

Some new records to the flora of Ladakh¹

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The paper is first in the series on the explorations of Floristic elements of Ladakh district. It puts on record 45 angiospermic species, hitherto unreported from the area. The collections are mainly from the southern part of the district.

INTRODUCTION

Subsequent to Stewart's (1916, 1917) compilation of the flora of Ladakh, many fragmentary reports have accumulated on the flora of this "high altitude desert" (Blatter, 1927-29; Mukerjee, 1940; Pennell, 1943; Ludlow, 1951; Chatterjee, 1953; Bor, 1960 and Stewart 1967a and b). However, none of these works is as comprehensive as that of Stewart's (1916, 1917) who has not only made floristic records but also described the physical features of the region. Although Stewart's (1916, 1917) work still remains monumental he has not been clear about the geographical limits of the areas referred to as Ladakh and this fact he has himself confessed.

Since the publication of Stewart's (1916, 1917) work the limits of the area have been specified and as such Ladakh today is not what it was in the twenties. This has necessitated a fresh floristic survey of the region, and hence the present project. So far, two trips have been made, during which about 400 plant species have been collected. As a first step towards the compilation of a comprehensive flora for the district we are putting on paper some new records.

The tour itinerary: In our first trip undertaken in July, 1970 the entire area between Zojila (3578 m) and Dras was scanned. The important places explored included Gumri, Machoi, Meenamarg, Matayan, Paan Dras and Dras. Large collections were made from the rich meadows of meenamarg (Meena = fish; marg = meadow, the fish shaped meadow). Beyond Kargil (2676 m) collections were made from Mulbeck (3275m), Bodh Kharbu (3420 m), Khalsi and Leh (3580 m).

In 1971 we went collecting up to Kargil. Thereafter we changed the route; following the course of river Suru. We proceeded towards Zaskar and on the way scanned Sanku (2930 m), Umba (3515 m) and Daphne (3120 m). The trip had to be abandoned at the foot of the Nun Kun peak (7135 m). On this route as well as in dry zones, typicals of the Ladakh landscape are common.

The voucher specimens of the plants reported in this communication have been deposited in the herbarium of the Department of Botany, Kashmir University.

LIST OF PLANTS

Achillea millefolium Linn. Sp. Pl. 699, 1753. Dras (Gohil No. 1100), Dras (Gurcharan Singh No. 2747).

Aconitum rotundifolium Kar. & Kir. in Bull. Soc. Imp. Nat. Mosc. 15: 139, 1842. (A.

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napellus Linn. var. *rotundifolium* Hook. f. & T. Fl. Brit. Ind. 1: 29, 1872). Zanskar (Koelz No. 2912).

Arenaria orbiculata Royle ex Edgew. et Hook. f. Fl. Brit. Ind. 1:240, 1874. Kharbu (Gohil No. 1130).

Bupleurum longicaule Wall. var. *clarkeanum* Wolff in Engl. Pflanzen. Heft 43: 123; 1910; (*B. diversifolium* Clarke in Fl. Brit. Ind. 2:675, 1879). Near Matayan (Gurcharan Singh No. 2786a).

Capsella bursa-pastoris (Linn.) Medic. Pflenzeng. 85, 1792. Leh (Gurcharan Singh No. 2850), Sanku (Gurcharan Singh No. 2742a).

Crepis sancta (Linn.) Bab. ssp. *bifida* (vis.) Thell ex Bab. in Univ. Calif. Publ. Bot. 22: 736, Fig. 236-239, 1947 (*Pterotheca falconeri* Hook. F. Fl. Brit. Ind. 3:399, 1889). Dras (Gohil No. 1110).

Dipsacus mitis Don. Prodr. Fl. Nep. 161, 1825 (*D. inermis* Wall, var. in Roxb. Fl. Ind. ed. Wall. 1:367, 1824). Dras (Gurcharan Singh No. 2690).

Erysimum altaicum C. A. May. in Ledeb. Fl. Alt. III:153. Dras (Gurcharan Singh No. 2690a), (Gohil No. 1064).

Euphorbia kanaorica Boiss. in DC. Prodr. XV, ii, 154, 1862. Bodh Kharbu (Gohil No. 1152), Near Dras (Gohil No. 1230a).

Fagopyrum cymosum Meissn. In Wall. Pl. As. Rar. III:63. Dras (Gurcharan Singh No. 2739).

Geranium tuberaria Camb. in Jacq. Voy. Bot. 33, t. 37, 1841-44. Sanku (Gurcharan Singh No. 2755), Dras (Gohil No. 1240a).

Jaeschkea gentianoides Kurz. in Journ. Asiat. Soc. Pt. II, 230, t. 13, 1870. Matayan (Gohil No. 1174).

Juncus bufonius Linn. Sp. Pl. 328, 1753. Near Matayan (Gohil No. 1166), Dras (Gurcharan Singh No. 3529).

Lactuca lassertiana Clarke Comp. Ind. 270, 1876. Dras (Gammie).

