabia, Syria.

Vern. name: *diirdama* (Forsk.), *Shauk-el-Jemâl* (Post).

NOTE: Eaten by camels, sheep and asses (Burton).

61. Atractylis L.

1. **A. cancellata** L. Sp. Pl. (1753) 830 ; Boiss. Fl. Or. iii, (1875) 452 ; Post Fl. Syr. etc. (1896) 450.

HABITAT: II. Top of Mt. Sidr (Fischer 30 ! Schimp. 979 !).

FL.: Mar. (Fischer).

FR.: Mar. 1836 (Schimp.).

DISTRIB.: E. Mediterranean region, Arabia, Persia.

2. **A. flava** Desf. Fl. Atlant. ii, 254 ; Boiss. Fl. Or. iii, (1875) 452 ; Post Fl. Syr. etc. (1896) 450.—*Centaurea Carduus* Forsk. Fl. Aeg.-Arab. (1775) LXXIV, n. 467 and p. 152.

HABITAT: I. Ain Musa (Hart !) ; Desert of Sinai (Auch.-Eloy 3399 !) ; Wady Ghurundel (Boiss.) ; El Araba to Sinai and Egypt (ex Post) ; Wady Werdan (Kneuck.).

DISTRIB.: N. Africa, Arabia Petraea, Baluchistan.

Vern. name: *akeish, khosherâf* (Post).

VAR. **citrina** Musch. Fl. Eg. ii, (1912) 1024.—*A. flava* VAR. *glabrescens* Boiss. l.c. ; Post l. c.—*A. citrina* Coss. & Kral. in Bull. Soc. Bot. France, iv, (1857) 361.

HABITAT: I. Arabia Petraea (Boiss. !); Wady Aleyat, ca. 650-750 m. (Kneuck.).

DISTRIB.: Egypt, Arabia Petraea.

3. **A. prolifera** Boiss. Diagn. Pl. Or. ser. 1, x, 96 ; Fl. Or. iii, (1875) 452 ; Post Fl. Syr. etc. (1896) 450.

HABITAT: I. Arabia Petraea (Boiss. !); N. borders of Et-Tih (ex Post).

FL.: Apr. (Boiss.).

FR.: Apr. (Boiss.).

DISTRIB.: N. Africa, Arabia Petraea, Palestine.

4. **A. serratuloides** Sieb. ex Cass. Dict. l, 58; Boiss. Fl. Or. iii, (1875) 453; Post Fl. Syr. etc. (1896) 450.—*Acarna serratuloides* Spreng. Syst. iii, 379; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, ii, (1834) 259.

HABITAT: I. Neighbourhood of Sinai (Bové!).

DISTRIB.: N. Africa, Sinai, Palestine.

62. Carduus L.

1. **C. argentatus** L. Mant. 280; Boiss. Fl. Or. iii, (1875) 522; Post Fl. Syr. etc. (1896) 452; Musch. Fl. Eg. ii, (1912) 1026.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Greece, Asia Minor, Syria, Palestine, Arabia Petraea, Egypt, Mesopotamia.

2. **C. pycnocephalus** Jacq. Hort. Vind. i, 17, t. 44; Boiss. Fl. Or. iii, (1875) 520; Post Fl. Syr. etc. (1896) 453; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 126.

VAR. **arabicus** Boiss. l. c.; Post l. c.—*C. arabicus* Jacq. Coll. i, 56, t. 166.

HABITAT: I. Cultiv. ground of Sinai (Bové 106!); Wady Arbain, 5,000 ft. (Rüppell); Arabia Petraea (Schimp. 130! Boiss.).

FR.: June 1832 (Bové).

DISTRIB.: Of species: Mediterranean region.

Vern. name: *Hossiref* (Bové).

63. Cnicus L.

1. **C. lanceolatus** Willd. Fl. Berol. Prodr. (1787) 259; Oliv. Fl. Trop. Afr. iii, (1877) 435; Defl. Yemen (1889) 157.—*Cirsium abyssinicum* Sch.-Bip. Herb. Schimp. Abyss. ii, n. 1321; Rich. Fl. Abyss. i, (1847) 456.

HABITAT: II. Round Sanah and Raudha, 2,300 m. (Defl. 501!).

DISTRIB.: Europe, N. Africa, Abyssinia, Arabia, temperate Asia.

64. Onopordon L.

1. **O. ambiguum** Fres. Mus. Senck. i, (1833) 85; Boiss. Fl. Or. iii, (1875) 562; Post Fl. Syr. etc. (1896) 457.—*O. elongatum* Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, ii, (1834) 259 (*non DC.*).

HABITAT: I. Sinai Desert (Schimp. 356! Bové 113!); Sinai (Auch.-Eloy 3486! Holland!); Jebel Musa (Drake!); Wady Rim (Rüppell); Arabia Petraea (McDonald!).

FL.: May (Rüppell).

FR.: May 1835 (Schimp.), June 1832 (Bové).

DISTRIB.: Egypt, Arabia Petraea, Palestine, Syria.

Vern. name: *Hogeref* (Bové).

2. **O. Sibthorpianum** Boiss. et Heldr. in Pl. Graec. exs.; Fl. Or. iii, (1875) 561; Defl. Yemen (1889) 157.

HABITAT: II. Round Sanah and Raudha, 2,300 m. (Defl. 496 ! 526).

DISTRIB.: E. Mediterranean region, Arabia.

VAR. **Alexandrinum** Boiss. l. c. 562; Post Fl. Syr. etc. (1896) 457.—*O. Alexandrinum* Boiss. Diagn. Pl. Or. ser. 1, x, 93.

HABITAT: I. N. coast of Arabia Petraea (ex Post).

DISTRIB.: Egypt, Arabia Petraea, Palestine.

65. Cynara L.

1. **C. Cardunculus** L. Sp. Pl. (1753) 827; Boiss. Fl. Or. iii, (1875) 557; Musch. Fl. Eg. ii, (1912) 1028.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Mediterranean region.

2. **C. Scolymus** L. Sp. Pl. (1753) 827; Defl. Yemen (1889) 225; Post Fl. Syr. etc. (1896) 458.

HABITAT: I. Arabia Petraea (ex Musch.).
II. Yaman, cultivated (Defl.).

DISTRIB.: Mediterranean region, cultivated elsewhere.

Vern. name: *ardi-shauki* (Post).

3. **C. Sibthorpiana** Boiss. & Heldr. Diagn. Pl. Or. ser. 1, x, 94; Fl. Or. iii, (1875) 557; Musch. Fl. Eg. ii, (1912) 1028.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Egypt, Arabia Petraea, Greece.

66. Silybum Gaertn.

1. **S. Marianum** Gaertn. Fruct. ii, 378, t. 162, f. 2; Boiss. Fl. Or. iii, (1875) 556; Post Fl. Syr. etc. (1896) 458; Musch. Fl. Eg. ii, (1912) 1029.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Europe, Canaries, N. Africa, Egypt, Arabia Petraea, Syria, Palestine, Mesopotamia, Persia.

