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Photo. S. I. O., Calcutta.

Map to illustrate Report on plants collected during the Chitral Relief Expedition.

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THE BOTANY OF THE CHITRAL RELIEF EXPEDITION, 1895.

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THE military operations, which were undertaken in connection with the relief of Chitral during the spring and summer of 1895, afforded a good opportunity for investigating the flora of a large tract of unexplored country included within 71° — 73° E. Long. and 36° — 34° N. Lat.

Permission having been obtained for a plant collector from the Botanical Department of Northern India to accompany the expedition, Inayat Khan, an experienced collector, was sent off early in April with orders to report himself to Surgeon-Lieutenant Harriss, who was specially deputed by the Principal Medical Officer to superintend the collection of botanical specimens.

A very interesting collection was obtained of all the plants observed along the route northwards as far as Chitral, and the carefully recorded information supplied by Surgeon-Lieutenant Harriss as regards the locality and the elevation above the sea of each gathering added very much to its value.

This officer unfortunately fell sick about the beginning of July, and as no other officer was available at the time for superintending the work, the plant collector was ordered to return to India.

Early in August I was informed by General Gatacre, C.B., D.S.O., who was in command of the advance brigade, that he had been collecting botanical specimens since the commencement of the campaign. He very kindly offered to make over the whole of his specimens to the Botanical Department; another plant collector was therefore sent to meet him at Mirga in order to complete the collections and bring them back to Saharanpur. This contribution proved to be a most valuable addition to the previous one, as several of the specimens were collected in many out-of-the-way localities which Surgeon-Lieutenant Harriss was unable to visit.

A third contribution was received later in the year from Surgeon-Lieutenant-Colonel Hamilton, whose co-operation was secured by General Gatacre. This collection, which consisted chiefly of plants found in the neighbourhood of Drosh, was very acceptable, as several of the species were not included in the two previous instalments.

I have since received from Colonel Davidson, Commanding at Chitral, a small, but interesting, collection of plants gathered by him on the Dorah Pass, between 14,000 and 15,000 feet above the sea. These also are included in the general list which follows.

In order to render this list as complete as possible I have included the names of several plants, which Captain F. E. Younghusband kindly sent to me from the Chitral district in 1894, together with a few mentioned by Surgeon-Major Giles as occurring in the neighbourhood of Chitral, and collected by him during the Chitral-Kafiristan Expedition in 1884-85 under Colonel (now Sir William) Lockhart.

The majority of the specimens enumerated in the following list were collected between 3,000 and 13,000 feet above the sea. The hot steamy atmosphere which prevails during the summer months in the lower confined portions of the Swat, Panjkora, and other valleys encourages a luxuriant growth of plants, many of which are characteristic of the plains of India; and the extensive cultivation of various crops which is carried on in some of these valleys, where irrigation can be easily applied, must account for the presence of many species which could not otherwise find a home here. Up to 5,000 or 6,000 feet there are large tracts of stony undulating country, where the air is very hot and dry during the summer, and here the vegetation resembles that of Baluchistan and Afghanistan. The flora of the more elevated portions of the country, between the lowest limit of snowfall and the highest limit of vegetation, resembles for the most part that of Kashmir and Baltistan, with the addition of some Central Asian and Siberian forms.

There are some fine forests in the neighbourhood of the Lowari Pass containing chiefly spruce (*Picea Morinda*), silver fir (*Abies Webbiana*), deodar and blue pine (*Pinus excelsa*); yew and pencil cedar (*Juniperus macropoda*) also occur, together with horse-chestnut, maple (*Acer cæsium*), *Prunus Padus*, *Pyrus lanata*, and *Ulmus Wallichiana*. The prevailing oak in this part of the country is *Quercus Ilex*, *Q. incana* and *dilatata* also occur. An excellent series of photographs taken by Sergeant-Major Develin, R.E., under the supervision of General Gatacre, gives a very good idea of the country between Nowshera and Chitral.

The total number of species and varieties included in the following list amounts to 934; they represent 93 natural orders and 459 genera.

The natural orders containing the largest number of species are:—*Compositæ* 72, *Labiatae* 62, *Gramineæ* 61, *Leguminosæ* 45, *Rosaceæ* 44, *Ranunculacæ* 38, *Musci* 33, *Cruciferæ* 29, *Filices* 27, *Caryo-*

phyllæ 28, *Umbelliferæ* 27, *Liliaceæ* 25, *Boragineæ* 24, *Scrophularineæ* 23, *Polygonaceæ* 21.

The number of species and varieties not included in the flora of British India is 82; of these two have been recently described, *vis.*, *Corydalis cyrtocentra*, Prain, in *Journ. As. Soc., Beng., Vol. LXV, pt. 2, p. 20* (1896); and *Sophora mollis*, Grah. var. *Duthiei*, Prain, in *Journ. As. Soc., Beng., Vol. LXVI, pt. II, No. 2* (1897), p. 467. The description of a new species of *Androsace* (*A. Harrissii*) will be found in its place in the list.

In the Flora of British India, Volume VII, page 329, mention is made of a new species of *Diplachne* (*D. Gatacrei*), a description of which by Dr. Stapf will shortly be published in the Kew Bulletin.

Of the ferns, two new species, *Asplenium Mackinnoni* and *Nephrodium ramosum*, were described by Mr. C. W. Hope in a paper on the ferns of the Chitral Relief Expedition, published in the March number of the Journal of Botany for 1896, p. 122. The former had been collected previously in many localities between Kashmir and Kumaon, also in Sikkim; but Mr. Hope having detected some important differences between it and *A. nigripes*, Mett., with which it had been confused, has published it as a new species. *Nephrodium ramosum* had also been gathered before in Afghanistan and on the Western Himalaya as far east as Tehri Garhwal, but had not been correctly identified.

The most interesting ferns, however, collected on this expedition are *Pteris ludens*, Wall., and *Lygodium microphyllum*, R. Br., found by General Gatacre in the Ziarat Valley, the former at 5,000 and 8,000 feet, and the latter at 5,000 feet above the sea. Mr. Hope remarks that the most westerly extension of *P. ludens* in the Indian Peninsula is in Orissa in about 21½° N. Lat. and 86° E. Long.; while *L. microphyllum* was not known to occur west of Assam, Bhutan, and the plain of North Bengal.

I must not omit to mention my obligations to Surgeon-Major D. Prain for his kind assistance in the determination of the *Leguminosæ*, and to Mr. C. W. Hope in regard to the ferns. To Dr. Brotherus I am also much indebted for the names of all the mosses collected during the expedition.

A LIST OF THE BOTANICAL SPECIMENS COLLECTED DURING THE CHITRAL RELIEF EXPEDITION OF 1895.

Names preceded by an asterisk are not included in the Flora of British India.

RANUNCULACEÆ.

- Clematis connata*, D.C. Mirga, 6,000'—8,000' (Gatacre).
C. grata, Wall. Kashgaria, 5,000'; Mirga Valley, 7,200'; Zakhannah Pass, 8,500' (Gatacre); near Drosh (Hamilton).
C. graveolens, Lindl. Arnawei Valley (Gatacre); Chitrál Valley, 4,000'—5,000' (Hamilton).
C. montana, Buch-Ham. Mirga; Jambatai, 5,000'—6,000' (Harriss); Gujar Valley (Gatacre).
C. orientalis, L. Robat, 4,000'; Laram, 6,000'—7,000' (Gatacre); Chitrál district (Youngusband, 1894).
Thalictrum elegans, Wall. Chitrál district (Hamilton).
T. foliolosum, D.C. Lowári Pass, 10,500' (Harriss).
 * *T. isopyroides*, C. A. Mey. Chitrál district (Hamilton); Distrib. Persia, Afghanistan, Baluchistán, and North Asia.
T. pedunculatum, Edgew. Ziárat Valley, 4,000'—7,000'; Jambatai, 6,000'; Ziarat, 8,000' (Harriss).
Anemone biflora, D.C. Chitrál district (Hamilton), (Youngusband, 1894).
A. Falconeri, Thoms. Bundai, 7,000' (Harriss).
A. narcissiflora, L. Jambatai, 10,000'; Chitrál district, 11,000' (Harriss).
A. obtusiloba D. Don. Ashreth Valley, 6,000' (Gatacre); Dir, 10,000'; Lowári Pass, 10,000'—12,000' (Harriss).
Adonis æstivalis, L. Bundai; Jambatai, 6,000' (Harriss); Ziárat Valley, 4,000'—7,000' (Gatacre).
Callianthemum cachemirianum, Camb. Bundai, 9,000'; Dir, 10,000' (Harriss).
Ranunculus arvensis, L. Jambatai, 5,000'—6,000' (Harriss).
R. falcatus, L. Chitrál district (Hamilton).
R. hirtellus, Royle. Jambatai, 5,000'—6,000'; Gujar, 8,500' (Harriss).
R. lætus Wall. Chashma (Harriss); below Laram Pass, 4,000' (Gatacre); near Drosh, 4,000'—5,000' (Hamilton); Chitrál district (Youngusband, 1894).

R. muricatus, L. Baraul Valley, 5,000'; Gujar Valley, 5,000' (Gatacre); Chitrál district (Younghusband, 1894).

* *R. rufosepalus*, Franch. Chitrál district, 11,000' (Harriss); Dorah Pass, 14,000'—15,000' (Davidson). Distrib.: Turkestan.

R. sceleratus, L. Jambatai, 5,000'—6,000' (Harriss).

Caltha palustris, L., var. *alba*. Bundai, 8,000'; Dir, 10,000'—11,000'; Lowári Pass, 7,000'—10,000' (Harriss). Ashreth Valley, 6,000'; Zakhannah Valley, 6,000'; Mirga, 7,200' (Gatacre).

Trollius acaulis, Lindl. Lowári Pass, 11,000' (Harriss).

Aquilegia vulgaris, L. Gujar Valley, 7,000'—8,000'; Mirga, 9,000'; Bundai, 9,000'; Lowári Pass, 10,500' (Harriss); Ziárat Valley, 6,000'—8,000' (Gatacre).

A. vulgaris, L., subsp. *Moorcroftiana*, var. *afghanica* (Bruhl). Gujar Valley, 5,000' (Gatacre).

A. vulgaris, L., subsp. *nivalis*, var. *paradoxa*. (= *A. glauca* Lindl.). Ziárat Valley, 8,000'; Lowári Pass, 10,000'—11,000' (Gatacre).

Delphinium Brunonianum, Royle. Dorah Pass, 14,000'—15,000' (Davidson).

D. cashmirianum, Royle. Lowári Pass, 9,800'; Arnawei Valley (Gatacre).

D. denudatum, Wall. Ziárat, 7,200' (Harriss); Ashreth Valley, 6,000' (Gatacre).

D. saniculæfolium, Boiss., var. Drosh, 4,500' (Harriss); Ziárat Valley, 6,000' (Gatacre).

D. uncinatum, H.f. & T. Dir., 5,000'; Jambatai, 5,000—6,000' (Harriss).

D. vestitum, Wall. Ziárat Valley, 9,000' (Gatacre).

Aconitum heterophyllum, Wall. Lowári Pass, 9,000'; Zakhannah Pass, 9,500' (Gatacre).

A. Lycoctonum, L. Ziárat, 7,500' (Harriss); Ashreth Valley, 6,000' (Gatacre).

A. Napellus, L., var. Mirga 7,200'; Zakhannah Pass, 10,500' (Gatacre).

Actæa spicata, L. Ziárat, 7,000'—10,000' (Harriss); Gujar Valley, 5,000'; Ashreth Valley, 5,000'; Lowári Pass, 9,000' (Gatacre).

Pæonia anomala, L. (P. Emodi, Wall.) Ziárat Valley, 7,000'—8,000' (Harriss, Gatacre); Gujar 7,000'—9,000' (Harriss); Zakhannah Valley, 5,000'; Mirga, 8,000' (Gatacre).

BERBERIDEÆ.

Berberis Lycium, Royle. Dir, 4,000'—6,000'; Mirga (Harriss); Ashreth Valley, 5,000'; Kolandai, 5,800' (Gatacre).

- B. vulgaris*, L. Jambatai, 6,500' (Harriss).
B. vulgaris, L. var. Bundai, 9,600' (Harriss).
Podophyllum Emodi, Wall. Jambatai, 6,000'; Bundai, 6,000'—7,000'; Dir, 8,000'—10,000'; Gujar, 8,000' (Harriss); Gujar Valley, 6,000'; Ziárat Valley, 5,000'—8,000'; Mirga, 7,200' (Gatacre).

PAPAVERACEÆ.

- Papaver dubium*, L., var. *glabrum*. Bundai, 4,000' (Harriss); Baraul Valley, 5,000'; Lowári Hills, 10,000 (Gatacre).
 * *Hypecoum parviflorum*, Kar. & Kir. Chitrál district (Hamilton).
Corydalis cornuta, Royle. Mirga hills, 8,500' (Gatacre).
 * *C. cyrtocentra*, Prain. Chitrál district (Younghusband, 1894) (Hamilton).
C. diphylla, Wall. (= *C. rutæfolia*, Fl. Br. Ind. not of Sibth). Bundai; Dir, 10,000'; Lowári Pass, 8,000'—12,000' (Harriss); Ziárat Valley, 7,000'; Ashreth Valley (Gatacre).
C. Gortschakovii, Schrenk. (not of Fl. Br. Ind.) Dorah Pass, 14,000'—15,000' (Davidson).
C. Moorcroftiana, Wall. Lowári Pass, 9,000'; Bundai, 9,500' (Harriss); Dir Valley, 5,000'; Ziárat Valley, 5,000'; Gujar Valley, 6,000'; Mirga Valley, 7,000' (Gatacre).
Fumaria parviflora, Lamk. Jambatai, 5,000'—6,000'; Bundai (Harriss).

CRUCIFERÆ.

- Matthiola odoratissima*, R. Br. Gujar hills, 8,000' (Gatacre).
Nasturtium palustre, D.C. Jambatai, 5,000'—6,000' (Harriss).
Barbarea vulgaris, R. Br. Gujar, 8,000'—9,000' (Harriss); Chitrál district (Hamilton).
Arabis alpina, L. Lowári Pass, 11,000' (Harriss).
A. amplexicaulis, Edgew. Dir, 4,500'; Jambatai, 6,000'; Ziárat, 7,000'—8,000'; Mirga, 9,000' (Harriss).
A. auriculata, Lamk. Jambatai, 5,500' (Harriss).
 * *A. bijuga*, Watt. Chitrál district (Hamilton).
A. perfoliata, Lamk. (*A. glaba*, Crantz). Lowári Pass, 9,000' (Harriss).
Cardamine hirsuta, L. Mirga, 9,000' (Harriss).
C. impatiens, L. Jambatai, 5,000'—6,000'; Dir, 10,000'; Bundai (Harriss); Gujar Valley, 5,000' (Gatacre).
Draba alpina, L. Chitrál district, 11,000' (Harriss).
 * *Erophila præcox*, D.C. Chitrál district (Younghusband, 1894); Dorah Pass, 14,000'—15,000' (Davidson). Distrib.: westward to Europe.