Launea fallax (Jaub. & Spach) Kuntze, Rev. Gen. Pl. 351, 1891. [*L. nudicaulis* Hook. f. (Non Less.) Fl. Brit. Ind. 3:416, 1889]. Bodh Kharbu (Gohil No. 1046), near Sanku (Gurcharan Singh No. 2789).

Leontopodium leontopodium (DC.P Hand.-Mazz. in Beih. bot. Centralbl. XLIV, II:93, 1927 (*Antennaria leontopodium* DC.)).

Lepidium pinnatifidum Ledeb. Fl. Ross. I: 206, 1841. Bodh Kharbu (Gurcharan Singh No. 2781a).

L. sativum Linn. Sp. Pl. 644, 1753. In Sanku fields (Gurcharan Singh No. 2642b).

Lespedeza juncea Pers. Encl. II: 318, 1807. Kharbu (Gohil No. 1245).

Morina coulteriana Royle III. Bot. Himal. 245, 1835. Zojila pass (Gurcharan Singh No. 2658).

Nepeta connata Royle ex Benth. in Hook. Bot. Misc. III:378, 1833. Near Dras (Gohil No. 1321), Near Matayan (Gurcharan Singh No. 2750b).

Pedicularis pyramidata Royle ex Benth. Scroph. Ind. 52, 1835. Dras (Gohil No. 1209).

P. punctata Dcne. in Jacq. Voy. dans l'Inde Bot. 117, Pl. 122, 1844. Dras (Gurcharan Singh No. 2738), near Daphne (Gurcharan Singh No. 2765).

Pleurogyna spathulata A. Kerner in Ber. Naturw. ver. Innsbruck, I:104, 1870. (Koelz No. 2356).

Polygonum plebejum R. Br. Prodr. 420. Near Umba (Gurcharan Singh No. 2833).

P. polycnemoides Jaub. & Spach, Illustr. II:30, t. 120. Zanskar (Koelz No. 2993).

Prunella vulgaris Linn. Sp. Pl. 600, 1753. Near Matayan (Gohil No. 1299), Dras (Gurcharan Singh No. 2671).

Saussurea roylei Clarke Comp. Ind. 229, 1876. Zanskar (Koelz No. 2916).

Schulzia dissecta (C. B. Clarke) C. Norman in Journ. Bot. Lond. 76:231, 1939. (*Trachydium dissectum* C. B. Clarke in Fl. Brit. Ind. II:672, 1879). Leh (Gohil No. 1274).

Sempervivella mucronata (Edgew.) Berger in Pflanzenfom. 2 ed. 18a:467, 1930. (*Sempervivum mucronatum* Edgew. in Trans. Linn. Soc. XX, I:49, 1846). Leh (Gohil No. 1280a).

Silene duthiei Majumdar Journ. Ind. Bot. Soc. 42 (4):648, 1963. (*Lychnis brachypetala* Hornem. Hort. Hafn. Suppl. 51). Chuha-gund (R. R. Stewart 21045).

Sium latijugum Clarke in Fl. Brit. Ind. II: 683, 1879. Dras (Gurcharan Singh No. 2761a).

Stachys sericea Wall. Pl. As. Rar. 1:64, 1830. Matayan (Gohil No. 1160), Dras (Gurcharan Singh No. 2675).

Stellaria monosperma Buch.-Ham. ex Don. Prodr. Fl. Nep. 215, 1825, (*S. crispata* Wall. ex Edgew. et Hook. f. Fl. Brit. Ind. 1:229, 1874). Zojila Pass (Gurcharan Singh No. 2690b).

Swertia purpurea Royle III. Bot. Himal. 277, 1839. Zojila Pass (R. R. Stewart No. 21257).

S. thomsonii Clarke in Fl. Brit. Ind. IV: 129, 1883. Dras to Matayan (R. R. Stewart No. 21174).

Taraxacum azizii Von Soest. Near Dras (Gohil No. 1029), Dras (Gurcharan Singh No. 2741a).

T. bicolor DC. Prodr. VII:148, 1838. Near

Dras (Gohil No. 1029), Dras (Gurcharan Singh No. 2741a).

T. dealbatum H.-Hm. Mud (Koelz No. 2355).

Trifolium repens Linn. Sp. Pl.:768, 1853. Dras (Gurcharan Singh No. 2780a), near Sanku (Gurcharan Singh No. 2741a).

Valeriana hardwickii Wall. in Roxb. Fl. Ind. Ed. Carey 2:166, 1824. Zojila pass (Gurcharan Singh No. 2655), near Meena marg (Gohil No. 1273).

V. officinalis Linn. Sp. Pl. 31, 1753. Bodh Kharbu (Gurcharan Singh No. 2748a).

Veronica lanosa Royle ex Benth. Scroph. Ind. 45, 1835. Dras (Gohil No. 1211).

V. salina Schur Enum. Pl. Trans. 492, 1866. Near Umba (Gurcharan Singh No. 3220), Dras (Gurcharan Singh No. 2725a).

Vicia hirsuta (L.) Gray Syst. Arrang. Brit. Pl. II:614, 1821. Sanku fields (Gurcharan Singh No. 2725).

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