67. Crupina Cass.

1. **C. crupinastrum** Vis. Fl. Dalmat. ii, 42, t. 51, f. 3; Boiss. Fl. Or. iii, (1875) 699; Post Fl. Syr. etc. (1896) 461.

HABITAT: I. Arabia Petraea (ex Post).

DISTRIB.: Mediterranean region.

68. Volutarella Cass.

1. V. albicaulis Defl. in Bull. Soc. Bot. France, xliii, (1896) 109.

HABITAT: II. Jebel el Areys, near Serrya (Defl. 860 !).

FL.: Apr. 1893 (Defl.).

FR.: Apr. 1893 (Defl.).

DISTRIB.: Endemic.

69. Zoegea L.

1. Z. purpurea Fres. Mus. Senck. i, (1833) 86; Boiss. Fl. Or. iii, (1875) 698; Post Fl. Syr. etc. (1896) 461; Kneuck. in Allg. Bot. Zeitsch. ix, (1903) 148.

HABITAT: I. Arabia Petraea: Near Abu Mawad (Schimp. 109!); Arabia Petraea (McDonald! Boiss.); Wady Feiran (Lord!); Sinai Desert (Auch.-Eloy 3181!); Wady Aleyat (Kneuck.); Central Midian (Burton!).

FL.: May 1835 (Schimp.), May 1868 (Lord).

FR.: May 1835 (Schimp.), May 1868 (Lord).

DISTRIB.: Egypt, Arabia Petraea, Persia, Afghanistan, Baluchistan.

Uses: Eaten by cattle (Burton).

70. Centaurea L.

1. C. aegyptiaca L. Mant. 118; Boiss. Fl. Or. iii, (1875) 687; Post Fl. Syr. etc. (1896) 469.—*C. eriophora* Forsk. Fl. Aeg.-Arab. (1775) LXXIV, n. 465.

HABITAT: I. Wady Nasb (Drake! Lord!); Desert Tih (Boiss.!); Arabia Petraea to Egypt and southward (ex Post).

IV. Desert of Masqat (Auch.-Eloy 4848!).

FL.: Apr. 1868 (Lord), May (ex Post).

FR.: Mar. 1846 (Boiss.), Apr. 1868 (Lord).

DISTRIB.: Egypt, Arabia, Palestine, Syria.

Vern. name: *Yamrûr* (Post).

2. C. Ammocyamus Boiss. Diagn. Pl. Or. Ser. 1, x, 110; Fl. Or. iii, (1875) 640; Post Fl. Syr. etc. (1896) 464.

HABITAT: I. Arabia Petraea (Boiss.!); N. borders of Et Tih (ex Post).

FL.: Apr. (Boiss.).

DISTRIB.: Arabia Petraea, Palestine.

3. C. araneosa Boiss. Diagn. Pl. Or. ser. 1, x, 121; Fl. Or. iii, (1875) 691; Post Fl. Syr. etc. (1896) 470.

HABITAT: I. Arabia Petraea (ex Post); Wady Aleyat (Kneuck.).

DISTRIB.: Arabia Petraea, Palestine, Syria.

4. **C. crupinoides** Desf. Flor. Atlant. ii, (1798) 293.—*Amberboa crupinoides* DC. Prodr. vi, 557; Boiss. Fl. Or. iii, (1875) 606; Post Fl. Syr. etc. (1896) 461.—*A. sinaica* DC. l. c. 559.

HABITAT: I. Sinai (Auch.-Eloy 3158 !).

DISTRIB.: N. Africa, Nubia, Arabia Petraea, Palestine.

5. **C. dhofarica** Baker in Kew Bull. (1895) 192.

HABITAT: III. Hadramaut: Hafa (Bent 35 !).

DISTRIB.: Endemic.

6. **C. dimorpha** Viv. Fl. Libyc. (1824) 58, t. 24, f. 3; Boiss. Fl. Or. iii, (1875) 692; Musch. Fl. Eg. ii, (1912) 1039.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: N. Africa, Egypt, Arabia Petraea.

7. **C. eryngioides** Lam. Dict. i, 675; Dcne. Fl. Sin. in Ann. Sc. Nat. Ser. 2, ii, (1834) 259; Boiss. Fl. Or. iii, (1875) 659; Post Fl. Syr. etc. (1896) 465.—*Centaurea* Del. Frag. Fl. Arab. Petr. (1833) n. 42.—*Carduus eryngioides* P. Alpin. Exot. 158.

HABITAT: I. On the rocks of Sinai (Bové 107 !); Wady Nasb (Drake 52 !); near Senned (Drake !); Sinai (Auch.-Eloy 3149 ! Schimp. 327!); Mt. Sinai to Tor (Lord !); Arabia Petraea (Mc Donald !).

FL.: June 1832 (Bové), June 1868 (Lord).

FR.: Apr. 1877 (S.), May 1835 (Schimp.), June 1832 (Bové), June 1868 (Lord).

DISTRIB.: Egypt, Arabia Petraea, Palestine, Syria.

8. **C. Hochstetteri** Oliv. et Hiern Fl. Trop. Afr. iii, (1877) 438; Defl. Yemen (1889) 159.—*Amberboa abyssinica* Rich. Fl. Abyss. i, (1847) 453.

HABITAT: II. Jebel Nuqum and round Sanah, 2,400-2,600 m. (Defl. 473, 536).

DISTRIB.: Abyssinia, Yaman.

9. **C. Lippii** L. Sp. Pl. (1753) 910; Forsk. Fl. Aeg.-Arab. (1775) LXXIV, n. 464.—*Volutarella Lippii* Cass. in Dict. Sc. Nat. XLIV, (1826) 39.—*Amberboa Lippii* DC. Prodr. vi, 559; Boiss. Fl. Or. iii, (1875) 606; Post Fl. Syr. etc. (1896) 461.

HABITAT: I. Arabia Petraea (McDonald); Wady Hamme (Schimp. 211 !); Desert of Suez (Bové 114 !); Wady Gennah and neighbourhood (Lord !).

FL.: Mar. 1877 (S.), May 1868 (Lord)

FR.: Mar. 1835 (Schimp.), Mar. 1877 (S.), May 1868 (Lord), June 1832 (Bové).

DISTRIB.: Mediterranean region, Persia.

10. C. maxima Forsk. Fl. Aeg.-Arab. (1775) CXX, n. 512 and p. 152; Defl. Yemen (1889) 157.

HABITAT: II. Near Attara, 2,000 m. (Defl. 411!); near Bauan, 2,800 m. (Defl.); top of Jebel Shibam, 2,800 m. (Defl. 338); Manakhah, 2,400—2,700 m. (S. 1422!); Barah (Forsk.).

FL.: Feb. 1889 (S.).

FR.: Feb. 1889 (S.).

DISTRIB.: Endemic.

Vern. name: *Bogad, baejud, baeruad, mokar,* (Forsk.), *Ssenjam* (S.).