- Malcomia africana*, R. Br. Chitrál district (Younghusband, 1894).
M. strigosa, Boiss. Chitrál district (Younghusband, 1894) (Hamilton).
Sisymbrium Alliaria, Scop. Jambatai, 5,000'—6,000'; Ziárat, 7,500' (Harriss).
S. Columnæ, Jacq. Dir Valley (Harriss).
S. mollissimum, C. A. Mey. Mirga (Harriss); Zakhannah Valley, 6,000' (Gatacre).
S. Sophia, L. Bundai, 4,000' (Harriss).
S. strictum, H. f. & T. Mirga (Harriss).
S. Thalianum, J. Gay. Lowári Pass, 10,000' (Harriss).
Eutrema primulæfolium, H. f. & T. Dir, 10,000' (Harriss).
Erysimum altaicum, C. A. Mey. Ziarat, 10,000' (Harriss); Dir Valley, 6,000' (Gatacre).
Capsella Bursa-pastoris, Medic. Dir, 11,000' (Harriss).
 * *Heldreichia silaiifolia*, H. f. & T. Chitrál district, 11,000' (Harriss). Distrib.: Afghanistan.
Thlaspi alpestre, L. Bundai, 7,000'; Lowári Pass, 8,000'—10,300' (Harriss); Chitrál district (Younghusband 1894).
T. cardiocarpum, H. f. and T. Jambatai, 5,000'—6,000' (Harriss); Ziárat Valley, 7,000' (Gatacre).
Eruca sativa, Mill. Mirga, 7,700' (Gatacre).
 * *Isatis Stocksii*, Boiss. Chitrál district (Hamilton).
I. tinctoria, L. Dir, 5,000'; Drosh, 7,000' (Harriss); Distrib.: Baluchistán.
 * *Chorispora* sp. Chitrál, 11,000' (Harriss) (Giles, Gilgit Exped.).

CAPPARIDEÆ.

- Cleome viscosa*, L. Robat, 4,000'; near Drosh, 4,000'—5,000' (Gatacre); Chitral district (Younghusband, 1894).
Capparis spinosa, L. Ziarat Vally, 5,000' (Gatacre).

VIOLACEÆ.

- Viola canina*, L., var. Lowári Pass, 10,000'—11,000' (Harriss); Chitrál district (Hamilton).
V. Patrinii, Ging. Chitral district (Hamilton) (Younghusband, 1894).
V. serpens, Wall. Bundai, 8,000'; Mirga, 9,000'; Dir, 10,000' (Harriss).

POLYGALEÆ.

- Polygala abyssinica*, R. Br. Broz, 9,000'; Bundai (Harriss).

P. sibirica, L. Jambatai, 4,500'—6,000' (Harriss); Drosh, 4,000'—5,000' (Hamilton).

CARYOPHYLLÆ.

* *Velezia rigida*, L. Dir, 6,000' (Harriss); Distrib.: Mediterranean, Europe, and North Africa.

Dianthus anatolicus, Boiss. Ziárat, 7,000'—8,000'; Chitrál district, 6,000' (Harriss) (Younghusband, 1894).

D. crinitus, Sm. Sharbat, 4,000' (Harriss); Chootiatan, 5,000' (Gatacre).

* *Gypsophila* sp. Chitrál, 7,000' (Harriss) (Younghusband, 1894.)

Saponaria Vaccaria, L. Chitrál district, 4,000'—5,000' (Harriss).

* *Silene afghanica*, Rohrb. Chitrál district (Hamilton), Distrib.: Afghanistán.

S. arenosa, C. Koch. Broz, 5,200'; Chitrál district, 4,800' (Harriss); Ashreth Valley, 5,000' (Gatacre).

S. conoidea, L. Jambatai 5,000'—6,000' (Harriss); Baraul Valley; 7,000', Ziárat Valley, 5,000'—8,000' (Gatacre); Drosh, 4,000'—5,000' (Hamilton); Chitrál district (Younghusband, 1894).

S. Cucubalus, Wibel. (*S. inflata*, Smith). Jambatai, 6,500'; Gujar, 8,000' (Harriss); Gujar Valley, 5,000'; Mirga, 8,500'; Laram, 7,000' (Gatacre); Chitrál district (Younghusband, 1894).

S. Griffithii, Boiss. Jambatai, 6,000'; Ashreth (Harriss).

S. Moorcroftiana, Wall. Chitrál district (Younghusband, 1894).

S. tenuis, Willd. Mirga hills, 9,000' (Gatacre).

Cucubalus baccifer, L. Lowári Pass, 9,000' (Harriss); Mirga, 7,200' (Gatacre); Drosh, 4,000'—5,000' (Hamilton).

Lychnis himalayensis, Edgew. Ziárat hills, 9,000' (Gatacre).

L. indica, Benth. Lowári range, 6,000' (Gatacre).

* *Cerastium dichotomum*, L. Lowári hills, 10,000' (Gatacre). Distrib.: through Persia to Europe and North Africa.

C. glomeratum, Thuill. Bundai, 4,000'; Gujar, 8,000'; Mirga, Lowári Pass, 10,500' (Harriss).

C. trigynum, Vill. Lowári Pass, 9,000'—11,000' (Harriss); Zakhannah Pass, 9,500' (Gatacre); Dorah Pass, 14,000'—15,000' (Davidson).

Stellaria bulbosa, Wulf. Dir, 10,000' (Harriss).

S. crispata, Wall. Ziárat, 7,500' (Harriss); Mirga, 7,800' (Gatacre).

S. media, Cyrill. Jambatai, 5,000'—6,000' (Harriss).

S. uliginosa, Murr. Ziárat, 7,000' (Harriss).

Arenaria foliosa, Royle. Gujar, 9,000'—11,000' (Harriss); Mirga, 7,000'—8,500' (Gatacre); Chitrál District (Hamilton), (Young-husband, 1894).

A. Griffithii, Boiss. Chitrál District, 10,000' (Harriss) (Young-husband, 1894).

A. holosteoides, Edgew. Ziárat, 7,500' (Harriss).

A. orbiculata, Royle. Lowári Pass, 10,500' (Harriss).

A. serpyllifolia, L. Jambatai, 4,000' (Harriss).

Sagina procumbens, L. Ziárat, 7,200'; Dir, 10,000' (Harriss).

TAMARISCINEÆ.

Tamarix gallica, L. Markandi, 6,000' (Harriss); near Chitrál 6,000' (Gatacre).

Myricaria germanica, Desv. Chitrál Valley, 4,600' (Harriss).

HYPERICINEÆ.

Hypericum lysimachioides, Wall. Dir, 5,600' (Harriss).

H. perforatum, L. Bundai (Harriss); Laram, 7,200'; Mirga, 7,500'; Arnawei Valley, 8,000'; Lowári range, 13,000'; Chitrál Valley, 4,800' (Gatacre).

**H. scabrum*, L. Ziárat, 8,000'; Chitrál, 8,000' (Harriss), (Younghusband, 1894). Distrib.: Persia, Asia Minor.

MALVACEÆ.

Althæa rosea, Cav. Ashreth, 6,000' (Harriss); Arnawei Valley, 5,800'; Chitrál Valley, 5,000'—6,000' (Gatacre).

Lavatera cachemiriana, Camb. Ziárat, 7,500' (Harriss); Dir Valley, 5,000'; Gujar Valley, 7,000'—8,000' (Gatacre).

Malva parviflora, L. Jambatai, 5,000'—6,000' (Harriss); Mirga, 7,700' (Gatacre).

M. rotundifolia, L. Gujar, 8,000'; Arnawei Valley, 9,500' (Gatacre); near Drosh, 4,000'—5,000' (Hamilton).

LINEÆ.

Reinwardtia trigyna, Planch. No locality (Gatacre).

ZYGOPHYLLEÆ.

Tribulus terrestris, L. Guirat (Harriss).

GERANIACEÆ.

Geranium collinum, Steph. Ziárat Valley, 5000'—8,000';

Zakhannah Pass, 9,500'; Laram Pass, 9,000' (Gatacre); Chitrál district (Younghusband, 1894.)

G. nepalense, Sweet. Bundai, 4,000' (Harriss); Arnawei Valley (Gatacre); Drosh, 4,000'—5,000' (Hamilton).

G. pratense, L. Gujar, 8,400'; Lowari Pass, 10,500' (Harriss).

G. rivulare, Vill. (*G. aconitifolium*, L'Herit.) Chitrál District (Younghusband, 1894).

G. rotundifolium, L. Jambatai, 6,000' (Harriss).

G. Tuberaria, Camb. Chitrál District (Hamilton).

G. Wallichianum, D. Don. Mirga, 7,000' (Harriss) (Gatacre); Lowari Pass, 8,500' (Harriss).

Erodium cicutarium, L. Herit. Chitrál District, 4,000' (Harriss).

Oxalis corniculata L. Jambatai, 6,000'; Bundai, 4,000' (Harriss); Laram, 7,000'; Chitrál Valley, 6,000' (Gatacre).

Impatiens amphorata, Edgew. Ziarat, 7,500'—11,000'; Broz, 8,000' (Harriss).

I. Balsamina, L. Drosh, 4,000'—5,000' (Hamilton).

I. brachycentra, Kar. and Kir. Dir, 6,500'; Mirga, 7,500'; Gujar, 8,500' (Harriss); Gujar Valley, 7,500'; Lowári range, 9,000' (Gatacre).

I. laxiflora, Edgew. Mirga, 6,000' (Gatacre).

I. Roylei, Walp. Gujar, 8,000'; Mirga 8,500'; Zakhannah Pass, 8,500' (Gatacre).

I. scabrida, Dc. Gujar, 8,000' (Harriss); Laram, 7,000'; Mirga, 8,000'—9,500' (Gatacre).

RUTACEÆ.

* *Ruta* sp. (near *R. tuberculata*, (Forsk.) Drosh, 4,800' (Harriss).

Peganum Harmala, L. Dir, 4,500' (Harriss); Chitral District (Younghusband, 1894).

Dictamnus albus, L. Ziárat, 8,000' (Harriss).

Zanthoxylum alatum, Roxb. Below Laram Pass, 4,000' (Gatacre).

Skimmia Laureola, Sieb and Zucc. Dir, 10,500' (Harriss); Gujar Valley, 7,000'; Mirga, 9,200' (Gatacre).

MELIACEÆ.

Melia Asedarach, L. Jambatai, 5,000'—6,000' (Harriss).

CELASTRINEÆ.

Euonymus grandiflorus, Wall. Jambatai, 6,000' (Harriss).

E. Hamiltonianus, Wall. Ziárat, 7,000'—8,000' (Harriss).

RHAMNEÆ.

Zisypheus sativa, Gaertn, (*Z. vulgaris*, Lamk.) Between Mirga and Dir, 6,500' (Harriss), Darora, 5,000' (Gatacre).

Rhamnus dahurica, Pall. Jambatai, 5,000'—6,000' (Harriss).

Sageretia Brandrethiana, Aitch. Bundai, 4,000'; Dir, 5,600' (Harriss).

S. theezans, Brongn. Between Guirat and Chitrál, 4,800' (Harriss).

AMPELIDEÆ.

**Vitis persica*, Boiss. Sharbat, 8,000' (Harriss). Distrib. : Persia, Afghanistan.

V. vinifera, L. Bundai, Chitrál, 4,900' (Harriss); Ziárat Valley, 4,500'—7,000' (Gatacre).

SAPINDACEÆ.

Æsculus indica, Colebr. Mirga, 7,000'—9,000' (Harriss); Ziárat Valley, 7,000' (Gatacre).

Acer cæsium, Wall. Ziárat, 7,400' (Harriss); Mirga, 9,200' (Gatacre).

Dodonæa viscosa, Jacq. Baraul Valley, 5,000' (Gatacre).

Staphylea Emodi, Wall. Mirga, 7,400' (Gatacre).

ANACARDIACEÆ.

Rhus punjabensis, F. L. Stew. Mirga, (Harriss).

Pistacia Khinjuk, Stocks. (*P. integerrima*, Stewart). Markandi 6,000' (Harriss); Arnawei Valley, 4,800' (Gatacre).

**P. mutica*, F. and M. Chitrál Valley, 5,000' (Gatacre). Vern. "Sawere." Distrib. : Afghanistan, Persia, Mediterranean.

LEGUMINOSÆ.

Crotalaria albida, Heyne. Laram, 7,000' (Gatacre).

Argyrobium roseum, Faub. and Spach. Gujar Valley, 6,000' (Gatacre).

Trigonella corniculata, L. Mirga, 7,000'—8,000' (Harriss); Kolundai, 5,000' (Gatacre).

T. Emodi, Benth. Bundai (Harriss).

Medicago lupulina, L. Jambatai, 4,500' (Harriss).

M. sativa, L. Chitral district, 4,600' (Harriss).

Melilotus officinalis, Lamk. Arnawei Valley (Gatacre).

Trifolium repens, L. Mirga, 7,000'—8,000'; Jambatai, 5,000'—6,000' (Harriss); Chitral District (Younghusband).

T. resupinatum, L. Chitral, 4,900' (Harriss).

Lotus corniculatus, L. Jambatai Pass (Harriss); Chitral District (Younghusband).

**L. major*, Scop. Chitral District (Younghusband). Distrib. : Europe.

**Psoralea drupacea*, Bunge. Drosh, 4,500' (Harriss) (Hamilton); Zakhannah Valley, 5,000' (Gatacre). Distrib. : Persia, Turkestan.

Indigofera Gerardiana, R. Grah. Mirga, 6,000' (Harriss); Gujar Valley, 5,000'—6,000' (Gatacre).

