

Supplemental material for

“Species Diversity, Community Structure, and Distribution Patterns in Western Himalayan Alpine Pastures of Kashmir, Pakistan,” by Hamayun Shaheen, Shujaul Mulk Khan, and David M. Harper; published in *Mountain Research and Development* (MRD) vol 31 no 2 (May 2011).

Table S1: Importance value index (IVI) values, leaf spectra, and life form data of alpine species in 4 pastures (Sankh, Pir Kanthi, Garang Plani, and Ganga) in Bagh District, located near the Line of Control between India and Pakistan in the Pir Panjal subrange of the Himalayas.

Species	Life form	Leaf spectra	Importance Value Index (IVI)				
			Pirkanthi	Sankh	Garang Plani	Ganga	Average
<i>Achillea millefolium</i> L.	H	L	3.31	7.03	+	+	2.6
<i>Adiantum venustum</i> D.Don	G	L	+	+	+	3.6	0.9
<i>Anemone falconeri</i> T.T. (Thoms) Juz.	CH	Me	2.85	+	4.13	+	1.8
<i>Angelica glauca</i> Edgew.	TH	Mi	5.35	8.49	+	+	3.5
<i>Arisaema flavum</i> Schott.	G	Me	4.95	+	4.32	+	2.4
<i>Artemisia vulgare</i> L.	H	N	14.41	11.59	7.11	+	8.3
<i>Asplenium adiantum-nigrum</i> L.	G	L	+	+	+	3.82	0.96
<i>Aster himalaicus</i> C.B. Clarke	H	Mi	2.85	+	+	+	0.72
<i>Astragalus scorpiures</i> Bunge.	CH	N	+	+	5.22	7.35	3.15
<i>Bergenia ciliata</i> (Haw) Sternb.	H	Me	2.66	10.08	5.53	+	4.6
<i>Bistorta affine</i> D. Don	CH	Mi	2.66		+	+	0.67
<i>Bistorta amplexicaulis</i> (D.Don) Greene	H	Mi	4.59	7.43	+	+	3.01
<i>Caltha alba</i> Jacq. Ex Camb.	CH	Me	8.3	29.44	7.43	3.86	12.3
<i>Cichorium intybus</i> L.	CH	Me	2.85	3.58	2.41	+	2.3
<i>Corydalis govaniana</i> Wall.	H	N	2.85	+	+	+	0.72
<i>Corydalis stewartii</i> Fedde	H	N	+	+	6.06	+	1.6
<i>Cynoglossum glochidiatum</i> Wallich. ex Benth.	TH	Mi	+	9.02	+	+	2.3
<i>Cyperus compressus</i> L.	G	N	+	+	+	13.63	3.4
<i>Dryopteris stewartii</i> More	H	N	+	9.02	+	+	2.2
<i>Dryopteris jaxtaposita</i> Christ.	G	Me	+	8.57	+	4.73	3.3
<i>Epilobium laxum</i> Royle	Np	Mi	5.76	+	+	5.74	2.9
<i>Euphrasia himalaica</i> Wettst.	TH	Mi	11.99	+	7.6	+	4.9
<i>Fragaria nubicola</i> Lindley	H	Mi	11.11	+	9.82	5.02	6.5
<i>Fritillaria roylei</i> Hook.f	G	Mi	1.5	+	13.27		3.7
<i>Galium aparine</i> L.	TH	N	4.62	+	+	2.22	1.7
<i>Gentiana kuroo</i> Royle	TH	N	+	+	8.51	+	2.1
<i>Gentiana olivieri</i> Griseb.	TH	N	+	10.36	+	+	2.6
<i>Geranium rotundifolium</i> L.	H	Me	+	+	4.48	+	1.1
<i>Geranium wallichianum</i> D.Don. ex Sweet.	H	Mi	11.82	16.46	8.7	10.75	11.9
<i>Gerbera gossypina</i> (Royle) Beauv	CH	Me	2.66		+	+	0.67
<i>Geum elatum</i> Wall. ex G.Don	H	Mi	+	12.89	+	+	3.2
<i>Gnaphalium affine</i> D.Don	TH	N	4.23	+	+	20.51	6.2
<i>Hackelia uncinata</i> (Royle. ex Benth) Fischer	TH	Mi	+	+	8.01	5.02	3.2