11. C. pallescens Del. Fl. Eg. 370, t. 49, f. 1; Boiss. Fl. Or. iii, (1875) 690; Defl. Yemen (1889) 158; Post Fl. Syr. etc. (1896) 470; Musch. Fl. Eg. ii, (1912) 1037.

HABITAT: I. Arabia Petraea (ex Musch.).

II. Jebel Nuqum, 2,400 m. (Defl. 454); round Sanah and Raudha, 2,300 m. (Defl. 535!).

DISTRIB.: Egypt, Arabia, Palestine, Syria, Mesopotamia.

12. C. Schimperi DC. Prodr. vi, 596.

HABITAT: II. Yaman: Tayfa (Schimp. 829!).

FL.: Dec. 1835 (Schimp.).

FR.: Dec. 1835 (Schimp.).

DISTRIB.: Endemic.

13. C. scoparia DC. Prodr. vi, 596; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, ii, (1834) 259.—*Phaeopappus scoparius* Boiss. Fl. Or. iii, (1875) 602; Post Fl. Syr. etc. (1896) 472.

HABITAT: I. Arabia Petraea (McDonald!); Sinai (Lord! Auch.-Eloy 3160!); Desert of Sinai (Bové 94!); foot of Mt. Sinai (Schimp. 417! 386!); Mt. Sinai (Lord!).

FR.: Mar. 1876, 1877 (S.), May 1868 (Lord), June 1832 (Bové), July 1835 (Schimp.).

DISTRIB.: Egypt, Arabia Petraea.

Vern. name: *Bircan* (Bové), *Birkán* (Post).

14. C. sinaica DC. Prodr. vi, 592; Boiss. Fl. Or. iii, (1875) 687; Post Fl. Syr. etc. (1896) 469.

HABITAT: I. Sinai (Auch.-Eloy 3139!); Sinai region (Schimp. 319!); Dead Sea to Sinai (ex Post); N. and S. Midian (Burton!).

FL. : May 1835 (Schimp.).
FR. : May 1835 (Schimp.).
DISTRIB. : Arabia Petraea, Palestine.
Vern. name : *Yemrar* (Burton), *Mour* (Schimp.).
Note : Eaten by sheep, asses, etc. (Burton).

15. C. solstitialis L. Sp. Pl. (1753) 917 ; Boiss. Fl. Or. iii, (1875) 685 ; Post Fl. Syr. etc. (1896) 469.
HABITAT : I. Wady Feiran and neighbourhood (Lord !) ; Wady Gennah and neighbourhood (Lord !).
FR. : May 1868 (Lord).
DISTRIB. : Europe, Mediterranean region, Mesopotamia, Persia.

16. C. virgata Lam. Dict. i, 670 ; Boiss. Fl. Or. iii, (1875) 651.
HABITAT : Arabia (Forster in H. K. !).
DISTRIB. : E. Mediterranean region, Persia, Afghanistan.

71. Carthamus L.

1. C. lanatus L. Sp. Pl. (1753) 830 ; Boiss. Fl. Or. iii, (1875) 706 ; Post Fl. Syr. etc. (1896) 473 ; Musch. Fl. Eg. ii, (1912) 1040.
HABITAT : I. Arabia Petraea (ex Musch.).
DISTRIB. : Europe, Mediterranean region, Abyssinia.
Vern. name : *Qurtum* (Post).

2. C. tinctorius L. Sp. Pl. (1753) 830 ; Boiss. Fl. Or. iii, (1875) 709 ; Post Fl. Syr. etc. (1896) 474 ; Musch. Fl. Eg. ii, (1912) 1042.
HABITAT : I. Arabia Petraea (ex Post).
DISTRIB. : Cultivated in many countries.
Vern. name : *'Usfur, Za'farán* (Post).
NOTE : Cultivated everywhere for its flowerets, which are used as a dye in cooking (Post).

72. Carduncellus Adans.

1. C. eriocephalus Boiss. Diagn. Pl. Or. ser. 1, x, 100 ; Fl. Or. iii, (1875) 711 ; Post Fl. Syr. etc. (1896) 474 ; Kneuck. in Allg. Bot. Zeitsch. ix, (1903) 148.
HABITAT : I. Ghazah to Egypt (ex Post) ; Wady Werdan (Kneuck.).
DISTRIB. : N. Africa, Arabia Petraea, Palestine.

2. C. kentrophylloides Baker in Kew Bull. (1895) 182.
HABITAT : III. Dhofar Mts., 2,600 ft. (Bent 192 !).
DISTRIB. : Endemic.

73. Dicoma Cass.

1. D. Schimperi O. Hoffm. in Engl. Prantl. Natürl. Pflanzenfam. iv, 5, 339 ; Blatt. Fl. Aden (1915) 230.—*Hochstetteria Schimperi* DC. Coll. Mem. ix, 23, t. 6 ; Prodr. vii, 287 ; Boiss. Fl. Or. iii, (1875) 219 ; Oliv. Fl. Trop. Afr. iii, (1877) 444 ; Post Fl. Syr. etc. (1896) 474.

HABITAT : I. Arabia Petraea (ex Post).

II. Jiddah (Zohrab 147 !) ; Wady Fatimah (Schimp. 864 !) ; Mt. Sidr and Kesser (Fischer 36 !) ; Aden (S. 52 ! Defl. 93 ! Hook. 76 ! Thomson !).

FL. : Feb. (Fischer), Feb. 1837 (Schimp.), Nov. 1889 (S.), Dec. 1847 (Hook.).

FR. : Feb. (Fischer), Feb. 1837 (Schimp.), Nov. 1889 (S.), Dec. 1847 (Hook.).

DISTRIB. : Nubia, Arabia, Baluchistan, Sind.

74. Gerbera Gronov.

1. G. piloselloides Cass. Dict. Sc. Nat. xviii, 461 ; Oliv. Fl. Trop. Afr. iii, (1877) 445.—*G. Schimperi* Sch.-Bip. in Herb. Schimp. Abyss. i, n. 185 ; Rich. Fl. Abyss. i, (1847) 458.

HABITAT : II. Above Manakhah, 2,500 m. (S. 1631 !).

FL. : Mar. 1888 (S.).

DISTRIB. : Tropical and S. Africa, Arabia, India, China.

VAR. **yemensis** Defl. Yemen (1889) 159.— ? *Arnica hirsuta* Forsk. Fl. Aeg.-Arab. (1775) CXX, n. 506 and 151.

HABITAT : II. Jebel Shibam, 2,600—2,800 m. (Defl. 310, 339 !) ; round Hes and Taez (Botta).

DISTRIB. : Endemic.

75. Scolymus L.

1. S. hispanicus L. Sp. Pl. (1753) 813 ; Boiss. Fl. Or. iii, (1875) 713 ; Post Fl. Syr. etc. (1896) 475 ; Musch. Fl. Eg. ii, (1912) 1045.

HABITAT : I. Arabia Petraea (ex Musch.).