I. Gerardiana, R. Grah, var. *heterantha*. Bundai, 7,000'; Gujar, 8,500'; Ziárat (Harriss); Laram, 7,000' (Gatacre).

I. pulchella, Roxb. Baraul Valley, 4,000'—5,000' (Gatacre).

**Caragana decortisans*, Hemsl. (C. *ambigua*, Aitch., not of Stocks) Broz, 9,000' (Harriss). Distrib. ; Afghanistan.

**Calophaca depressa*, Oliv. Between Guirat and Chitral, 4,700' (Harriss), Distrib. : Gilgit district (Giles, Duthie).

Astragalus chlorostachys, Lindl. Mirga, 7,000'—8,000' (Harriss).

A. graveolens, Buch.-Ham. Jambatai, 6,000' (Harriss).

A. subulatus, Pall. Drosh, 4,000'—5,000'; Broz, 8,000' (Harriss).

**Alhagi camelorum*, Fisch. Dorah Pass (Giles).

Hedysarum Falconeri, Baker. Mirga (Harriss); Dir Valley, 5,000' (Gatacre).

H. astragaloides, Benth. Chitral district (Younghusband).

Aeschynomene indica, L. Dir. (Harriss); Drosh, 4,000'—5,000' (Hamilton).

Desmodium podocarpum, D.C. Chakdára (Harriss).

D. tiliaefolium, G. Don. Mirga Valley, 6,000'—8,000' (Harriss) (Gatacre); Gujar Valley, 7,200' (Gatacre).

Lespedeza juncea, Pers. Drosh, 4,000'—5,000' (Hamilton).

L. juncea Pers., var. *kanaorensis*, Camb. Dir, 6,500' (Harriss).

**L. sericea*, Miq., var. *longepetiolata*. Darora, 5,000' (Gatacre). Distrib. : Nagasaki (Oldham No. 328), Sadya, Upper Assam, and S. W. Yunan; also Maingay No. 650 in part.

Vicia mollis, Benth. Ziárat, 9,000' (Harriss).

V. sepium, L. Lowári Pass, 9,000' (Harriss); Ziárat Valley, 7,000'; Arnawei Valley, 9,000' (Gatacre).

V. tenuifolia, Roth. Ziárat, 8,000' (Harriss); Baraul Valley, 5,000'; Dir Valley, 6,000' (Gatacre).

Lens esculenta, Moench. Mastuj, (Giles). Probably cultivated.

Lathyrus altaicus, Ledeb. Lowári Pass, 9,000'—10,000' (Harriss) (Gatacre); Ziárat Valley, 7,000' (Gatacre).

L. Aphaca, *L.* Chitral Valley, 6,000' (Gatacre).

L. montanus, *Bernh.* (*L. luteus*, Baker) Ziárat, 10,000'; Lowári Pass, 10,500' (Harriss); Gujar Valley, 7,000' (Gatacre).

L. pratensis, *L.* Lowári Pass, 9,000' (Harriss); Mirga hills, 7,000'—9,000' (Gatacre).

L. sativus, *L.* Between Guirat and Chitrál, 4,700' (Harriss). Cultivated crop.

Glycine hispida, *Maxim.* Darora, 5,000' (Gatacre). A cultivated crop.

Phaseolus Mungo, *L.* Dir Valley, 4,200' (Gatacre). A cultivated crop.

P. vulgaris, *L.* Arnawei Valley, 5,000' (Gatacre). A cultivated crop.

Vigna Catiang, *Walp.* Kashgaria, 5,000'; Panakot, 5,000' (Gatacre). A cultivated crop.

Rhynchosia pseudo-cajan, *Camb.* Swat Valley, 3,000' (Gatacre).

Sophora mollis, *R. Grah.* Bundai; Jambatai, 6,500' (Harriss); Lowári Pass, 10,200'; Laram (Gatacre); Chitrál district (Younghusband).

**S. mollis*, *R. Grah.*, *var. Duthiei*, Prain in Journ. As. Soc., Bengal, Vol. LXVI. pt. II, No. 2 (1897) 467. Mirkandi, 5,000' (Harriss). Distinguished by its wingless pods.

ROSACEÆ.

Prunus Armeniaca, *L.* Bundai, 4,000' (Harriss).

**P. brahuica*, *Aitch. and Hemsl.* Ashreth Valley, 5,000' (Gatacre); Gujar, 8,500'—9,500' (Harriss). Distrib.: Afghanistan.

P. Cerasus, *L.* Bundai, 4,000'; Chitrál, 4,900' (Harriss). Cultivated.

P. Padus, *L.* Ziárat, 7,000'—8,000' (Harriss).

P. persica, *Stokes.* Bundai, 4,000' (Harriss). Cultivated.

P. prostrata, *Labill.* Jambatai, 6,000' (Harriss); Chitral district (Younghusband).

Spiræa brahuica, *Boiss.* Markandi, 6,000' (Harriss); Chitral district (Younghusband).

S. canescens, *D. Don.* Mirga, 8,000' (Harriss); Ashreth Valley, 6,000'; Ziarat Valley, 8,000' (Gatacre).

S. sorbifolia, *L.* Ashreth (Harriss); Gujar Valley, 5,000'—7,000'; Mirga, 7,200' (Gatacre); Chitrál district (Younghusband).

S. vestita, *Wall.* Mirga (Harriss); Gujar Valley, 6,000'; Mirga, 7,200'; Arnawei Valley (Gatacre).

Rubus fruticosus, L. Bundai, 4,000'; Drosh, 4,500'; Chitrál, 4,900' (Harriss); Arnawei Valley; Robot, 4,000' (Gatacre); Chitrál district (Younghusband).

R. lasiocarpus, Sm. Jambatai, 5,000'—6,000'; Dir, 5,600 (Harriss).

R. niveus, Wall, var. *Mirga*. Broz, 4,600' (Harriss).

R. parvifolius, L. (*R. purpureus*, Bunge). Ziárat, 9,000' (Harriss); Gujjar Valley, 5,000' (Gatacre).

R. pungens, Camb. Ziárat, 7,000'—8,000' (Harriss).

Geum elatum, Wall. Lowári Pass, 9,000'—11,000' (Harriss) (Gatacre); Zakhannah Pass, 9,500' (Gatacre).

G. urbanum, L. Ziárat, 7,800'; Mirga, 7,000'—8,000' (Harriss) (Gatacre).

Fragaria indica, Andr. Dir, 6,500' (Harriss).

F. vesca, L. Jambatai, 6,000'; Ziárat, 8,000' (Harriss); Mirga, 7,500' (Gatacre).

Potentilla desertorum, Bunge. Ashreth, 11,000'; Ziárat, 9,000' (Harriss).

P. fragarioides L. Lowári Pass, 10,000' (Harriss).

P. gelida, C. A. Mey. Ziárat, 9,000'; Lowári Pass, 10,500' (Harriss); Dorah Pass, 14,000'—15,000' (Davidson).

P. reptans, L. Jambatai, 5,000'—6,000'; Bundai (Harriss); Chitrál District (Younghusband).

P. Sibbaldi, Haller, F. Lowári Pass, 10,000'; Mirga (Harriss).

P. Sibbaldi, Haller f., var. *micrantha*. Zakhannah Hills, 10,800' (Gatacre).

P. supina, L. Jambatai, 5,000'—6,000'; between Drosh and Guirat, 4,800' (Harriss).

Agrimonia Eupatoria, L. Chakdara; Dir, 5,400' (Harriss).

Poterium Sanguisorba, L. Bundai, 4,000' (Harriss).

Rosa Beggeriana, Schrenk. (*R. anserinæfolia*, Boiss.) Dir; Sharbat, 8,000' (Harriss).

* *R. alba*, L. Jambatai, 5,000'; Bundai, 4,000'; Ziarat, 4,000' (Harriss). Distrib.: Afghanistan, Caucasus.

R. damascena, Mill. Mundia, 3,000' (Harriss). Cultivated.

R. macrophylla, Lindl. Mirga, 7,200' (Gatacre).

R. moschata, Herrm. Mirga; Bundai (Harriss).

R. Webbiana, Wall. Dir; Ziarat, 7,000'—10,000'; Bundai; Chitrál district 9,000' (Harriss).

* *R. santhina*, Lindl. (*R. Ecæ*, Aitch.). Jambatai district, 10,000'; Chitrál district, 9,000' (Harriss). Distrib.; Afghanistan.

Pyrus communis, L. Jambatai (Harriss). Cultivated.

- P. Cydonia*, L. Bundai, 4,000' (Harriss) Cultivated.
P. lanata, D. Don. Mirga, 7,000' (Gatacre).
P. Malus, L. Bundai, 4,000' (Harriss). Cultivated,
P. Pashia, Buch-Ham. Sharbat (Harriss); Kashgaria, 5,000'
(Gatacre).
Cratægrus Oxyacantha, L. Jambatai, 6,000'; Gujar, 8,500'
(Harriss); Chitral district (Younghusband).
Cotoneaster bacillaris, Wall. Jambatai, 6,000' (Harriss);
Laram, 7,000' (Gatacre).
C. microphylla, Wall. Bundai, 9,600' (Harriss).
C. nummularia, F. and M. Jambatai (Harriss); Gujar Valley,
5,000'; Kashgaria, 5,000' (Gatacre).

SAXIFRAGACEÆ.

- Saxifraga ligulata*, Wall. Jambatai; Bundai, 7,000' (Harriss).
S. Stracheyi, H. f. and T. Lowári Pass, 11,500'; Chitrál
district, 11,000' (Harriss) (Younghusband, 1894).
Parnassia ovata, Ledeb. Chitrál district (Younghusband, 1894).
Deutsia staminea, R. Br. Jambatai, 5,000'—6,000'; Dir; Gujar,
8,500'; Chakdara (Harriss).
Ribes glaciale, Wall. Lowári Pass, 11,000' (Harriss).
R. rubrum, L. Mirga, 7,400' (Gatacre).

CRASSULACEÆ.

- * *Cotyledon Lievenii*, Ledeb. Ashreth; Chitrál district, 10,000'—
11,000' (Harriss). Distrib.: Persia, Siberia.
* *C. papillosa*, Aitch. and Hemsl. Robot, 4,000' (Gatacre)
Distrib.: Afghanistan.
Sedum adenotrichum, Wall. Bundai, 4,000'—9000'; Ziarat,
7,800'; Ashreth (Harriss).
S. asiaticum, Spreng. Lowári Pass, 11,000' (Harriss); Zakhannah
Pass, 9,800'; Lowári Pass, 13,500' (Gatacre).
S. Ewersii, Ledeb. Mirga, 7,000'—9,000'; Lowári Pass, 9,000'
(Gatacre); Chitrál district (Younghusband, 1894).
S. linearifolium, Royle. Zakhannah Pass, 9,500' (Gatacre).

HAMAMELIDEÆ.

- Parrottia Jacquemontiana*, Dcne. Jambatai, 6,300' (Harriss);
Dir Vally, 4,000'; Ashreth Valley, 5,000' (Gatacre).

MYRTACEÆ.

- Myrtus communis*, L. Panjkora Valley, 4,000'; Laram, 4,000'—
7,000' (Gatacre).

LYTHRACEÆ.

Ammannia baccifera, L. Drosh, 4,000'—5,000' (Hamilton).

Punica Granatum, L. Dir Valley; Chitral, 4,900' (Harriss).

ONGÆRACEÆ.

Epilobium angustifolium, L. Ziarat Valley 7,000' (Harriss) (Gatacre); Chitrál district (Younghusband, 1894).

E. hirsutum, L. Mirga, 7,500' (Harriss); Drosh, 4,000'—5,000' (Hamilton).

E. hirsutum, L. var *sericeum*. Chitrál district, 4,000'—5,000' (Harriss) (Gatacre), (Younghusband, 1894).

E. latifolium, L. Dorah Pass, 14,000'—15,000' (Davidson).

E. roseum, Schreb. Mirga hills, 8,000'—9,000' (Gatacre).

E. teragonum, L. Mirga, 7,000' (Harriss); Arnawei Valley, 8,500' (Gatacre); Chitrál district (Younghusband, 1894).

Circœa alpina, L. Mirga, 7,000'—8,000' (Gatacre).

CUCURBITACEÆ.

Luffa echinata, Roxb. Swat Valley, 3,000' (Gatacre).

Cucumis Melo, L. Chitrál district, 6,000' (Gatacre). Cultivated.

Melothria heterophylla, Cogn. (*Zehneria umbellata*, Thwaites), Drosh, 4,000'—5,000' (Hamilton).

DATISCEÆ.

Datisca cannabina, L. Ashreth; Chitrál, 4,900' (Harriss); Kolundai, 5,800' (Gatacre); Drosh, 4,000'—5,000' (Hamilton).

UMBELLIFERÆ.

Eryngium cœruleum, Bieb. Mian Kalai (Harriss).

Vicatia conüfolia, DC. Jambatai; Bundai (Harriss).

Trachydium Roylei, Lindl. Dorah Pass (Davidson).

Bupleurum jucundum, Kurz., var. *cachemirica*. Mirga Valley, 7,000' (Gatacre).

B. falcatum, L. Mirga hills, 9,500'; Robat, 4,500' (Gatacre); Chitrál district (Younghusband, 1894)

B. longicaule, Wall. Zakhannah Valley, 6,000' (Gatacre).

B. setaceum, Fensl. Dir, 6,000' (Harriss).

**B. sp.* (near *B. persicum*, Boiss). Broz 8,000'—9,000' (Harriss).

Carum Bulbocastanum, Koch. Jambatai, 5,000'—6,000'; Ziarat, 8,000'; Lowari Pass, 10,000'; Broz, 9,000' (Harriss); Ashreth Valley, 5,000' (Gatacre).

* *Sium erectum*, Huds. (*S. angustifolium*, L.) Drosh, 4,000'—5,000' (Hamilton), Distrib.: Europe, Caucasus.

Pimpinella diversifolia, DC. Ziárat, 9,000' (Harriss); Arnawei Valley, 8,500' (Gatacre).

P. Saxifraga, L., var. *dissectifolia*. Arnawei Valley (Gatacre); Ziárat, 8,000' (Harriss).

Chærophyllum reflexum, Lindl. Mirga, 8,000' (Gatacre).

C. villosum, Wall. Gujar, 8,500'; Lowári Pass, 10,000 (Harriss).

Scandix Pecten-Veneris, L., var. *brevirostris*. Chitrál district (Younghusband, 1894) = Stocks No. 747.

Anthriscus nemorosa, Spreng. Ziárat, 7,500'; Lowári Pass, 9,000'; Gujar, 8,500' (Harriss).

Seseli sibiricum, Benth. Mirga, 9,200' (Gatacre).

Prangos pabularia, Lindl. Chitrál district, 7,000' (Harriss).

Pleurospermum Candollii, Benth. Lowári Pass, 11,000' (Harriss).