<i>Leucas cephalotes</i> Spreng.	H	Me	5.96	+	+	1.76	1.9
<i>Malva neglecta</i> Wall.	CH	Mi	+	+	2.64	+	0.66
<i>Nepeta erecta</i> Benth	CH	Mi	5.59	+	+	+	1.4
<i>Nepeta govaniiana</i> (Benth.) Benth	CH	Mi	+	+	+	4.19	1.04
<i>Onopordum acanthium</i> L.	TH	Mi	+	4.86	+	+	1.2
<i>Oxyria digyna</i> (L) Hill	CH	Mi	5.44	+	+	+	1.36
<i>Pimpinella diversifolia</i> (Wall.) DC.	TH	Mi	4.83	+	7.48	+	3.01
<i>Plantago major</i> L.	H	Me	2.85	3.58	+	5.08	2.9
<i>Pleurospermum brunonis</i> (DC.) Clarke	H	N	+	11.59	+	+	2.9
<i>Poa alpina</i> L.	H	N	33.04	+	27.28	34.32	23.6
<i>Poa stewartii</i> L.	H	N	9.77		24.04	22.57	14.1
<i>Polygonatum verticillatum</i> (L.) All.	H	L	+	6.37	+	+	1.6
<i>Polygonum nepalensis</i> Meissn.	H	L	+	+	+	3.24	0.81
<i>Primula denticulata</i> Smith	H	Mi	15.79	34.04	13.94	7.42	17.8
<i>Primula macrophylla</i> D.Don	H	Me	4.04	24.93	12.96	3.62	11.4
<i>Prunella vulgaris</i> L.	TH	Mi	24.85	+	10.18	13.57	12.1
<i>Pteris nepalensis</i> H. Ito	G	Me	+	+	+	1.56	0.39
<i>Ranunculus muricatus</i> L.	CH	Me	2.85	+	+	4.42	1.9
<i>Rumex nepalensis</i> Spreng	CH	Mi	5.16	+	9.01	4.55	4.7
<i>Sambucus wightiana</i> Wall. ex Wight & Arn.	CH	Me	+	7.74	+	+	1.9
<i>Saussurea fastuosa</i> (Decne.) Sch.Bip.	H	Me	+	9.77	+	+	2.4
<i>Scirpus</i> sp.	H	N	19.75	+	19.89	28.13	16.9
<i>Sedum ewersii</i> Ledeb.	G	Mi	6.31	+	+	+	1.6
<i>Senecio chrysanthemoides</i> DC.	G	Mi	2.3	+	8.76	+	2.76
<i>Sibbaldia cuneata</i> O.kunz	H	N	23.02	33.59	18.27	41.03	28.9
<i>Stachys emodi</i> Hedge	Np	Mi	+	+	+	2.62	0.66
<i>Strobilanthes glutinosus</i> Nees	H	Me	4.03	2.62	9.26	5.11	5.2
<i>Taraxacum officinale</i> Weber	H	Mi	2.85	+	7.28	7.47	4.4
<i>Thlaspi andersonii</i> (Hook.f.&thoms) schulz	TH	Mi	+	6.87	+	+	1.7
<i>Thymus linearis</i> Benth	CH	Mi	+	+	4.91	+	1.2
<i>Trifolium repens</i> L.	H	N	+	+	12.67	9.61	5.57
<i>Trollius acaulis</i> Lindley	CH	Mi	+	+	+	4.55	1.13
<i>Tussilago farfara</i> L.	TH	Ma	2.85	9.77	2.82	+	3.8
<i>Valeriana jatamansi</i> Jones	G	Mi	+	+	5.38	+	1.35
<i>Valeriana pyrolifolia</i> Decne	G	Mi	+	+	+	2.46	0.62
<i>Viola canescens</i> Wall. Ex Roxb.	H	Mi	2.7	+	+	5.89	2.15

Life form: TH Therophytes CH Chamaphaetes H Hemicryptophytes G Geophytes Np Nanophanerophytes

Leaf spectra: Ma Megaphyll Me Mesophyll Mi Microphyll N Nanophyll L Leptophyll