DISTRIB. : Canaries, Mediterranean region.

2. S. maculatus L. Sp. Pl. (1753) 813 ; Boiss. Fl. Or. iii, (1875) 713 ; Post Fl. Syr. etc. (1896) 474 ; Musch. Fl. Eg. ii, (1912) 1044.

HABITAT : I. Arabia Petraea (ex Musch.).

DSTRIB. : Mediterranean region, Kordofan, Nubia.

76. Cichorium L.

1. **C. Bottae** Defl. Yemen (1889) 159.

HABITAT: II. Round Sanah and Metne, 2,300—5,000 m. (Defl. 539!); district of Taifa (Botta).

DISTRIB.: Endemic.

2. **C. endivia** L. Sp. Pl. (1753) 813; Forsk. Fl. Aeg.-Arab. (1775) LXXII, n. 421; Defl. Yemen (1889) 225; Musch. Fl. Eg. ii, (1912) 1046.

HABITAT: I. Arabia Petraea (ex Musch.).
II. Yaman, cultivated (Defl.).

DISTRIB.: Europe, Mediterranean region, spontaneous and often cultivated.

3. **C. pumilum** Jacq. Observ. Bot. iv, 3, t. 80; Musch. Fl. Eg. ii, (1912) 1046.—*C. divaricatum* Schousb. Mar. 197; Boiss. Fl. Or. iii, (1875) 716; Post Fl. Syr. etc. (1896) 475.

HABITAT: I. Arabia Petraea (ex Post).

DISTRIB.: Mediterranean region.

Vern. name: *maqd, Shikûrîyeh* (Post).

77. Hyoseris L.

1. **H. lucida** L. Mant. 103; Boiss. Fl. Or. iii, (1875) 718; Musch. Fl. Eg. ii, (1912) 1047.—*Lapsana taraxacoides* Forsk. Fl. Aeg.-Arab. (1775) LXXII, n. 419 and p. 145.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Cyrenaica, Marmarica, Egypt, Arabia Petraea.

78. Koelpinia Pall.

1. **K. linearis** Pall. Itin. iii, App. (1776) 755; Boiss. Fl. Or. iii, (1875) 721; Post Fl. Syr. etc. (1896) 477; Carter in Rec. Bot. Surv. Ind. vi, (1918) 204.

HABITAT: I. Arabia Petraea (Schimp. 194! Boiss.); Sinai (ex Post); Wady Shaikh, between Feiran and Maghara (Kneuck.).
IV. Zor Hills (Cox 12).

DISTRIB.: Mediterranean region, Persia, Afghanistan, Baluchistan, W. India.

Vern. name: *Th'ilug, Lahyat ultais* (Cox).

79. Rhagadiolus Juss.

1. **R. stellatus** Willd. Sp. Pl. iii, 1625; Boiss. Fl. Or. iii, (1875) 722; Musch. Fl. Eg. ii, (1912) 1048.

HABITAT : I. Arabia Petraea (ex Musch.).
DISTRIB. : Mediterranean region.

80. Hedypnois Schreb.

1. H. rhagadioloides Willd. Sp. Pl. iii, 1617 ; Musch. Fl. Eg. ii, (1912) 1049.

HABITAT : I.Arabia Petraea (ex Musch.).
DISTRIB. : Mediterranean region.

81. Picris L.

1. P. cyanocarpa Boiss. Diagn. Pl. Or. ser. 1, xi, 37 ; Fl. Or. iii, (1875) 739 ; Post Fl. Syr. etc. (1896) 479.

HABITAT : I. Wady Mokatteb (Boiss. !) ; valleys of Sinai (ex Post) ; Central Midian (Burton !).
FL. : Mar.-Apr. (ex Post).
DISTRIB. : Endemic.
Vern. name : *haudhan* (Post).

2. P. echioides L. Sp. Pl. (1753) 792 ; Musch. Fl. Eg. ii, (1912) 1053. —*Helminthia echioides* Gaertn. De Fruct. ii, 368 ; Boiss. Fl. Or. iii (1875) 742 ; Post Fl. Syr. etc. (1896) 480.

HABITAT : I. Arabia Petraea (ex Musch.).
DISTRIB. : Europe, Canaries, N. Africa, Arabia Petraea.

3. P. radicata Less. Syn. 134 ; Boiss. Fl. Or. iii, (1875) 740 ; Post Fl. Syr. etc. (1896) 479.—*P. coronopifolia* DC. Prodr. vii, 131.—*Crepis radicata* Forsk. Fl. Aeg.-Arab. (1775) LXXII, n. 410 ; CXVIII, n. 479 and p. 145.

HABITAT : I. Arabia Petraea (Boiss. !) ; foot of Mt. Sinai (Schimp. 409 !).
FL.: Mar. 1846 (Boiss.), Apr. 1835 (Schimp.).
FR.: Mar. 1846 (Boiss.).
DISTRIB. : Egypt, Arabia Petraea, Palestine.

4. P. Saharae Batt. in Batt. & Trab. Fl. de l'Alger. (1890) 545.—*Spitzelia Saharae* Cass. & Kral. in Bull. Soc. Bot. France, iv, (1857) 367.

HABITAT : I. Wady Nasb (Drake 46 !) ; S. Midian : Wady Hami Burton !).
FL. : Apr. 1878 (Burton).
FR. : Apr. 1878 (Burton).
DISTRIB. : N. Africa, Arabia.

5. P. scabra Forsk. Fl. Aeg.-Arab. (1775) CXVIII, n. 472 and p. 143.

HABITAT : II. Jebel Chadra (Forsk.).

DISTRIB. : Endemic.
Vern. name : *Myrrejr, murreir* (Forsk.).

6. **P. Sprengeriana** Lam. Dict. v, 310; Boiss. Fl. Or. iii, (1875) 738; Post Fl. Syr. etc. (1896) 479; Musch. Fl. Eg. ii, (1912) 1052.
HABITAT : I. Arabia Petraea (ex Musch.).
DISTRIB. : E. Mediterranean region, Mesopotamia.
VAR. **altissima** Aschers. & Schweinf. in Aschers. & Schweinf. Ill. Fl. d'Eg. (1887) 98, n. 635; Musch. l. c.
HABITAT : I. Arabia Petraea (ex Musch.).
DISTRIB. : Mediterranean region.

7. **P. strigosa** M. B. Flor. Taur. Cauc. ii, 250; Boiss. Fl. Or. iii, (1875) 736; Post Fl. Syr. etc. (1896) 478; Musch. Fl. Eg. ii, (1912) 1052.
HABITAT : I. Arabia Petraea (ex Musch.).
DISTRIB. : E. Mediterranean region, Persia.

8. **P. sulphurea** Del. Fl. Eg. 114, t. 40, f. 2; Boiss. Fl. Or. iii, (1875) 739; Post Fl. Syr. etc. (1896) 479.
HABITAT : I. Arabia Petraea (Boiss.); Sinai to Egypt (ex Post).
FL. : Feb.-Apr. (ex Post).
DISTRIB. : Egypt, Arabia Petraea.