Angelica glauca, Edgew. Mirga, 7,000'—9,000' (Gatacre).

Ferula Faeschkeana, Vatke. Gujar, 9,000'—11,500'; Ziarat 7,500' to 9,000' (Harriss); Baraul Valley, 5,000' (Gatacre).

Peucedanum Dana, Buch-Ham. Bundai, 8,000' (Harriss); Swat Valley, 3,000' (Gatacre).

Heracleum candicans, Wall. Mirga, 7,000'—8,000' (Harriss) (Gatacre).

Daucus Carota, L. Mirga, 9,200' (Gatacre); Drosh, 4,000'—5,000'; Chitrál district (Hamilton).

Caucalis Anthriscus, Huds. Mirga; Chitral, 4,900' (Harriss); Drosh, 4,000'—5,000' (Hamilton).

C. latifolia, L. Bundai, 4,000'; Dir (Harriss).

* *C. Stocksiana*, Boiss. Bundai (Harriss), Distrib.: Persia, Baluchistan.

ARALICEÆ.

Aralia cachemirica, Dcne. Gujar Valley, 7,500'; Mirga, 7,200' (Gatacre).

Hedera Helix, L. Bundai, 4,000'; Jambatai, 5,500' (Harriss); Dir Valley, 5,000'; Mirga, 6,000'; below Laram Pass, 4,000' (Gatacre).

CAPRIFOLIACEÆ.

Sambucus Ebulus, L. Ziarat, 6,000'—7,000' (Harriss); Gujar Valley, 7,000'; Mirga, 8,000' (Gatacre)

Viburnum cotinifolium, D. Don. Jambatai, 6,000'; Ziarat 8,000' (Harriss); Ashreth Valley, 5,000'; Ziarat Valley, 9,000' (Gatacre).

V. nervosum, D. Don. Dir, 8,000'; Mirga, 7,000'—8,000' (Harriss).

V. stellulatum, Wall. Sharbat, 8,000' (Harriss).

Abelia triflora, R. Br. Dir, 8,000' (Harriss).

Lonicera asperifolia, H. f. & T. Chitral, 11,000' (Harriss).

* *L. Griffithii*, H. f. and T. Ashreth Valley, 6,500' (Gatacre); Chitral district (Hamilton), Distrib. : Afghanistan.

L. purpurascens, Walp. Lowari Pass, 10,500' (Harriss).

* *L. Xylosteum*, L. Jambatai, 5,000'—6,000' (Harriss). Distrib. : Europe, Northern Asia.

RUBIACEÆ.

* *Callipeltis Cucullaria*, Stev. Jambatai, 4,000'—5,000' (Harriss); Panjkora Valley, 4,000' (Gatacre). Distrib. : Afghanistan, Baluchistan, and westward to Mediterranean.

Rubia cordifolia, L. Panjkora Valley, 4,000' (Gatacre).

Galium Aparine, L. Jambatai, 5,000'; Dir, 5,000'; Broz, 9,000' (Harriss).

G. boreale, L. Lowari Pass, 8,000' (Harriss).

G. triflorum, Michx. Ziarat, 8,000' (Harriss); Ashreth Valley, 5,000' (Gatacre).

Asperula cynanchica, L. Ziárat, 7,200' (Harriss); Chitral district (Younghusband, 1894).

* *A. setosa*, Faub. and Spach. Chitral 8,000' (Harriss), Distrib. : Persia, Syria.

VALERIANEÆ.

Valeriana dioica, L. Lowári Pass, 10,500' (Harriss); Mirga hills., 9,000' (Gatacre).

V. Hardwickii, Wall., var. *Hoffmeisteri*. Chitral district (Hamilton) (Younghusband, 1894).

V. Wallichii, LC. Jambatai, 6,000'; Bundai, 8,000'; Mirga, 8,000'; Lowári Pass, 10,500' (Harriss); Gujar Valley, 6,000' (Gatacre).

V. dentata, Poll. Bundai, 4,000' (Harriss); Baraul Valley, 7,000' (Gatacre).

Valerianella Szovitsianum, F. and M. Dir, 4,500' (Harriss).

DIPSACEÆ.

Morina Coulteriana, Royle. Lowari Pass, 10,000'—11,000' (Harriss); Mirga hills, 7,000—9,000' (Gatacre).

Dipsacus strictus, D. Don. Mirga, 7,500'—(Harriss); Gujar Valley 7,500' (Gatacre); Drosh, 4,000—5,000' (Hamilton).

Scabiosa Candoliana, Wall. Robot, 4,000' (Gatacre).

COMPOSITÆ.

Solidago Virgaurea, L. Lowári Pass, 8,000—11,000'; Mirga, 7,000—8,000'; Zakhannah Valley, 6,000' (Gatacre); Drosh, 4,000—5,000' (Hamilton).

Myriactis nepalensis, Wall. Mirga, 8,000' (Gatacre). Chitral district (Younghusband, 1894).

M. Wallichii, Less. Mirga, 7,200' (Gatacre); Drosh, 4,000'—5,000' (Hamilton).

Aster altaicus, Willd. Mian Kalai, Broz, 7,000' (Harriss); Chotiatán, 5,000' (Gatacre); Drosh, 4,000'—5,000' (Hamilton); Chitral district (Younghusband, 1894).

Erigeron alpinus, L. Bundai 8,500' (Harriss); Arnawei Valley, 7,500'; Lowári Pass, 9,000'—11,000' (Gatacre).

E. alpinus, L., var. *multicaulis*, Broz, 5,200' (Harriss); Mirga, 7,200'; Robot, 4,000'; Laram, 7,000' (Gatacre); Chitral district (Younghusband, 1894).

E. andryaloides, Benth. Chitral district, 11,000' (Harriss); Mirga, 8,500' (Gatacre).

E. canadensis, L. Jambatai, 4,000'—5,000'; Bundai, 4,000'; Dir, 6,500'; Chitral, 4,900' (Harriss); Arnawei Valley, 4,800'; Mirga, 7,700' (Gatacre); Drosh, 4,000'—5,000' (Hamilton); Chitral district (Younghusband, 1894).

E. monticolus, Wall.—Mirga, 9,500'; Gujar, 8,000' (Harriss); Chitral district (Younghusband, 1894).

Conyza stricta, Willd. Robot, 4,000' (Gatacre).

Blumea Wightiana, DC.—Bundai (Harriss).

Filago germanica, L.—Jambatai, 4,500' (Harriss).

Leontopodium alpinum, Cass.—Bundai, 8,300'; Gujar, 9,000' Dir, 11,000' (Harriss); Lowári Pass, 11,000' (Gatacre).

Anaphalis contorta, Hook. f. Chitral district (Younghusband, 1894).

A. cuneifolia, Hook. f. Lowári Pass, 10,000'—11,000' (Harriss) (Gatacre); Ziárat Valley, 7,000'; Mirga hills, 7,000'—9,000' (Gatacre).

A. Royleana, DC. Mirga, 7,000'—9,000' (Gatacre).

* *Phagnalon acuminatum*, Boiss. Dir (Harriss); Ashreth Valley, 6,000' (Gatacre); Distrib.: Baluchistan.

P. niveum, Edgew. Broz, 5,200' (Harriss).

Gnaphalium hypoleucum, D C. Laram, 7,200' (Gatacre).

G. luteo-album, L., var. *multiceps*. Jambatai, 6,000'; Bundai (Harriss).

G. luteo-album, L., var. *pallidum*. Drosh, 4,500' (Harriss).

Inula obtusifolia Kerner, var. *Clarkei*. Lowári range, 9,000' (Gatacre).

Carpesium cernuum, L. Drosh, 4,000—5,000' (Hamilton).

Xanthium Strumarium, L. Below Laram Pass, 4,000' (Gatacre).

Siegesbeckia orientalis, L. Drosh, 4,000'—5,000' (Hamilton); Chitral district (Younghusband, 1894).

Bidens pilosa, L. Laram, 7,000' (Gatacre), Drosh, 4,000'—5,000' (Hamilton).

Tagetes erecta, L. Below Laram Pass, 4,000' (Gatacre). Introduced.

Achillea millefolium, L. Lowári Pass, 7,000'—9,000' (Harriss); Gujar, 8,000' (Gatacre).

* *A. pubescens*, L. (*A. micrantha*, Bieb.). Dir (Harriss), Distrib. Afghan, Persia, Songaria.

* *Matricaria corymbifera*, D C Ziarat, 7,000'—9,000'; Broz, 8,500' (Harriss), Distrib. : Persia, Asia Minor.

Artemisia laciniata, Willd. Mirga, 7,500' (Gatacre).

A. sacrorum, Ledeb. Drosh, 4,500' (Harriss).

A. scoparia, W. & K. Gujar Valley, 5,000'; Darora, 5,000' Arnawei Valley (Gatacre); Chitral district (Younghusband, 1894).

A. vestita, Wall.—Drosh, 5,000' (Harriss).

A. vulgaris, L. Ziárat, 7,500' (Harriss), Mirga, 7,000'—8,000' (Gatacre).

Chrysanthemum Richteria, Benth., var. Gilgit district, (Younghusband, 1894).

Senecio chrysanthemoides, D C. Ziárat, 8,000'; Mirga, 7,000'—9,000'; (Harriss); Gujar Valley, 7,500' (Gatacre).

S. chrysanthemoides, D C., var. Lowári Pass, 9,500' (Gatacre).

S. coronopifolius, Desf. Bundai; between Drosh and Guirat 4,500' (Harriss); Ziarat Valley, 6,000' (Gatacre).

* *Cousinia buphthalmoides*, Regel, Drosh, 4,500' (Harriss), Distrib. : Afghanistan.

C. microcarpa, Boiss. Bundai (Harriss); Chitral district (Younghusband, 1894).

* *C. multiloba*, D C. Chitral district, 9,000—11,000' (Harriss); Distrib. : Persia.

C. Thomsoni, Clarke. Ziárat, 8,000' (Harriss); Mirga hills, 7,000'—9,000' (Gatacre).

Carduus nutans, L. Mirkandi, 6,000'; Bundai (Harriss).

Cnicus argyranthus, D C. Drosh, 4,800'; Chitral, 4,900' (Harriss); Arnawei Valley, 7,000' (Gatacre).

Saussurea albeseus, *H. f. & T.* Gujar, 8,000'; Mirga, 7,000'—8,000'; Arnawei Valley, 4,800' (Gatacre).

S. candicans, *Clarke*. Jambatai, 4,000'; Drosh, 6,000' (Harriss)

* *S. leptophylla*, *Hemsl.* Chitral district (Younghusband, 1894) (Giles, Gilgit Expedition).

* *S. n. sp.* Allied to *S. affinis*, *Spreng.*, Ziárat, 7,000'—8,000' (Harriss).

Tricholopis tibetica *H. f. & T.* (*T. spartioides*, *Clarke*). Chitral district (Younghusband, 1894).

Zoegia purpurea, *Fresen.*, var. Ziárat, 7,500' (Harriss).

Centaurea Calcitrapa, *L.* Chitral, 4,900' (Harriss) (Younghusband, 1894).

* *Carbenia benedicta*, *Adams*. Dir Valley (Harriss). Distrib. : Persia, Caucasus, Mediterranean.

Carthamus Oxyacantha, *Bieb.* Mian Kalai (Harriss).

Ainsliaxæ aptera, *D C.* Bundai, 7,000' (Harriss); Mirga, 7,200' (Gatacre).

Cichorium Intybus, *L.* Chitral, 4,900' (Harriss); Swat Valley, 3,000'; Dir Valley, 5,000' (Gatacre); Drosh, 4,000'—5,000' (Hamilton).

Lapsana communis, *L.* Ziárat, 10,000' (Harriss).

Picris hieracioides, *L.* Dir, 5,600' (Harriss).

Crepis japonica, *Benth.* Bundai, 4,000'; Broz, 8,500' (Harriss); Ziárat Valley, 4,000'—7,000' (Gatacre).

Pterotheca Falconeri, *Hk. f.* Bundai, 4,000'; Gujar, 7,000'—10,000'; Lowári Pass, 9,000' (Harriss).

Taraxacum officinale, *Wigg.* Jambatai, 4,000'; Lowári Pass, 10,500' (Harriss).

Chondrilla graminea, *M. Bieb.* Drosh, 6,000' (Harriss).

Lactuca dissecta, *D. Don.* Jambatai, 6,000'; Bundai; Dir (Harriss).

L. Heyneana, *D C.* Ziárat Valley, 6,000' (Gatacre); Chitral district. (Younghusband, 1894).

L. longifolia, *D C.* Ziárat, 7,000'—8,000' (Harriss); Panakot, 5,000' (Gatacre).

L. orientalis, *Boiss.* Chitral district, (Younghusband, 1894).

* *L. persica*, *Boiss.* Chitral district, 7,000' (Harriss). Distrib. : Baluch., Persia.

L. Scariola, *L.* Between Drosh and Guirat, 4,500' (Harriss); Arnawei Valley, 7,500' (Gatacre).

Prenanthes Brunoniana, *Wall.* Mirga, 8,000' (Gatacre).

Sonchus asper, Hill. Bundai, 4,000'; Dir, 6,000'; Drosh, 6,000' (Harriss).

Tragopogon pratensis, L. Broz, 7,500'—8,500' (Harriss); Chitrál district (Youngusband, 1894).

Scorsonera divaricata, Turcs. Ziarat, 7,200' (Harriss).

CAMPANULACEÆ.

Codonopsis ovata, Benth. Chitrál district (Youngusband, 1894).

Sphenoclea zeylanica, Gærtn. Swat Valley, 3,000' (Gatacre).

Phyteuma Thomsoni, Clarke. Dir, 7,000'; Gujar, 8,000' - 9,000' Ziarat, 9,000'; Lowári Pass, 10,000' (Harriss).

Campanula cashmiriana, Royle. Dir Valley, 6,000'; Mirga Hills, 8,000'; Lowári range, 6,000' (Gatacre).

C. cashmiriana, Royle, var. *evolulacea*. Aranawei Valley; Mirga, 8,000'—9,000'; Lowari range, 12,000' (Gatacre).

C. colorata, Wall. Jambatai, 10,000'; Dir, 6,500'; Broz, 5,200'; Guirat, 4,500' (Harriss).

* *C. Griffithii*, H. f. & T. Ashreth; Broz, 6,000'—8,000'; Chitrál, 4,900' (Harriss). Distrib.: Afghanistan.

ERICACEÆ.