82. Crepis L.

1. **C. arabica** Boiss. Fl. Or. iii, (1875) 853; Post Fl. Syr. etc. (1896) 482. —*Psammoseris arabica* Boiss. et Reut. Diagn. Pl. Or. ser. 1, xi, 52.
HABITAT : I. Arabia Petraea (Boiss.); Et-Tih (ex Post).
FL. : Apr. (ex Boiss.).
DISTRIB. : Endemic.

2. **C. aspera** L. Sp. Pl. (1753) 805; Boiss. Fl. Or. iii, (1875) 857; Post Fl. Syr. etc. (1896) 482.
HABITAT : I. Arabia Petraea (Boiss. !).
DISTRIB. : Arabia, Palestine, Syria, Mesopotamia.

3. **C. bifida** Musch. Fl. Eg. ii, (1912) 1068.—*Lagoseris bifida* Boiss. Fl. Or. iii, (1875) 881; Post Fl. Syr. etc. (1896) 482.
HABITAT : I. Arabia Petraea (Schimp. 409 ! Boiss., McDonald !); Wady Nasb (Drake 49 !); N. and Central Midian (Burton !).
FL. : Apr. 1835 (Schimp.).
FR. : Apr. 1835 (Schimp.).
DISTRIB. : Egypt, Arabia Petraea, Palestine, Syria, Asia Minor, Greece.
Vern. name : *halâwi* (Post).

4. **C. bulbosa** Tausch. Flora (1828) Erg. 78; Boiss. Fl. Or. iii, (1875) 833; Post Fl. Syr. etc. (1896) 480; Musch. Fl. Eg. ii, (1912) 1066.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Europe, Mediterranean region.

5. **C. parviflora** Desf. Cat. ed. 1, 88; Boiss. Fl. Or. iii, (1875) 849; Post Fl. Syr. etc. (1896) 481; Musch. Fl. Eg. ii, (1912) 1067.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: E. Mediterranean region, Persia.

Vern. name: *halâwi* (Post).

6. **C. Ruppellii** Sch.-Bip. Mus. Senck. iii, 57; Oliv. Fl. Trop. Afr. iii, (1877) 450.—*C. adenothrix* Sch.-Bip. in Herb. Schimp. Abyss. i, n. 217.—*Barkhausia adenothrix* A. Rich. Fl. Abyss. i, (1847) 465.

HABITAT: II. Wasil, 1,400 m. (S. 1140!); above and below Manakhah, 2,000-2,500 m. (S. 1417!).

FL.: Feb. 1889 (S.).

FR.: Feb. 1889 (S.).

DISTRIB.: Abyssinia, Yaman.

83. LEONTODON L.

1. **L. arabicum** Boiss. Fl. Or. iii, (1875) 728; Post Fl. Syr. etc. (1896) 484.

HABITAT: I. Northern borders of Et-Tih (ex Post); Arabia Petraea (Boiss.!).

FL.: Apr. (ex Boiss.).

DISTRIB.: Arabia Petraea, Palestine, Syria.

2. **L. hispidulum** Boiss. Fl. Or. iii, (1875) 727; Post Fl. Syr. etc. (1896) 484.—*Kalbfussia orientalis* Jaub. & Sp. Ill. Pl. Or. iii, 117, t. 283.—*Fidelia kalbfussioides* Sch.-Bip. Flora (1834) 482.

HABITAT: I. Arabia Petraea (Boiss.!); Et-Tih to Egypt (ex Post).

FL.: Mar. 1846 (Boiss.).

FR.: Mar. 1846 (Boiss.).

DISTRIB.: Egypt, Arabia Petraea, Syria, Mesopotamia, Persia.

3. **L. tuberosum** L. Sp. Pl. (1753) 799; Musch. Fl. Eg. ii, (1912) 1051. —*Thrincia tuberosa* DC. Fl. France, iv, 52; Boiss. Fl. Or. iii, (1875) 726; Post Fl. Syr. etc. (1896) 485.

HABITAT: I. Arabia Petraea (ex Musch.).
DISTRIB.: Mediterranean region.

84. LACTUCA L.

1. **L. arabica** Jaub. & Sp. Ill. Pl. Or. t. 282; Defl. Yemen (1889) 160.
HABITAT: II. Near Hajeilah, 800 m. (Defl. 255 !); in the mountains of Yaman (Botta).
DISTRIB.: Endemic?

2. **L. auriculata** DC. Prodr. vii, 140; Boiss. Fl. Or. iii, (1875) 814.—*L. Stocksii* Boiss. Diagn. Pl. Or. ser. 2, iii, 96.
HABITAT: IV. Region of Masqat (Auch.-Eloy 4879 !).
DISTRIB.: Arabia, Baluchistan, W. Himalaya, Nepal.

3. **L. capensis** Thunb. Fl. Cap. ed. Schultes 614; Oliv. Fl. Trop. Afr. iii, (1877) 452. — *L. Hochstetteri* Sch.-Bip. in Herb. Schimp. Abyss. sect. I, n. 128; Oliv. l. c. 453; Defl. Yemen (1889) 160.—*Pyrrhopappus Hochstetteri* Rich. Fl. Abyss. i, (1847) 463.
HABITAT: II. Kahil near Manakhah, 2,500 m. (S. 1455!); Wady Hejan near Wasil, 1,500 m. (S. 1801 !); near Lahaj (Defl.).
FL.: Feb. 1889 (S.).
FR.: Feb. 1889 (S.).
DISTRIB.: Trop. and S. Africa, Arabia.
NOTE: Schweinfurth's plants show violaceous as well as lilac flowers.

4. **L. cretica** Desf. Cor. Tourn. 44, t. 34; Boiss. Fl. Or. iii, (1875) 805; Post Fl. Syr. etc. (1896) 487.
HABITAT: III. Dhofar Mts.: Derbat, near coast (Bent 233 !).
DISTRIB.: Mediterranean region.

5. **L. goracensis** Sch.-Bip. in Flora (1842) 422; Oliv. Fl. Trop. Afr. iii, (1877) 452; Blatt. Fl. Aden (1915) 231.—*Microrhynchus octophyllus* Hochst. in Herb. Kotsch, Nub. n. 406.—*L. octophylla* Sch.-Bip. in Linnaea, xv, (1841) 725.—*L. nubica* Sch.-Bip. l. c.—*M. Hochstetteri* Sch.-Bip. ex Hochst. in Herb. Schimp. Abyss. iii, n. 1448.—*L. Petitiana* A. Rich. Fl. Abyss. i, (1847) 462.—*Sonchus Hochstetteri* Sch.-Bip. in Schweinf. Beitr. Fl. Aethiop. p. 160.
HABITAT: II. Aden (S.!).
DISTRIB.: Yaman, Eritrea, Abyssinia, Kordofan, Upper Guinea, Mozambique.

6. **L. inermis** Forsk. Fl. Aeg.-Arab. (1775) CXVIII, n. 475 and p. 144.