* *Rhododendron Collettianum*, Aitch. and Hemsl. Lowári Pass, 11,500' (Harriss); Zakhannah range, 13,500' (Gatacre). Distrib.: Afghanistan.

PLUMBAGINEÆ.

Acantholimon lycopodioides, Boiss. Chitrál district, 11,000' (Harriss).

* *Statice Gilesii*, Hemsl. Gujar hills, 8,000' (Gatacre) (Giles, Gilgit Expedition).

* *S. Griffithii*, Aitch. and Hemsl. Dir (Harriss); Panjkora Valley, 4,000' (Gatacre). Drosh, 4,000'—5,000' (Hamilton). Distrib.: Afghanistan.

PRIMULACEÆ.

Primula denticulata, Sm. Bundai, 7,000'—9,000'; Dir, 10,000'; Lowári Pass, 8,000'—10,000' (Harriss); Gujar Valley, 6,000'; Ashreth Valley (Gatacre).

P. denticulata, Sm., var. *erosioides*. Lowári Pass, 9,500' (Harriss).

P. rosea, Royle. Gujar, 8,000'—10,000' (Harriss). A variety with fewer and smaller flowers was collected in the Ashreth Valley, 5,200' (Gatacre); Broz, 5,200'; Chitrál, 4,900' (Harriss) (Youngusband, 1894).

P. Stuartii, Wall., var. *purpurea*. Lowári Pass, 11,500'—13,000' (Harriss), (Gatacre); Dorah Pass, 14,000'—15,000' (Davidson).

Androsace foliosa, Duby. (*S. sarmentosa*, Wall., var. *foliosa* of Fl., Br. Ind.) Mirga, 9,500' (Harriss); Ziarat Valley, 7,000'; Gujar Valley, 8,000' (Gatacre).

* *Androsace Harrissti*, sp. n.

Perennial. Stems woody, much branched, lower naked portions concentrically leaf-scarred. Leaves imbricate, in compact squarrose rosettes terminating the branches, glabrous, ligulate, and somewhat boat-shaped, $\frac{1}{2}$ inch long, acute and subspinulose, wider towards the base and with membranous edges, the younger ones pale green, lower chestnut-coloured changing to brown. Scapes about $\frac{1}{4}$ inch long, solitary at the apex of the leaf rosettes, bearing umbels of 2-4 flowers, clothed with short crisp glandular hairs. Bracts 2—5, rather unequal, boat shaped, entire, hairy. Pedicels $\frac{1}{2}$ — $\frac{1}{4}$ inch. Calyx densely glandular hairy, turbinate, a little shorter than the pedicels, segments rounded, imbricate, about one-fourth the length of the tube, smooth inside. Corolla white, $\frac{1}{2}$ inch in diameter; tube globose, membranous, equally the calyx; mouth constricted by a prominent ring; segments spatulate, spreading, emarginate. Stamens attached about half-way down the corolla tube, on very short filaments; anthers globose. Capsule turbinate, flat above; style $\frac{1}{4}$ inch. Seeds 8, oval-oblong.

Above Ziarat, 11,000' (Harriss). A small woody shrub forming dense cushions. In habit it resembles *A. Tapete*, Maxim., from which it differs by the flowers being in umbels, the glabrous leaves, the spatulate corolla-lobes, and twice the number of seeds.

A. rotundifolia, Hardw., var. *glandulosa*. Jambatai (Harriss) Baraul Valley, 7,000' (Gatacre).

A. rotundifolia, Hardw., var. *macrocalyx*, Lowári Pass, 10,000' (Harriss); Laram, 7,000' (Gatacre).

A. sempervivoides, Jacquem., var. Ziarat, 10,000'; Lowári Pass, 10,500'; Gujar, 11,000; (Harriss).

A. villosa, L. Chitral district, 11,000' (Harriss); Dorah Pass, 14,000'—15,000' (Davidson).

Cortusa Matthioli, L. Lowári Pass, 10,500' (Harriss); Ashreth Valley, 6,000' (Gatacre).

Lysimachia japonica, Thumb. Dir (Harriss).

Anagallis arvensis, L. Gujar Valley, 6,000' (Gatacre).

Samolus Valerandi, L. Drosh, 4,000'—5,00' (Hamilton).

MYRSINÆ.

Myrsine africana, L. Jambatai, 6,000' (Harriss).

Reptonia buxifolia, A. D. C. Drosh, 4,500' (Harriss).

EBENACEÆ.

Diospyros Lotus, L. Bundai (Harriss); Panjkora Valley, 4,000' (Gatacre).

OLEACEÆ.

Jasminum humile, L. Jambatai, 5,000'—6,000' (Harriss).

J. officinale, L. Mirga (Harriss); Panakot, 5,000'; below Laram Pass, 4,000' (Gatacre).

Syringa Emodi, Wall. Ziárat 7,400' (Harriss).

Fraxinus excelsior, L. Jambatai, 4,500' (Harriss).

F. floribunda, Wall., var. Ashreth (Harriss). Leaves small, suborbicular.

F. xanthoxyloides, Wall. Mirkandi, 6,000' (Harriss).

Olea cuspidata, Wall. Drosh, 4,500' (Harriss); Swat valley, 3,000'; Darora, 5,000'; Arnawei valley, 4,800' (Gatacre); Serai, (Wingate).

APOCYNACEÆ.

Nerium odorum, Soland. Mian Kalai (Harriss).

ASCLEPIADACEÆ.

Periploca aphylla, Dcne. Drosh, 4,000'—5,000' (Harriss); Warai, 4,500'; Laram, 6,000' (Gatacre).

Cynanchum acutum, L. Drosh, 4,500' (Harriss); Zakhannah valley, 5,000' (Gatacre).

C. Jacquemontiana, Dcne. Gujar, 8,500'; Mirga, 9,000' (Harriss) (Gatacre).

LOGANIACEÆ.

Buddleia paniculata, Wall. Jambatai (Harriss).

GENTIANACEÆ.

Gentiana argentea, Royle. Bundai, 8,500' (Harriss).

G. cachemirica, Dcne. Lowári range, 13,000' (Gatacre).

G. carinata, Griseb., var. *marginata*. Lowári range, 11,000'—12,000' (Harriss) (Gatacre).

G. decumbeus, L. f. Ziárat valley, 5,000'—8,000'; Lowári range, 11,000' (Gatacre); Chitral district (Hamilton) (Younghusband, 1894).

G. quadrifaria, Blume. Chitral district (Younghusband, 1894).

Faeschkea gentianoides, Kurs. Zakannah Pass, 8,500' (Gatacre).

- Swertia cordata*, Wall. Laram, 7,000' (Gatacre).
S. petiolata, Royle. Zakhannah valley, 6,000'; Ziárat valley;
 9,000' (Gatacre).
S. speciosa, Wall. Lowári Pass, 9,000' (Gatacre).

POLEMONIACEÆ.

- Polemonium cæruleum*, L. Ziárat, 10,000'; Lowári Pass, 9,000
 (Harriss); Ashreth valley (Gatacre).

BORAGINEÆ.

- Heliotropium Eichwaldi*, Steud. Dir, 5,000'; between Guirat
 and Chitral, 4,600' (Harriss).

- H. Eichwaldi* Steud, var. *lasiocarpum*. Sharbat, 4,000' (Harriss);
 Arnawei valley (Gatacre); Drosh, 4,000'—5,000' (Hamilton).

- Trichodesma indicum*, R. Br. Jambatai (Harriss).

- Cynoglossum lanceolatum*, Forsk. Chakdara (Harriss).

- C. microglochis*, Benth. Lowári Pass, 10,000' (Gatacre).

- C. Wallichii*, G. Don. Bundai, 4,000'; Ziárat 10,000' (Harriss),
 Gujar Valley, 8,000'; Mirga, 7,000'—9,000'; Laram, 7,000' (Gatacre),
 Drosh, 4,000'—5,000' (Hamilton).

- Lindelofia spectabilis*, Lehm. Arnawei Valley, 9,500' (Gatacre);

- Solenanthus circinatus*, Ledeb. Between Gujar and Ziárat,
 8,000'—9,000' (Harriss).

- * *Paracaryum asperum*, Stocks, Ashreth; Drosh, 8,000'; Chitral,
 4,800' (Harriss). Distrib.: Baluch., Afghan., Gilgit.

- P. glochidiatum*, Benth. and Hk. f. Gujar, 7,500'; Mirga,
 8,000' (Harriss); Ashreth, 7,000' (Gatacre).

- P. heliocarpum*, Kerner. Ziárat valley, 7,000'; Arnawei valley
 (Gatacre).

- P. microcarpum*, Boiss. Jambatai, 4,000'—6,000'; Bundai, 4,000;
 Dir; Mian Kalai (Harriss); Baraul valley, 5,000'; Ashreth valley
 5,000' (Gatacre).

- Asperugo procumbeus*, L. Ziárat, 7,500' (Harriss).

- Lycopsis arvensis*, L. Dir valley, 5,000' (Harriss).

- Mertensia primuloides*, Clarke. Dir, 11,000' (Harriss).

- M. tibetica*, Clarke. Lowári Pass, 10,000'—11,000' (Harriss);
 Mirga, 7,000' (Gatacre).

- * *M. n. sp.*, allied to *M. echioides*, Benth., Bundai, 8,000'
 (Harriss) No. 16399; Dir, 11,000' (Harriss) No. 16397.

- Myosotis sylvatica*, Hoffm. Ziárat, 10,000'; Lowari Pass;
 10,500'; Chitral district, 11,000' (Harriss); Mirga 8,000' (Gatacre).

- Lithospermum arvense*, L. Bundai, 4,000' (Harriss).

- L. tenuiflorum*, *L. f.* Chitral district (Youngusband, 1894).
Moltkia parviflora, *Clarke*. Dir, 11,000' (Harriss); Mirga, 9,200'; Ziárat valley, 5,000'—8,000'; Ashreth valley, 5,000' (Gatacre).
Macrotomia perennis, *Boiss.* Chitral district 11,000' (Harriss).
Onosma echioides, *L.* Between Guirat and Chitral, 4,700'; Chitral, 4,900'; Broz, 8,500' (Harriss); Dir Valley, 6,000'; Baraul Valley, 7,000' (Gatacre).
 * *O. stenosiþnon*, *Boiss.* Lowári range, 11,000' (Gatacre).
 Distrib.: Persia.

CONVOLVULACEÆ.

- Ipomœa eriocarpa*, *R. Br.* Drosh, 4,000'—5,000' (Hamilton).
I. hederacea, *Facq.* Swat Valley, 3,000' (Gatacre).
Convolvulus arvensis, *L.* Jambatai Pass; Dir; between Guirat and Chitrál, 4,800'; Chitrál, 4,900' (Harriss); Laram, 7,200' (Gatacre).
Cuscuta capitata *Roxb.* Guirat to Chitrál, 4,600' (Harriss).
C. chinensis, *Lamk?* Dir Valley (Harriss).
C. europœa, *L.* Mirkandi, 6,000' (Harriss).
C. reflexa, *Roxb.* Mirga, 6,000' (Gatacre).

SOLANACEÆ.

- Solanum nigrum*, *L.* Broz, 5,200' (Harriss); Arnawei Valley (Gatacre); Drosh, 4,000'—5,000' (Hamilton).
Datura Stramonium, *L.* Bundai (Harriss); Darora, 5,000' (Gatacre).
Physochlaina pœalta, *Miers.* Gujar, 8,400' (Harriss); Mirga, 7,000'—8,000' (Gatacre).
Hyoscyamus niger, *L.* Bundai (Harriss).

SCROPHULARINEÆ.

- Verbascum Thapsus*, *L.* Bundai; Mirga, 7,500' (Harriss); Gujar Valley, 5,000'—6,000'; Laram, 7,200'; Lowári Pass, 9,000' (Gatacre); Chitral dist. (Youngusband, 1894).
 * *V. erianthum*, *Benth.* Between Mirga and Dir, 6,000'; between Drosh and Guirat, 4,500' (Harriss); Arnawei Valley, 7,500' (Gatacre). Distrib.: Afghanistan.
 * *Linaria odora*, *Fisch.* Chitral dist. (Youngusband, 1894). Distrib.: Afghanistan to Europe.
L. ramosissima, *Wall.*, *var. pubescens.* Drosh, 4,500' (Harriss).
 * *Scrophularia alata* *Gilib.* Mirga; Ziárat, 7,200' (Harriss); Zakhannah Pass, 9,000' (Gatacre); Drosh, 4,000'—5,000' (Hamilton), Distrib.: Afghanistan and Persia to Europe.

* *S. cabulica*, Benth. Jambatai, 10,000'; Chitral district, 10,000' (Harriss); Distrib. : Afghanistan.

S. himalensis, Koyle, Lowari Pass, 9,000' (Harriss).

S. scabiosæfolia, Benth. Mirga; Jambatai, 4,600'; Bundai 4,500'; Ziárat, 9,500'; (Harriss); Chitral district (Hamilton).

Masus rugosus, Lour. Jambatai, 10,000' (Harriss)

Wulfenia Amherstiana, Benth. Mirga hills, 8,000—9,000' (Gatacre).

Veronica Anagallis, L. Jambatai, 5,000—6,000'; Bundai, 4,000' (Harriss).

V. Beccabunga, L. Dir (Harriss); Mirga, 7,700' (Gatacre); Drosh, 4,000—5,000' (Hamilton); Chitral district (Younghusband).

V. biloba, L. Gujar, 9,000' (Harriss).

V. deltigera, Wall. Ziarat, 7,500'; Gujar, 8,400' (Harriss); Gujar Valley, 8,000'; Mirga hills, 8,000' (Gatacre).

V. hederæfolia, L. Bundai, 4,000' (Harriss).

V. laxa, Benth. Dir, 8,000' (Harriss).

Leptorhabdos linifolia, Walp. Mirga hills, 9,000'; Laram, 7,000' (Gatacre).

Euphrasia officinalis, L. Zakhannah Valley, 6,000' (Gatacre).

Pedicularis bicornuta, Klotasch. Lowari Pass, 11,000—14,000' (Harriss), (Gatacre); Zakhannah Pass, 9,000' (Gatacre).

P. pectinata, Wall. Mirga, 7,400'; Arnawei Valley, 6,000'; Lowari range, 12,000'; Zakhannah Pass, 9,500' (Gatacre).

* *P. pycnantha*, Boiss, var. *Semenovii*, Regel. Gujar, 8,000—10,000'; Chitral district, 11,000' (Harriss).