HABITAT: II. Kurme (Forsk.).

DISTRIB.: Endemic.

Vern. name: *kat er raejan* (Forsk.).

7. **L. orientalis** Boiss. Fl. Or. iii, (1875) 819; Post Fl. Syr. etc. (1896) 488.—*Phenopus orientalis* Boiss. Voy. Esp. 390.

HABITAT: I. Foot of Mt. Sinai (Schimp. 259!); Wady Lebweh to Wady es Shaikh (Hart!).

III. Dhofar Mts. on the coast (Bent 235!).

FR.: Aug. 1835 (Schimp.).

DISTRIB.: Egypt, Arabia, Palestine, Syria, Persia, Afghanistan, Tibet.

8. **L. remotiflora** DC. in Wight Contrib. (1834) 26; Cooke Fl. Bomb. ii, 60.—*L. Schimperi* Jaub. & Sp. Ill. Pl. Or. t. 281.

HABITAT: II. Near Mekka (Schimp. 156!).

DISTRIB.: Arabia, India.

9. **L. saligna** L. Sp. Pl. (1753) 796; Boiss. Fl. Or. iii, (1875) 810; Post Fl. Syr. etc. (1896) 487; Musch. Fl. Eg. ii, (1912) 1064.—*L. caucasica* C. Koch in Linnaea, xvii, 275.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Europe, Mediterranean region, Mesopotamia, Persia.

Vern. name: *sibbein-esh-sheikh* (Post).

10. **L. sativa** L. Sp. Pl. (1753) 795; Forsk. Fl. Aeg.-Arab. (1775) CXVIII, n. 474.

HABITAT: II. Yaman, cultiv. (Defl.); cultivated in the mountains (Forsk.).

DISTRIB.: Europe, Orient.

11. **L. Scariola** L. Sp. Pl. (1762) 1119; Boiss. Fl. Or. iii, (1875) 809; Post Fl. Syr. etc. (1896) 487.

HABITAT: I. Mt. Sinai (Schimp. 262!).

II. Jiddah (Zohrab 255!).

FL.: Aug. 1835 (Schimp.).

FR.: Aug. 1835 (Schimp.).

DISTRIB.: Europe, N. Africa, Abyssinia, Arabia.

12. **S. undulata** Ledeb. Fl. Act. iv, 156; Boiss. Fl. Or. iii, (1875) 813; Post Fl. Syr. etc. (1896) 487.

HABITAT: I. Mt. Sinai: Bestan (Schimp. 138!); Wady es Shaikh (Auch.-Eloy 3372!).

FL.: May 1835 (Schimp.).

FR.: May 1835 (Schimp.).

DISTRIB.: Arabia Petraea, Armenia, Persia, Baluchistan, Siberia.

13. S. yemensis Defl. Yemen (1889) 160.

HABITAT: II. Jebel Shibam, 2,400—2,600 m. (Defl. 301, 321, 357!); near Attara round Hes and Taez (Botta).

DISTRIB.: Endemic.

85. PICRIDIUM Desf.

1. P. tingitanum Desf. Fl. Atlant. ii, 220; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, ii, (1834) 259; Del. Frag. Fl. Arab. Petr. (1833) n. 39; Post Fl. Syr. etc. (1896) 488; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 126.—*Reichardia tingitana* Roth. Bot. Abh. (1787) 35.—*Scorzonera orientalis* L. (*partim*); Forsk. Fl. Aeg.-Arab. (1775) LXXII, n. 404 and p. 143.—*S. ciliata* Forsk. l. c. n. 405 and p. 143.

HABITAT: I. Arabia Petraea (McDonald!); Wady Nasb (Drake 59!); Sinai (Schimp. 330!); neighbourhood of Tor (Bové); N., S. and Central Midian (Burton!).

II. Jiddah (Zohrab 282! 45!); Wady Fatimah (Fischer 37! Schimp. 833!); neighbourhood of Aden (Hunter 110!).

IV. Masqat (Auch.-Eloy 4869!).

FL.: Feb. 1836 (Schimp.), Feb. 1837 (Fischer).

FR.: Feb. 1836 (Schimp.), Apr. 1835 (Schimp.).

DISTRIB.: Canaries, Mediterranean region, Abyssinia, Arabia, W. India.

Vern. name: *Huwwah, Murâr, Shedîd, Nuqd, Libbein, 'Udeid, Durdâ* (Post).

NOTE: Eaten by man and beast (Burton).

VAR. **minus** Boiss. Fl. Or. iii, (1875) 828.

HABITAT: I. Arabia Petraea (Boiss.! Kotschy 87!).

DISTRIB.: From Egypt to Afghanistan.

VAR. **subintegrum** Boiss. Fl. Or. iii, (1875) 828.—*P. arabicum* Hochst. et Steud. in Herb. Schimp. Arab. n. 833.

HABITAT: II. Yaman (Schimp.!); Bilad Hojeria, neighbourhood of Haifan, garden of the Sultan (Defl. 546!); Okeber, Jebel Milhan, 1,300 m. (S. 819!); near Hajeilah, 600—800 m. (Defl. 217, 237, 238); near Raudha, 2,300 m. (Defl. 568).

FL.: Jan. 1889 (S.), Apr. 1890 (Defl.).
FR.: Jan. 1889 (S.), Apr. 1890 (Defl.).
DISTRIB.: Endemic?
Vern. name: *Murra* (S.).

2. **P. vulgare** Desf. Fl. Atlant. ii, 221; Boiss. Fl. Or. iii, (1875) 828; Post Fl. Syr. etc. (1896) 489.—*Reichardia picroides* Roth. Bot. Abh. (1787) 35.—*Sonchus chondrilloides* Sibth. & Smith Fl. Graec. viii, 67, t. 791; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, ii, (1834) 259.
HABITAT: I. Arabia Petraea (ex Musch.); neighbourhood of Tor (Bové).
DISTRIB.: Mediterranean region.

86. SONCHUS L.

1. **S. glaucescens** Jordan. Observat. Bot. v, (1847) 75, t. 5; Boiss. Fl. Or. iii, (1875) 796; Post Fl. Syr. etc. (1896) 489; Musch. Fl. Eg. ii, (1912) 1062.
HABITAT: I. Arabia Petraea (ex Musch.).
DISTRIB.: Mediterranean region, Persia.

2. **S. melanolepis** Fres. in Mus. Senck. iii, (1839) 76; A. Rich. Fl. Abyss. i, (1847) 467; Oliv. Fl. Trop. Afr. iii, (1877) 460.
HABITAT: II. Wasil, 1,400 m. (S. 1316!).
FL.: Feb. 1889 (S.).
FR.: Feb. 1889 (S.).
DISTRIB.: Abyssinia, Yaman.