P. tenuirostris, Benth. Mirga, 7,400' (Gatacre).

P. siphonantha, D. Don., forma *Hookeriana*. Mian Kalai (Harriss); Lowari Pass, 9,000—10,000'; Zakhannah Pass, 10,800' (Gatacre).

OROBANCHACEÆ.

Orobanche Clarkei, Hk. f. Chitral district, 9,000' (Harriss); Ziarat, 6,000' (Gatacre).

PEDALINEÆ.

Sesamum indicum, D C. Below Laram Pass, 4,000' (Gatacre). Cultivated.

ACANTHACEÆ.

Strobilanthes alatus, Nees. Between Mirga and Dir, 7,500'; Chakdara (Harriss); Mirga hills, 7,000—9000'; Laram, 7,000' (Gatacre).

- Adhatoda vasica*, Nees. No locality given (Gatacre).
Dicliptera Roxburghiana, Nees. Dir, 4,000—6,000' (Harriss); Panjkora Valley, 4,000' (Gatacre).

VERBENACEÆ.

- Verbena officinalis*, L. Drosh, 4,000' Chakdara (Harriss); Robot, 4,000'; Laram, 7,000' (Gatacre).
Vitex Negundo, L. Panjkora Valley (Harriss).

LABIATÆ.

- Plectranthus Cætsa*, Buch-Ham. Laram, 7,000' (Gatacre).
P. rugosus, Wall. Dir Valley, 5,000'; Broz, 5,200' (Harriss); Zakhannah Valley, 6,000'; Gujar, 7,500'; Mirga, 8,000'; Warai, 4,500' (Gatacre); Drosh, 4,000'—5,000' (Hamilton).
Elsholtzia densa, Benth. Drosh, 4,000'—5,000' (Harriss).
Mentha sylvestris, L., var. *incana*. Sharbat, 8,000; Drosh, 4,500' (Harriss); Robot, 4,000'; Arnawei Valley, 4,800' (Gatacre); Chitral district (Youngusband, 1894).
M. sylvestris, L., var. *Royleana*. Gujar Valley, 7,500'; Mirga, 7,700' (Gatacre); Chitral district (Youngusband 1894).
Lycopus europæus, L. Drosh, 4,000'—5,000' (Hamilton).
Origanum vulgare, L. Mirga hills, 7,000'—10,000'; Lowari Pass, 10,000' (Harriss).
O. vulgare, L., var. *laxiflorum*. Dir, 5,000'—6,000'; Ziarat, 7,500 (Harriss); Panjkora Valley, 4,000' (Gatacre).
Thymus Serpyllum, L. Jambatai; 5,000'—6,000'; Lowari Pass, 9,000—10,000'; Mirga Hills, 8,000'; Arnawei Valley, 7,500 (Gatacre).
 * *Zataria multiflora*, Boiss., var. *elutior*. Mirkandi, 6,000' (Harriss). Distrib.: Afghanistan.
Hyssopus officinalis, L. Drosh, 4,000'—5,000' (Hamilton).
Micromeria biflora, Benth. Jambatai, 5,000'—6,000'; Bundai. Dir; between Guirat and Chitral, 4,600' (Harriss); Laram, 9,000, Mirga, 7,700' (Gatacre).
Calamintha Clinopodium, Benth. Bundai, 4,000'; between Guirat and Chitral, 4,000'—5,000' (Harriss); Laram, 7,000' (Gatacre).
C. umbrosa, F. & M. Gujar Valley, 6,500'; Mirga, 7,000—9,000'; Laram, 7,000' (Gatacre).
Perovskia atriplicifolia, Benth. Drosh, 4,000'—5,000' (Harriss) (Hamilton), Chitral Valley, 4,800' (Gatacre).
Salvia glutinosa, L. Sharbat, 4,000' (Harriss); Gujar, 7,000'; Ashreth, 5,000'; Mirga, 7,700' (Gatacre); Drosh, 4,000'—5,000' (Hamilton).

- S. lanata*, *Roxb.* Laram, 7,000' (Gatacre).
- S. Moorcroftiana*, *Wall.* Jambatai, 5,000'—6,000'; Bundai, 4,000' (Harriss); Ashreth Valley, 7,000; Lowári range, 12,000—13,000; below Laram Pass, 4,000 (Gatacre).
- S. plebeia*, *R. Br.* Jambatai, 5,000'—6,000'; between Drosh and Guirat, 4,500' (Harriss).
- * *Zisophora clinopodioides*, *Lamk.* Drosh, 7,500'—8,000' Distrib.: Afghan. Beluch., Persia.
- * *Z. tenuior*, *L.* Bundai; between Guirat and Chitrál, 4,600' (Harriss). Distrib.: Afghan., Baluch., Persia, Siberia.
- Nepeta Cataria*, *L.* Guirat, 4,000'—5,000' (Harriss).
- N. Clarkei*, *Hk. f.* Ziarat, 7,200'; Lowári Pass, 9,500' (Harriss); Mirga, 7,000'—9,000'; Zakhannah Pass, 9,500' (Gatacre).
- N. connata*, *Royle.* Ziarat, 9,000' (Harriss).
- N. elliptica*, *Royle.* Robot, 4,500' (Gatacre).
- N. erecta*, *Benth.* Ziarat, 7,000' .10,000'; Lowári Pass, 10,000' (Harriss); Dir Valley, 5,000; Gujar Valley, 5,000; Mirga hills, 8,000' (Gatacre).
- N. Govaniana*, *Benth.* Mirga, 7,200' (Gatacre).
- N. juncea*, *Benth.* Broz, 5,200' (Harriss).
- N. nervosa*, *Royle.* Gujar Valley, 6,000'—8,000 (Gatacre).
- * *N. pinetorum*, *Aitah and Hemsl.* Mirkandi, 5,000'; Chitrál district, 9,000' (Harriss). Distrib.: Afghanistan.
- * *N. podostachys*, *Benth.* Ziarat, 7,500', Lowári Pass, 10,000' (Harriss); Chitral district (Younghusband, 1894). Distrib.: Afghanistan.
- N. raphanorrhiza*, *Benth.* Ziarat, 7,500'; Lowári Pass, 8,000—10,000' (Harriss); Chitral district, 8,000'—9,000' (Davidson).
- Colonel Davidson (Commanding at Chitrál) informs me that the tubers of this plant are eaten raw by the people of the Chitrál hills, and that it is called by them "phaipuni". They are said to be very palatable when cooked. The plant is not uncommon on the inner ranges of the Western Himalaya and in Afghanistan.
- N. spicata*, *Benth.* Jambatai, 5,000' (Harriss); Mirga, 6,000—8,000' (Gatacre).
- N. spicata*, *Benth. var. elata.* Mirga, 8,000' (Gatacre).
- N. supina*, *Stev.* Dorah Pass, 14,000'—15,000' (Davidson).
- Dracocephalum nutans*, *L.* Ziarat, 10,000'; Lowári Pass, 10,000—11,000' (Harriss).
- Lallemantia Royleana*, *Benth.* Bundai (Harriss).
- Scutellaria linearis*, *Benth.* Panjkora (Harriss).

* *S. multicaulis*, *Boiss.* Chitral district, 6,000' (Harriss) (Younghusband, 1894). Distrib. : Afghanistan, Persia.

S. prostrata, *Jacq.* Jambatai, 5,000'—6,000'; Bundai, 4,000'; Dir, 10,000'; Mirga (Harriss); Drosh 4,000'—5,000' (Hamilton).

Prunella vulgaris, *L.* Dir, 5,600'; Drosh, 4,500'; Chitral Valley, 4,700 (Harriss); Mirga, 7,500 (Gatacre).

Marrubium vulgare, *L.* Dir Valley, 6,000—7,000', Bundai; Ashreth; Drosh, 4,500'; Broz, 5,200' (Harriss).

Anisomeles ovata, *R. Br.* Below Laram Pass, 4,000' (Gatacre).

Stachys floccosa, *Benth.* Sharbat; Dir, 6,500'; Broz, 5,200 (Harriss).

S. sericea, *Wall.* Mirga, 7,000—10,000 (Harriss) (Gatacre); Lowari Pass, 9,000—10,000' (Harriss) (Gatacre); Gujar, 8,000' (Gatacre).

Leonurus Cardiaca, *L.* Mirga, 7,400'—8,000' (Gatacre.)

L. Cardiaca, *L., var. Royleana.* Ziarat, 7,500'; Gujar, 8,400'; Chitral, 8,000; (Harriss).

Lamium album, *L.* Mirga, 7,500'; Gujar, 8,000'; Ziarat, 8,000 (Harriss).

* *Laghochilus, cabulicus Benth.* Chitral district, 9,000' (Harriss). Distrib. : Afghanistan, Persia.

Leucas capitata, *Desf.* (*L. Cephalotes*, *Spreng.*) Below Laram Pass, 4,000' (Gatacre).

* *L. mollissima*, *Wall., var. scaberula.* Swat Valley, 3,000' (Gatacre). Distrib. : Central India and Khasia Mountains.

Otostegia limbata, *Benth.* Jambatai, 5,000'—6,000' (Harriss); below Laram Pass, 4,000' (Gatacre).

Phlomis cashmiriana, *Royle.* Broz., 8,000' (Harriss).

P. bracteosa, *Royle.* Ziarat, 9,000' (Harriss); Ashreth, 7,000' Gujar Valley, 6,500' (Gatacre).

P. setigera, *Falc.* Mirga, 7,000'—9,000' (Harriss) (Gatacre).

P. spectabilis, *Falc.* Between Mirga and Dir, 6,000'—7,000' (Harriss); below Laram Pass, 4,000'; Laram, 7,200'; Kashgaria, 5,000' (Gatacre).

* *Eremostachys speciosa*, *Rupr.* Chitral district, 9,000' (Harriss) (Younghusband, 1894); Lowari range, 12,500' (Gatacre). Distrib. : Central Asia.

* *Teucrium incanum*, *Aitch. and Hemsl.* Dir Valley, 4,500'; Drosh, 4,500' (Harriss); Robot, 4,000; Darora, 5,000' (Gatacre). Distrib. : Afghanistan.

T. Royleanum, *Wall.* Dir; Mirga; Drosh, 4,000'—5,000' (Harriss); Warai, 4,500' (Gatacre).

* *T. serratum*, Benth. Mirkandi, 6,000' (Harriss); Drosh, 4,500' (Harriss), (Hamilton); Chitral district (Younghusband, 1894).
Distrib.: Afghanistan.

Ajuga bracteosa, Benth. Jambatai, 5,000'—6,000'; Dir., 6,500' (Harriss); Panjkora Valley, 4,000' (Gatacre).

A. parviflora, Benth. Jambatai, 5,000'—6,000' (Harriss).

PLANTAGINEÆ.

Plantago lanceolata, L. Jambatai, 5,000'—6,000' (Harriss); Mirga, 7,700' (Gatacre).

NYCTAGINEÆ.

Mirabilis Jalapa, L. Between Mirga and Dir, 6,000' (Harriss); Dir Valley, 4,000'—5,000' (Gatacre).

Boerhaavia repens, L. Below Laram Pass, 4,000' (Gatacre).

ILLECEBRACEÆ.

Herniaria hirsuta, L. Jambatai, 6,200' (Harriss); Mirga, 7,500' (Harriss) (Gatacre).

AMARANTACEÆ.

Celosia argentea, L. Robat, 4,000' (Gatacre).

Digera arvensis, Forsk. Robat, 4,000' (Gatacre).

Amaranthus Blitum, L. Sharbat, 8,000' (Harriss); Mirga, 7,500' (Gatacre); Drosh, 4,000'—5,000' (Hamilton).

A. paniculatus, L. Sharbat, 8,000' (Harriss); Dir Valley, 4,200'; Mirga, 7,400'; Zakhannah Valley, 5,000' (Gatacre).

Ærua tomentosa, Lamk. Below Laram Pass, 4,000' (Gatacre).

Achyranthes bidentata, Blume. Kashgaria, 5,000' (Gatacre).

CHENOPODIACEÆ.

Chenopodium album, L. Drosh, 4,000'—5,000' (Hamilton).

C. Blitum, Hook. f. Dir, 6,000'; Ziárat, 7,500' (Harriss); Arnawei Valley, 8,500' (Gatacre); Chitral district (Younghusband, 1894).

C. Botrys, L. Mirkandi, 5,000' (Harriss); Mirga, 8,500' (Gatacre); Chitral district (Younghusband, 1894).

C. murale, L. Mirga, 7,700' (Gatacre).

Atriplex crassifolia, C. A. Mey. Mirkandi, 6,000' (Harriss).

POLYGONACEÆ.

Polygonum affine, D. Don. Lowári range, 10,200'—13,000' (Harriss) (Gatacre); Arnawei Valley, 9,500' (Gatacre).

P. alatum, Buch.-Ham. Mirga, 7,000'—8,000' (Harriss) (Gatacre).

P. alpinum, All. Chitral district (Younghusband, 1894).

P. amplexicaule, D. Don. Bundai, 4,000'; Lowári Pass, 10,000' (Harriss); Ashreth Valley, 6,000'; Mirga, 7,000'—9,000' (Gatacre).

P. aviculare, L. Drosh, 4,000'—5,000' (Hamilton).

P. dumetorum, L. Dir., 6,500' (Harriss); Dir Valley, 4,200' (Gatacre); Drosh, 4,000'—5,000' (Hamilton).

* *P. Gilesii*, Hemsl. Jambatai, 10,000'; Chitrál, 6,000' (Harriss) (Giles, Gilgit Expedition).

P. Hydro Piper, L. Dir, 6,000'; Chakdara, (Harriss).

P. laphathifolium, L. Dir, 5,600' (Harriss).

P. paronychioides, C. A. Mey. Bundai; Zíarat, 7,500'; Lowári Pass, 9,000' (Harriss).

P. plebeium, R. Br. Bundai, 4,000' (Harriss); Baraul Valley, 7,000' (Gatacre).

P. recumbens, Royle. Lowári Pass, 10,000' (Harriss).

P. rumicifolium, Royle. Zíarat, 7,200'; Lowári Pass, 10,500' (Harriss); Mirga, 8,000'—9,000' (Gatacre).

P. tubulosum, Boiss. Mirga, 7,200' (Gatacre).

* *Rheum Ribes*, L. Chitrál, 5,000'—9,000' (Harriss). Distrib. : Afghan., Persia, Syria.

R. Webbianum, Royle. Lowári Pass, 9,000' (Harriss).

Oxyria digyna, Hill. Lowári Pass, 10,000' (Harriss); Mirga, 7,200' (Gatacre).