3. **S. oleraceus** L. Sp. Pl. (1753) 794; Forsk. Fl. Aeg.-Arab. (1775) CXVIII, n. 473; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, ii, (1834) 259; Boiss. Fl. Or. iii, (1875) 795; Post Fl. Syr. etc. (1896) 489.
HABITAT: I. Cultiv. ground of Mt. Sinai (Bové).
II. Uahfad (Forsk.).
DISTRIB.: Cosmopolitan.
Vern. name: *myrrejr*.

87. LAUNAEA Cass.

1. **L. angustifolia** Musch. Fl. Eg. ii, (1912) 1059.—*Zollikoferia angustifolia* Coss. & Dur. in Bull. Soc. Bot. France, ii, 254.—*Z. arabica* Boiss. Diagn. Pl. Or. ser. 1, vii, 12; Fl. Or. iii, (1875) 823; Post Fl. Syr. etc. (1896) 490.
HABITAT: I. Arabia Petraea (Schimp. 208!); Wady es Shaikh (Boiss.); Sinai and Et-Tih (ex Post); between Wady Ghurundel and Wady Werdan (Kneuck.).

FL.: Mar. 1835 (Schimp.).
FR.: Mar. 1835 (Schimp.).
DISTRIB.: Algeria, Tunisia, Tripolitania, Egypt, Arabia Petraea.
Vern. name: *Haudhân Yamrûr, 'Udeid, Mureir* (Post).

2. **L. Cassiniana** Musch. Fl. Eg. ii, (1912) 1058.—*Zollikoferia Cassiniana* Boiss. Fl. Or. iii, (1875) 822.—*Sonchus Cassinianus* Jaub. & Sp. Ill. Pl. Or. t. 280.
HABITAT: II. Jiddah (Schimp.); Hijaz (Botta).
DISTRIB.: Egypt, Arabia, Baluchistan, N. W. India.

3. **L. fallax** Musch. Fl. Eg. ii, (1912) 1060.—*Zollikoferia fallax* Boiss. Fl. Or. iii, (1875) 824; Post Fl. Syr. etc. (1896) 490.—*Microrrhynchus arabicus* Jaub. & Sp. Pl. Or. t. 277.
HABITAT: I. Sinai and eastwards (ex Post); near Tor (Botta).
IV. Near Masqat (Auch.-Eloy 4885!).
FL.: Feb.-Apr. (ex Post).
DISTRIB.: Egypt, Arabia, Persia, Afghanistan, N. India.
Vern. name: *Marûrah Huwwah* (Post).

4. **L. glomerata** Hook. f. Fl. Brit. Ind. iii, (1881) 417.—*Zollikoferia glomerata* Boiss. Fl. Or. iii, (1875) 826; Post Fl. Syr. etc. (1896) 491.—*Microrrhynchus glomeratus* Jaub. & Sp. Ill. Pl. Or. t. 275.
HABITAT: I. Wady Mokatteb (Boiss.!); between Maghara and Shellal (Kneuck.); Sinai and eastwards (ex Post); Jebel Catherine (Schimp.).
II. Jiddah (Zohrab 102!); Wady Fatimah (Fischer 34!).
FL.: Feb. 1837 (Fischer), Mar., Apr. (ex Post).
FR.: Feb. 1837 (Fischer).
DISTRIB.: N. Africa, Egypt, Arabia, Persia, Sind, Punjab.
Vern. name: *Halâwat-el-Ghazlân, Hûwwah, Hûwwat-el-Kilâb, Hufeifah* (Post).

5. **L. massavensis** Musch. Fl. Eg. ii, (1912) 1060.—*L. lactucoides* O. Hoffm. in Engl.-Prantl Pflanzenf. iv, 5, 370; Blatt. Fl. Aden (1915) 232.—*Heterachaena massavensis* Fres. in Mus. Senckenb. iii, 74; Oliv. Fl. Trop. Afr. iii, (1877) 455.—*Brachyramphus lactucoides* Anders. Fl. Aden. (1860) 23.—*Lactuca massaviensis* Sch.-Bip. in Herb. Schimp. Abyss. ii, n. 1045; iii, n. 1462.—*Sonchus massaviensis* Sch.-Bip. in Schweinf. Beitr. Fl. Aethiop. p. 160.—*Zollikoferia massavensis* Boiss. Fl. Or. iii, (1875) 825; Post Fl. Syr. etc. (1896) 491.
HABITAT: I. Arabia Petraea (ex Post).
II. Wasil (S. 1302!); Wady Fatimah (Fischer 178!); Aden (Hook. f.! Defl.! Birdw.! Busse! Thomson!).

FL.: Feb. 1837 (Fischer), Feb. 1889 (S.), Apr. (ex Post).

FR.: Feb. 1837 (Fischer), Feb. 1889 (S.).

DISTRIB.: Algeria, Egypt, Nubia, Abyssinia, Somaliland, Arabia, Socotra.

6. L. mucronata Musch. Fl. Eg. ii, (1912) 1057.—*Zollikoferia mucronata* Boiss. Diagn. Pl. Or. ser. 1, vii, 12; Fl. Or. iii, (1875) 822; Post Fl. Syr. etc. (1896) 490.—*Sonchus Candolleanus* Jaub. & Sp. Ill. Pl. Or. t. 279.—*Leontodon mucronatum* Forsk. Fl. Aeg.-Arab. (1775) LXXII, n. 415 and p. 144.—*Launaea chondrilloides* Hook. f. Fl. Brit. Ind. iii, (1881) 415.

HABITAT: I. Et Tih (ex Post); between Nuckl and Ghazah (Boiss.!).

DISTRIB.: Algeria, Tunisia, Tripolitania, Arabia Petraea, Palestine, Mesopotamia, Persia, Sind, Punjab.

7. L. nudicaulis Hook. f. Fl. Brit. Ind. iii, (1881) 416; Musch. Verh. Bot. Ver. Prov. Brandenb. xlix, (1907) 126; Blatt. Fl. Aden (1915) 233; Carter in Rec. Bot. Surv. Ind. vi, (1918) 205.—*Zollikoferia nudicaulis* Boiss. Fl. Or. iii, (1875) 824; Defl. Yemen (1889) 160; Post Fl. Syr. etc. (1896) 490.—*Microrhynchus nudicaulis* Less. Syn. 139 (*partim*); Schenk Sp. Pl. it. Aeg. Arab. & Syr. (1840) n. 185; Kotschy in Sitzb. Kais. Akad. Wiss. lii, (1866) 6.—*Lactuca flava* Forsk. Fl. Aeg.-Arab. (1775) CXVIII, n. 476 and p. 143.—*Sonchus divaricatus* Desf.; Jaub. & Sp. Ill. Pl. Or. t. 278.

HABITAT: I. Wady Sewook (Lord !); Mt. Sinai (ex Schenk; ex Post); Jebel Catherine (Drake 24!); Arabia Petraea (Pinard); Wady Hamme (Schimp. 430!); Wady es Sle, Wady Tarfa, Plain of Raha, Jebel Catherine, 2,450 m., Wady Ghurundel (Kneuck.); Nu'aman Isl. in Red Sea (Burton!); Central and Southern Midian (Burton!).