Rumex acetosa, L. Lowári Pass, 9,500' (Harriss).

R. dentatus, L. Jambatai, 5,000'—6,000'; Mirkandi, 6,000' (Harriss).

R. hastatus, D. Don. Chashma; Bundai, 4,000'; Drosh, 4,500' (Harriss); Ashreth Valley, 5,000'; Arnawei Valley, 5,000'; below Laram Pass, 4,000'; Darora, 5,000' (Gatacre).

R. nepalensis, Spreng. Dir, 4,500' (Harriss); Mirga, 9,200' (Gatacre).

THYMELÆACEÆ.

Daphne oleoides, Schreb. Jambatai, 4,500'; Broz, 5,200'; between Guíarat and Chitrál, 4,500' (Harriss); Baraul Valley, 5,000'; Gujar Valley, 5,000'; Chitral district, 6,000' (Gatacre).

Wikstræmia canescens, Meissn. Mirga, 7,000'—8,000' (Harriss) (Gatacre); Darora, 5,000' (Gatacre).

Diarthron vesiculosum, Endl. Dir, 6,000'; Mian Kalai; Guírat; 4,500' (Harriss).

ELÆAGNACEÆ.

Elæagnus angustifolia, L. Sharbat, 8,000' (Harriss).

E. umbellata Thunb., var. *parvifolia*. Zakhannah Valley, 5,000' (Gatacre).

LORANTHACEÆ.

Viscum album, L. Panjkora Valley, 4,000'; Laram, 7,000' (Gatacre).

V. articulatum, Burm. Sharbat (Harriss). On *Quercus Ilex*.

SANTALACEÆ.

Thesium divaricatum, Jan. Lowári Pass, 10,000' (Harriss).

EUPHORBIACEÆ.

Euphorbia emodi, Hook. f. Dir, 6,500'; Broz, 7,000' (Harriss); Panjkora Valley, 4,000' (Gatacre); Drosh, 4,000'—5,000' (Hamilton); Chitral district (Younghusband, 1894).

E. falcata, L. Dir, 6,500' (Harriss).

E. helioscopia, L. Jambatai, 5,000'—6,000' (Harriss).

E. hypericifolia, L. Panjkora (Harriss).

E. pilosa, L. Jambatai, 5,000'—6,000'; Bundai, 7,000'—9,000' (Harriss); Ashreth Valley, 7,000'; Lowári Pass, 9,500' (Gatacre).

Sarcococca pruniformis, Lindl. Laram, 7,000' (Gatacre).

Andrackne cordifolia, Muell. Dir, 5,600' (Harriss); Kashgaria, 5,000' (Gatacre).

Flueggia microcarpa, Blume. Mirga, 7,400' (Gatacre).

Chrozophora tinctoria, A. Fuss. Between Broz and Guirat', 4,500' (Harriss); Warai, 4,500' (Gatacre); Drosh, 4,000'—5,000' (Hamilton).

URTICACEÆ.

Ulmus Wallichii, Flanch. Ziarat, 7,500' (Harriss).

Celtis australis, L. Jambatai, 6,000' (Harriss).

Cannabis sativa, L. Dir, 4,500'; Drosh, 4,500' (Harriss); Mirga, 7,700' (Gatacre); Chitral district (Younghusband, 1894).

Morus alba, L. Chitral, 4,900' (Harriss); Arnawei Valley, 4,000'—5,000' (Gatacre).

Ficus foveolata, Wall. Laram, 7,000' (Gatacre).

F. palmata, Forsk. Jambatai Pass; Dir, 4,500'; Chitral, 4,900' (Harriss).

Urtica dioica, L. Mirga, 8,000'; rear Drosh, 8,000' (Harriss).

Parietaria judaica, L. Ashreth; Dir, 6,500' (Harriss).

PLATANACEÆ.

Platanus orientalis, L. Bundai, 4,000' (Harriss).

JUGLANDEÆ.

Juglans regia, L. Jambatai, 4,500'; Ziárat, 7,500' (Harriss).

CUPULIFERÆ.

Alnus nepalensis, D. Don. Swat Valley, 3,000' (Gatacre).

Corylus Colurna, L. Mirga, 7,000'—8,000' (Gatacre).

Quercus dilatata, Lindl. Jambatai, 6,500'; Ziarat, 7,500'—8,500' (Harriss).

Q. Ilex, L. Jambatai, 6,000' (Harriss); Mirga, 7,400' (Gatacre);

Q. incana, Roxb. Below Laram Pass, 4,000'; Laram 7,000' (Gatacre).

SALICINEÆ.

Salix babylonica, L. Arnawei Valley, 4,500' (Gatacre).

S. hastata, L. Lowári Pass, 10,000'—11,000' (Harriss) (Gatacre).

S. oxycarpa, Anders. Ashreth (Harriss).

S. Wallichiana, Anders. Jambatai, 5,000'—6,000' (Harriss).

Populus ciliata, Wall. Ashreth (Harriss); Mirga, 7,200' (Gatacre).

GENTACEÆ.

Ephedra intermedia, Schrenk. Mirkandi, 6,000'; Chitrál, 8,000' (Harriss).

CONIFERÆ.

Juniperus communis, L. Above Jambatai, 10,000' (Harriss).

J. macropoda, Boiss. Ziárat, 11,000'; Chitrál, 9,500' (Harriss); Zakhannah range, 13,500' (Gatacre).

J. recurva, Buch.-Ham. Bundai, 9,600'; Dir, 11,000' (Harriss); Lowári Pass, 10,300' (Gatacre).

Taxus baccata, L. Mirga, 7,400' (Gatacre).

Pinus excelsa, Wall. Dir, 6,000' (Harriss); Mirga, 7,400' (Gatacre).

P. Gerardiana, Wall. Chitral district, 10,000'—11,000' (Harriss).

-Cedrus Libani, Barrel, var. *Deodara*. Dir, 7,000' (Harriss); Mirga, 7,400' (Gatacre).

Abies Webbiana, Lindl. Dir, 8,000'—10,000' (Harriss).

A. Webbiana, Lindl., var., *Pindrow*. Mirga, 7,400' (Gatacre).

Picea Morinda, Link. Dir, 8,000'—10,000'; Gujjar, 10,000' (Harriss).

ORCHIDEÆ.

- Eulophia campestris*, Wall. Gujar Valley, 6,000' (Gatacre).
Neottia listeroides, Lindl. Mirga, 9,200' (Gatacre).
Spiranthes australis, Lindl. Sharbat (Harriss).
Epipactis consimilis, Wall. Mirkandi, 6,000'—7,000' (Harriss).
E. latifolia, Swartz Jambatai, 6,500'; Dir, 11,000; Ashreth (Harriss).
Orchis latifolia, L. Lowári Pass, 9,500' (Harriss); Ashreth Valley, 6,000' (Gatacre).
Herminium Duthiei, Hook. f. Bundai, 4,000' (Harriss).
Cypripedium cordigerum, D. Don. Dir; Mirga 9,500' (Harriss); Ziárat Valley, 8,000' (Gatacre).

IRIDEÆ.

- Iris kashmiriana*, Baker. Chashma; Jambatai, 4,500' (Harriss).
I. kumaonensis, Wall. Gujar, 10,000'; Lowári Pass, 10,000'—11,500' (Harriss).
 * *I. songarica*, Schrenk. Chitral district 9,000'—11,000' (Harriss) (Youngusband, 1894). Distrib.: Afghanistan, Persia.
 * *Crocus Korolkowi*, Maw and Regel. Chitral district (Hamilton). Distrib.: Turkestan.

AMARYLLIDEÆ.

- * *Ixiolirion montanum*, Herb. Lowári Pass, 10,000' (Gatacre); Chitral district (Hamilton) (Youngusband, 1894). Distrib.: Afghan., Persia, Syria.

DIOSCOREACEÆ.

- Dioscorea deltoidea*, Wall. Bundai, 4,000'; Ziárat, 7,200' (Harriss); Mirga, 6,000'—7,200' (Gatacre).

LILIACEÆ.

- Asparagus fil. cinus*, Buchi-Ham. Mirga forest, 9,500' (Gatacre).
Polygonatum geminiflorum, Dcne. Lowári Pass, 11,000' (Harriss); Ziárat Valley, 7,000' (Gatacre).
P. multiflorum, All. Jambatai, 6,000' (Harriss), Mirga, 8,800' (Gatacre).
P. verticillatum, All. Jambatai, 6,000' (Harriss); Mirga, 7,000'—9,000' (Harriss) (Gatacre).
Hemerocallis fulva, L. Dir, 5,000' (Harriss); Jandoul Valley, 4,000' (Gatacre). Introduced.
Eremurus himalaicus, Baker. Between Gujar and Ziárat,

7,000'—10,000' (Harriss); Lowári Pass; Arnawei Valley, 9,000' (Gatacre).

Allium blandum, Wall. Arnawei Valley, 8,500' (Gatacre).

A. Govanianum, Wall. Lowári Pass, 11,500' (Harriss).

* *A. margaritaceum*, Sibth. and Smith, var. *S. scabrum*, Broz, 5,200' (Harriss). Distrib.: Persia, Europe.

A. rubellum, M. Bieb. Bundai, 4,000' (Harriss).

A. rubellum, M. Bieb., var. *grandiflorum*. Without locality (Gatacre).

Lilium polyphyllum, D. Don Ziárat. 8,000'; Gujar, 8,400' (Harriss); Ashreth Valley, 5,000'—7,000'; Mirga Valley, 7,000'; Lowári range, 10,000'—11,000' (Gatacre).

Fritillaria imperialis, L. Chitrál district (Younghusband, 1894)

Tulipa chrysantha, Boiss. Chitrál district (Younghusband, 1894).

* *T. Clusiana*, D. C. Chitrál district (Hamilton). Distrib.: Persia, Europe.

* *T. dasystemon*, Regel. Chitrál district, 9,000' (Harriss) (Younghusband, 1894). Distrib.: Turkestan.

T. stellata, Hook. Gujar, 8,000'—9,000'; Ziarat, 8,000'—10,000' (Harriss); Lowári Pass, 10,000' (Gatacre).

* *Gagea amblyopetala*, Boiss. and Heldr. Chitrál district (Younghusband, 1894). Distrib.: E. Europe.

G. fascicularis, Salisb. (*G. lutea*, Schultz. f.) Dir, 11,000'; Bundai, 7,000'—9,300'; Lowári Pass, 9,000'—11,000' (Harriss); Ashreth Valley, 4,000'—7,000' (Gatacre); Chitrál district (Younghusband, 1894).

* *G. filiformis*, Kunth. Chitrál district (Younghusband, 1894); Distrib.: Siberia.

G. persica, Boiss. Ziárat Valley, 4,500'—7,000' (Gatacre).

Colchicum luteum, Baker. Gujar, 8,500'—9,000' (Harriss); Lowári Pass, 10,000' (Gatacre).

Merendera persica, Boiss. Ziárat, 11,000' (Harriss); Chitrál district (Hamilton) (Younghusband, 1894).

* *M. robusta*, Bunge. Gujar 8,500'—10,500'; Lowári Pass, 8,500'—11,000' (Harriss); Ashreth Valley, 5,000' (Gatacre). Distrib.: Turkestan.

Trillium Govanianum, Wall. Bundai, 9,000' (Harriss).

JUNCACEÆ.

Juncus glaucus, Sibth. Broz, 7,500' (Harriss).

J. himalensis, Klotasch. Ziárat, 9,000'; Lowári Pass, 10,000' Gujar, 8,400' (Harriss).

- J. lamprocarpus*, Ehrh Bundai, 4,000' ; Chakdara (Harriss).
J. membranaceus, Royle. Gujar 8,400' (Harriss) ; Chitral district (Younghusband, 1894).

TYPHACEÆ.

- Typha angustata*, Chaub. and Bory. Mian Kalai (Harriss).

AROIDEÆ.

- Arum Jacquemontii*, Blume (*A. Griffithii*, Schott.). Ashreth (Harriss).

ALISMACEÆ.

- Sagittaria guayanensis*. H. B. & K. Swat Valley, 3,000' (Gatacre).

- S. sagittifolia*, L. Munda, 3,000' ; Dir, 5,000' ; Mian Kalai (Harriss) ; Swat Valley, 3,000' (Gatacre).

CYPERACEÆ.

- Pycnus capillaris*, Nees Drosh, 4,000'—5,000' (Hamilton).

- Cyperus eleusinoides*, Kunth. Below Laram Pass, 4,000' (Gatacre).

- C. Eragrostis*, Vahl. Swat Valley, 3,000' (Gatacre).

- C. glaber*, L. Chakdara (Harriss).

- C. Iria*, L. Near Drosh, 4,000'—5,000' (Hamilton).

- C. rotundus*, L. Near Drosh, 4,000'—5,000' (Hamilton).

- Eleocharis palustris*, R. Br. Mirkandi, 6,000' ; Broz, 7,500' (Harriss).

- Fimbristylis dichotoma*, Vahl. Chakdara (Harriss) ; Robot, 4,000' ; Swat Valley, 3,000' (Gatacre).

- Eriophorum comosum*, Wall. Swat Valley, 3,000' (Gatacre).

- Kobresia capillifolia*, Dcne. Lowári Pass, 10,500' (Harriss).

- K. laxa* Benth. Broz, 7,500' (Harriss).

- Carex cardiolepis*, Nees. Bundai, 7,000' (Harriss).

- C. cruenta*, Nees. Lowári Pass, 9,500' (Harriss).

- C. flava*, L. Broz, 7,500' (Harriss).

- C. obscura*, Nees. Lowári Pass, 9,000' (Harriss).

- C. Wallichiana*, Prescott. Bundai, 4,000' (Harriss).

GRAMINEÆ.

- Paspalum sanguinale*, Lamk. Chakdara, (Harriss) ; Drosh, 4,000'—5,000' (Hamilton).

- Panicum Crus-galli* ; L. Mian Kalai (Harriss) ; Drosh, 4,000'—5,000' (Hamilton).

- Setaria glauca*, Beauv. Arnawei Valley, 5,000' (Gatacre).
S. italica, Beauv. Dir, 4,500'—6,500'; Chakdara (Harriss); Zakhannah Valley, 5,000'—6,000' (Gatacre). Cultivated.
Pennisetum lanatum Klotzsch. Mirga, 7,200' (Gatacre).
P. orientale, Rich. Chashma; Dir, 4,500'; Ashreth (Harriss); Chotiatan, 5,000' (Gatacre).
Coix Lachryma-Jobi, L. Swat Valley, 3,000' (Gatacre).
Zea Mays, L. Arnawei Valley, 6,000'; below Laram. Pass, 4,000' (Gatacre).
Tragus racemosus, Hall. Panjkora (Harriss).
Imperata arundinacea, Cyr. Mirkandi, 6,000'; Broz, 5,200' (Harriss).
Saccharum spontaneum, L. Below Laram Pass, 4,000' (Gatacre).
Erianthus Griffithii, Hook. f. Below Laram Pass, 4,000' (Gatacre).
E. filiformis, Nees. Dir, 4,500'—6,500' (Harriss).
E. Ravennæ, Beauv, var. *purpurascens*. Drosh, 4,000'—5,000' (Hamilton).
E. Ravennæ, Beauv. var. (approaching *E. Griffithii*). Guirat, 4,500' (Harriss).
Rottbællia speciosa, Hack. Mirkandi, 6,500'; between Mirga and Dir, 6,000' (Harriss).
Ischæmum angustifolium, Hack. Bundai; Panjkora (Harriss).
Andropogon Gryllus, L., var. *echinulatus*. Mirga, 9,500' (Gatacre).
A. halepensis, Brot. Chitral Valley, 4,000'—5,000' (Harriss).
A. Ischæmum, L. Mirkandi, 6,000'; Sharbat, 8,000'; Panjkora (Harriss); Drosh, 4,000'—5,000' (Hamilton).
A. Iwarancusa, Jones, subsp. *laniger* Desf. Dir; Mirkandi, 5,800' (Harriss); Warai, 4,500' (Gatacre).
A. monticola, Schult., var. *Trinii*. Sharbat, 8,000' (Harriss).
Anthistiria anathera, Nees. Chakdara (Harriss).
Apluda varia, Hack, subsp. *aristata*. Below Laram Pass, 4,000' (Gatacre).
Aristida adscensionis, L. Sharbat, 8,000' (Harriss).
A. cyanantha, Nees. Drosh, 4,000'—5,000' (Harriss) (Hamilton).
Stipa barbata, Desf. Jambatai, 10,000'; Chitral 6,000' (Harriss).
S. Hookeri, Stapf. Gujar, 9,000' (Harriss).
S. sibirica, Lamk. Mirga, 7,400'—8,000'; Laram, 7,000' (Gatacre).
Oryzopsis Munroi, Stapf. Bundai, 4,000'; Dir, 5,000'; Ziárat, 7,000'—8,000' (Harriss).

- * *O. pallida*, Stapf. M. S. Mirkandi, 5,500' (Harriss).
Pileum arenarium, L. Jambatai, 4,500'; Bundai (Harriss).
Agrostis alba, L. Gujar, 8,400', Chakdara (Harriss).
A. subaristata, Aitch. and Hemsl. Dir, 5,400' (Harriss).
A. verticillata, Vill. Broz, 5,200' (Harriss).
Polypogon littoralis, Smith. Bundai; Dir, 4,500' (Harriss).
P. maritimus, Willd. Broz, 5,200'; Guirat, 4,500' (Harriss).
Calamagrostis littorea, D.C. Mirga, 3,000' (Gatacre).
Cynodon Dactylon, Pers. Bundai, 4,000' (Gatacre).
Chhoris villosa, Pers. Mirkandi, 6,000'; Dir (Harriss); Ashreth Valley, 5,000' (Gatacre).
Pappophorum Aucheri, Faub. & Spach. Guirat, 4,500' (Harriss).
Arundo Donax, L. Mirkandi, 6,000' (Harriss); Arnawei Valley, 4,000' (Gatacre).
Phragmites Roxburghii, Kunth. Below Laram Pass, 4,000' (Gatacre).
Kœleria cristata, Pers. Dir, 5,000' (Harriss).
Eragrostis cynosuroides, Beauv. Mian Kalai (Harriss).
E. minor, Host. Dir, 6,500'; Chakdara (Harriss); Drosh, 4,000'—5,000' (Hamilton); Chitral District. (Younghusband 1894).
E. pilosa, Beauv. Chakdara (Harriss); Drosh, 4,000'—5,000' (Hamilton).
* *Diplachne Gatacrei*; Stapf. Warai, 4,500' (Gatacre).
Melica Cupani, Guss., var. *brevifolia*, Boiss. Zírat, 7,500'; Chitral district, 6,000'—11,000' (Harriss) (Younghusband, 1894).
Dactylis glomerata, L. Mirga (Harriss).
Pogonatherum saccharoideum, Beauv. Mirkandi, 6,000' (Harriss).
Poa bulbosa, L., var. *vivipara*. Jambatai, 4,000' (Harriss).
P. nemoralis, L., var. *ligulata*, Stapf. Bundai, 4,000'; Broz, 9,000' (Harriss); Mirga, 7,700' (Gatacre).
P. persica, Trin., var. *soongarica*. Lowári Pass, 10,000' (Harriss).
P. pratensis, L. Jambatai, 4,500' (Harriss).
P. pratensis L., var. *vivipara*. Zírat, 7,400' (Harriss).
Bromus patulus, M. and K. Jambatai, 4,000'; Bundai (Harriss).
Brachypodium sylvaticum, R. & S. Dir, 5,000'; Chakdara (Harriss).
Agropyron longe-aristatum, Boiss. Gujar, 7,800' (Harriss).
* *Secale montanum*, Guss. Gujar, 7,800' (Harriss). Distrib.: Persia, Eastern and Southern Europe.
Hordeum murinum, L. Chitral, 4,900' (Harriss).

FILICES.

Cystopteris fragilis, Bernh. Jambatai, 5,000'—6,000'; Dir, 4,500'—10,000'; Ziárat, 10,000'; Lowári Pass, 8,500'—10,000'; Chitral District, 11,000' (Harriss); Mirga Hills, 8,000' (Gatacre).

Adiantum Capillus-Veneris, L. Jambatai, 5,500'; Dir, 4,000'—5,500'; Ashreth Valley, 6,000'; Chakdara (Harriss); below Laram Pass, 4,000'; Ziárat Valley, 6,000' (Gatacre); Drosh, 4,000'—5,000' (Hamilton).

A. venustum, D. Don. Dir, 5,000'; Jambatai (Harriss); Mirga, 8,000' (Gatacre)

Cheilanthes fragrans, Webb and Berth. Jambatai, 5,000'—6,000'; Dir., 4,500'; Sharbat (Harriss), below Laram Pass, 4,000'; Ashreth Valley (Gatacre).

C. Suvitsii, F. and M. Between Drosh and Guirat, 4,500' (Harriss); without locality (C. E. Pitman).

Pellaea nitidula Baker. Laram, 7,000' (Gatacre).

Pteris aquilina, L. Mirga (Harriss); Gujar Valley, 7,000' (Gatacre).

P. cretica, L., Dir., 6,500' (Harriss); Darora, 5,000'; below Laram Pass, 4,000' (Gatacre).

P. longifolia, L. Dir., 6,500' (Harriss); below Laram Pass, 4,000'; Mirga Hills, 8,000'.

P. ludens, Wall. Ziárat Valley, 5,000'—8,000' (Gatacre).

In reply to a letter to General Gatacre asking for further particulars regarding the localities of this very interesting fern, I received the following information:—"This fern was found growing in many places in the Ziárat Valley at 5,000 feet, near the Kaffir Rock,* a well-known spot by reason of the Kaffirs from Kafristán selecting this wild spot as the place to set upon and murder caravans passing through the country. The valley hereabouts is a very sheltered spot, a beautiful stream running down the centre, the hills clothed with flowering shrubs, and the valley filled with the white pæony. Undoubtedly snow lies here during winter, even down to 5,000 feet, but the place is warm and sheltered from wind; the soil is very rich, and streams from the summits of the hills are always pouring through fissures into the valley below. This fern was also seen growing in several places on the hill above on the west side of the valley, where water runs out of rocks at 8,000 feet. The ground here must be under snow for certainly four months, if not more. There is close by here a crater, apparently of volcanic origin,

* The Kaffir Rock is about 3½ miles north of Lowari Pass, on the road.

which may account for the fern being found here, but no difference was perceptible in the temperature of the water."

Asplenium Adiantum-nigrum, L. Jambatai, 5,000'—6,000'; Dir Valley; Ziárat, 7,800' (Harriss); Panjkora, 4,000' (Gatacre).

A. alternans, Wall. Dir, 5,400'; between Drosh and Guirat, 4,500' (Harriss); below Laram Pass, 4,000' (Gatacre).

A. Ceterach, L. Panjkora Valley, 4,000'; Laram, 7,000'; Ashreth Valley, 5,000' (Gatacre).

A. dentigerum, Wall. Mirga, 8,500'; Lowári Pass, 10,000' (Harriss).

A. fontanum, Bernh. Mirga, 8,000' (Gatacre).

A. Mackinnoni, Hope. Gujar, 8,500'; Mirga (Harriss).

A. septentrionale, Hoffm. Ziárat, 7,200' (Harriss); Mirga forest, 9,500' (Gatacre).

A. Trichomanes, L. Jambatai, 5,000'; Bundai, 4,000'; Ashreth; Sharbat, 8,000' (Harriss); Mirga, 7,000'—9,500' (Gatacre).

A. viride, Huds. Lowári Pass, 11,000' (Harriss); Chitrál district (Younghusband, 1894).

Aspidium Lonchitis, Sw. Ziárat, 11,000'; Lowári Pass, 10,500' (Harriss).

Nephrodium Filix-mas, Rich. Lowári Pass, 9,500' (Harriss).

N. molle, Desr. Below Laram Pass, 4,000' (Gatacre).

N. odontoloma, Moore. (*Lastrea Filix-mas*, var. *odontoloma*, Moore in Bedd. Handb., Suppl. 55).—Jambatai, 5,000'—6,300'; Bundai; Dir., 8,000'; Ziárat, 7,500'—8,000'; Lowári Pass, 10,000'; Chakdára (Harriss).

N. ramosum, Hope. Gujar, 10,000'; Ziárat, 7,000'—9,000'; Mirga, 8,000' (Harriss); Laram, 7,200' (Gatacre).

Polypodium Phegopteris, L. Mirga, 9,500' (Harriss).

P. Robertianum, Hoffm. Mirga, 7,500' (Gatacre); Chitrál district (Younghusband, 1894).

Lygodium microphyllum R. Br. Ziárat Valley, 5,000' (Gatacre).

EQUISETACEÆ.

Equisetum arvense, L. Jambatai, Bundai, 4,000'; Ziárat, 7,200' (Harriss); Mirga 6,000'—8,000' (Gatacre).

E. debile, Roxb. Chakdara (Harriss); Drosh, 4,000'—5,000' (Hamilton).

LYCOPODIACEÆ.

Selaginella rupestris, Spring. Dir, 4,500'; Ashreth (Harriss); Mirga, 7,200' (Gatacre).

MUSCI.

- Catharinea obtusula*, (C. Müll). Bundai, 8,000' (Harriss).
Mnium lycopodioides, (Hook.) Schw. Jambatai, 4,000' (Harriss).
M. medium, Br. Eur. Ziárat, 7,400' (Harriss).
M. riparium, Mitt. Jambatai, 4,000' (Harriss).
Timmia bavarica, Hessel. Mirga, 9,000'; Ziárat (Harriss).
Philonotis falcata, Hook. Bundai, 4,000'; Dir, 4,000'; Mirga (Harriss).
Bartramia Ederi, (Gunn) Sw. Mirga, 9,000' (Harriss).
Bryum argenteum, L. Bundai, 4,000' (Harriss).
B. cæspiticium, L. Ziárat, 7,400' (Harriss).
B. Schleicheri, Schw. Lowári Pass, 10,000' (Harriss); Mirga, 7,700' (Gatacre).
B. turbinatum, (Hedw.) Br. Eur. Ashreth, 5,000'—6,000'; Gujar, 9,000'; Chitral District, 8,000' (Harriss).
Pohlia cruda, (L.) Lindb. Mirga, 9,000'; Ziárat, 9,000'; Broz, 7,000' (Harriss).
Funaria hygrometrica (L.) Sibth. Bundai, 4,000'; Drosh, 8,000' (Harriss).
Tortula inermis, (Brid.) Mont. Ashreth, 5,000'—6,000'; Bundai, 4,000' (Harriss).
T. montana (Nees), Lindb. Ashreth, 5,000'—6,000' (Harriss).
Desmatodon latifolius (Hedw.) Br. Eur. Gujar, 9,500' (Harriss).
Barbula alpigena, Vent. Dir., 10,000' (Harriss).
B. rubella (Hoffm) Mitt. Ziárat, 7,400'; Bundai, 8,000'; Dir. 10,000'; Gujar, 9,500' (Harriss).
Timmia anomala (Br. Eur.) Bundai, 4,000'; Jambatai, 4,000'; Mirga, 9,000'; Dir Valley; Lowári Pass, 10,500'; between Guirat and Chitral (Harriss).
Eucladium verticillatum (L.), Br. Eur. Mirkandi, 6,000' (Harriss).
Amphidium lapponicum, (Hedw.) Schimp. Mirga, 9,000'; Ashreth, 5,000'—6,000'; Ziárat, 10,000' (Harriss).
Drummondia Thomsoni, Mitt. Dir Valley (Harriss).
Orthotrichum anomalum, Hedw. Mirga; Lowári Pass, 10,000', Chakdara (Harriss).
Grimmia commutata, Hüb. Mirga; Bundai, 8,000'; Lowári Pass, 10,500' (Harriss).
G. leucophæa, Grev. Bundai, 8,000' (Harriss).
G. pulvinata, (L.) Sw. Chakdara (Harriss).

Amblystegium filicinum (L.) Lindb. Bundai, 4,000'; Broz, 7,000' (Harriss).

A. serpens (L), Br. Eur. Jambatai, 4,000'; Ashreth, 5,000—6,000'; Ziárat, 7,500'; Gujar, 9,000' (Harriss).

Hypnum pseudoplumosum, Brid. Jambatai, 4,000' (Harriss).

H. rutabulum, L. Ziárat, 7,400' (Harriss).

H. salebrosum, Hoffm. Mirga, 9,000'; Chitrál District, 9,000' (Harriss).

H. strigosum, Hoffm. Gujar, 9,500' (Harriss).

Plagiothecium denticulatum, (L.) Br. Eur. Ziárat, 7,400' (Harriss).

HEPATICÆ.

Grinaldia dichotoma. Jambatai, 6,000' (Harriss).

Marchantia sp. Bundai 4,000'—6,000' (Harriss).