II. Jiddah (Zohrab 240!); Wady Fatimah (Fischer 38! 41! Schimp. 856! 992!); Hijaz (ex Kotschy); near Sanah, 2,300-2,400 m. (Defl. 456); Surdud (Forsk.); Aden (Birdw. Hildebr. Ellenbeck).

III. Dhofar Mts.: Hafa (Bent 40!).

IV. Masqat (Auch.-Eloy 1885!); Zor Hills (Cox 48).

FL.: Feb. 1836 (Schimp.), Feb. 1837 (Fischer), Mar. 1835 (Schimp.), Apr. 1868 (Lord).

FR.: Feb. 1836 (Schimp.), Mar. 1835 (Schimp.).

DISTRIB.: S. Spain, Canaries, N. Africa, Arabia, Sind, Punjab, Afghanistan, N. W. India, Deccan.

Vern. name: *Hindibe* (Forsk.); *Hua* (Cox).

Uses: It is eaten by Bedouins and also by townsmen. All grazing animals devour it freely (Cox).

8. **L. spinosa** Sch.-Bip. in Webb & Berth. Canar. ii, (1847) 428.—*Zollikoferia spinosa* Boiss. Fl. Or. iii, (1875) 826; Post Fl. Syr. etc. (1896) 491.—*Prenanthes spinosa* Forsk. Fl. Aeg.-Arab. (1775) LXXII, n. 409 and p. 144.—*Lactuca spinosa* Lam. Dict. iii, 408; Baker in Kew Bull. (1894) 334.

HABITAT: I. Mt. Sinai (Bové 100!); Wady es Shaikh (Drake!); Wady Hebran (Schimp. 387!); Wady Lebweh to Wady es Shaikh (Hart!); Wady es Sle (Kneuck.).

III. Hills at Disbeh, 4,000 ft. (Lunt 203!); Hadramaut (Hirsch 33).

FL.: Feb.-Apr. (ex Post), Apr. 1876, 1877 (S.).

FR.: Apr. 1876, 1877 (S.).

DISTRIB.: Canaries, Morocco, Spain, Egypt, Arabia, Palestine.

Vern. name: *Cabbass* (Bové), *Kebâdeh*, *Zagweh* (Post).

9. **L. tenuiloba** Musch. Fl. Eg. ii, (1912) 1058.—*Zollikoferia tenuiloba* Boiss. Diagn. Pl. Or. ser. 1, xi, 50; Fl. Or. iii, (1875) 822; Post Fl. Syr. etc. (1896) 490.

HABITAT: I: Arabia Petraea (Boiss., S. 273!); Et Tih (ex Post).

FL.: Apr. 1846 (Boiss.).

FR.: Apr. 1846 (Boiss.).

DISTRIB.: Egypt, Arabia Petraea, Palestine.

Vern. name: *ya'dīd* (Post).

88. Tragopogon L.

1. **S. collinum** DC. Prodr. vii, 115; Boiss. Fl. Or. iii, (1875) 746.

HABITAT: I. Top of Mt. Sinai (Schimp. 349!).

DISTRIB.: Sinai, Persia, Transcaucasus.

2. **T. glaber** Benth. & Hook. Gen. Pl. ii, 618; Musch. Fl. Eg. ii, (1912) 1054.—*Geropogon glaber* L. Sp. Pl. (1762) 1109; Boiss. Fl. Or. iii, (1875) 744; Post Fl. Syr. etc. (1896) 492.

HABITAT: I. Arabia Petraea (ex Musch.).

DISTRIB.: Mediterranean region.

3. **T. longirostre** Bisch. in Webb Phyt. Canar. ii, 469; Boiss. Fl. Or. iii, (1875) 745.—*T. majus* Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, ii, (1834) 259.

HABITAT: I. Desert of Sinai (Bové 115!).

DISTRIB.: E. Mediterranean region.

Vern. name: *Rahhah* (Bové).

89. Urospermum Scop.

1. **U. picroides** F. W. Schm. Samml. phys. oek. Aufs. i, (1795) 275; Dcne. Fl. Sin. in Ann. Sc. Nat. ser. 2, ii, (1834) 259.

HABITAT: I. Mt. Sinai (Bové 119!); Arabia Petraea (McDonald!); N. Midian (Burton!).

FL.: June 1832 (Bové).

FR.: June 1832 (Bové).

DISTRIB.: Mediterranean region, Persia.

Vern. name: *Mourron-el-ghebel* (Bové).

90. Scorzonera L.

1. **S. lanata** M. B. Taur. Cauc. ii, 237; Boiss. Fl.Or. iii, (1875) 776; Post Fl. Syr. etc. (1896) 494.

HABITAT: I. Et-Tih (ex Post).

DISTRIB.: Greece, Asia Minor, Syria, Palestine, Arabia Petraea, Mesopotamia, Persia.

Vern. name: *mussah, dhebahlil* (Post).

2. **S. mollis** M. B. Taur. Cauc. iii, 522; Boiss. Fl. Or. iii, (1875) 761; Post Fl. Syr. etc. (1896) 493.—*S. undulata* Vahl Symb. Bot. ii, (1791) 86 (*aartim*).

HABITAT: I. Mt. Sinai (Schimp. 129!).

FL.: Apr. 1835 (Schimp.).

DISTRIB.: Mediterranean region to Persia.

Vern. name: *Dal halil* (Schimp.).

VAR. **glabrata** Bornm. ex Kneuck. in Allg. Bot. Zeitsch. ix, (1903) 148.

HABITAT: I. Towards top of Jebel Catherine, 2,450 m. (Kneuck.).

DISTRIB.: Endemic.

3. **S. papposa** DC. Prodr. vii, 119; Boiss. Fl. Or. iii, (1875) 765; Post Fl. Syr. etc. (1896) 493.—*S. Kurdica* Boiss. et Noë Diagn. Pl. Or. ser 2, iii, 93.

HABITAT: I. Arabia Petraea (Boiss.!).

FL.: Apr. 1846 (Boiss.).

FR.: Apr. 1846 (Boiss.).

DISTRIB.: Arabia Petraea, Palestine, Syria, Mesopotamia, Persia.

Species dubiae.

1. **Scorzonera dubia** ? Forsk. Fl. Aeg.-Arab. (1775) CXVIII, n. 470-Launaea sp.

HABITAT: II. Mountainous region of Yaman (Forsk.).

Vern. name: *myrr* (Forsk.).

2. **S. orientalis** Forsk. l. c. CXVIII, n. 471-Launaea sp.

HABITAT: II. Hadiyah (Forsk.).

Vern. name: *myrrejr* (Forsk.).

SGPI—S3—13 DBSI—4-8-21—450.

Reg. No. 2952. E 19

Emery Walker sc.

Helio., S. I. O., Calcutta.

Botanical Regions of Arabia.

I. The Extra-Tropical West. II. The Tropical West.
III. The Tropical East. IV. The Extra-Tropical East.

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