

Hiroshi HARA*: **New or noteworthy flowering plants
from Eastern Himalaya (14)**

原 寛*: 東部ヒマラヤ植物新知見 (14)

After October 1973 I had another opportunity to work on rich collections from the Himalayas at the British Museum (Natural History), London by special courtesy of Sir George Taylor, Dr. R. Ross, Dr. W. T. Stearn, and Mr. J. D. A. Stainton. I am most grateful to Mr. L. H. J. Williams for his kind help during my stay there. Thanks are also due to the keepers of herbaria of the Royal Botanic Gardens, Kew and Edinburgh for giving me facilities to study the specimens in their charge.

75) *Diploaxis nepalensis* Hara, sp. nov. (Fig. 1, left)

Perennis. Caules caespitosi 30-80 cm alti, basi lignosi, glabri vel basi pilis rigidis albis 0.5-1 mm longis parce dispersi. Folia radicalia sub anthesi emarcida, inferiora oblanceolata 2-10 cm longa 5-15 mm lata, basi longe cuneato-attenuata, longe petiolata, margine subintegra vel irregulariter remote vulgo minute serrata, glabra glauca, folia superiora linearia integra. Racemus laxus ebracteatus glaber. Pedicelli gracillimi, in fructu 8-15 mm longi subpatentes. Flores flavi. Sepala erecto-patentia subaequalia anguste oblonga 4-5 mm longa, basi non saccata, glabra. Petala obovata 7-8 mm longa, basi ad unguem cuneato-attenuata. Antherae anguste oblongae ca. 2 mm longae obtusae. Stigma crassum retusum. Siliquae lineares compressae 20-26 mm longae ca. 2 mm latae divaricatae verosimiliter pendulae, apice stylo 1-1.5 mm longo crasso coronatae, basi distincte stipitatae, stipite gracili 2-3 mm longo. Semina biseriata ovata 1-1.2 mm longa.

West Nepal: On a vertical cliff, Kiurithanu, Karnali River, 4000 ft. (Polunin, Sykes & Williams, Apr. 21, 1952, no. 800, fl. & fr.—type in BM); Lapha, Karnali Valley, 4000 ft. (Polunin, Sykes & Williams, Apr. 27, 1952, no. 3992, BM); N. of Raskot, Karnali Valley, 3500 ft. (Stainton, Mar. 21, 1968, no. 6161, BM).

* Department of Botany, University Museum, University of Tokyo, Hongo, Tokyo. 東京大学
総合研究資料館植物部門

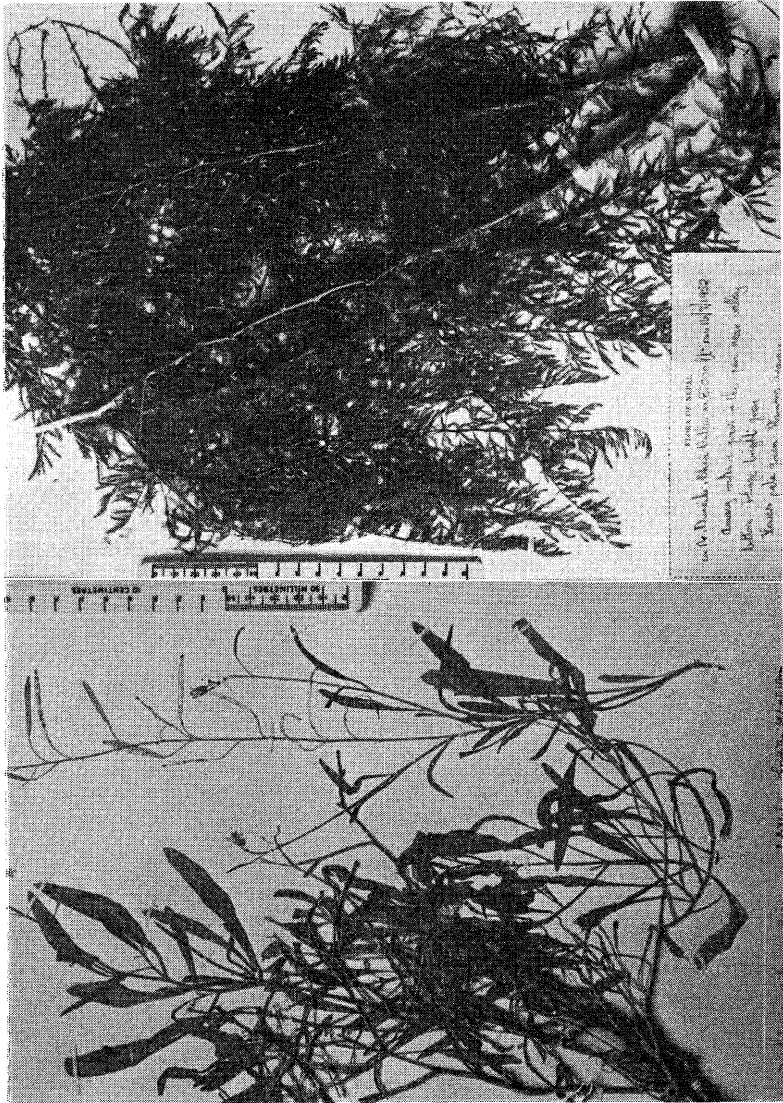


Fig. 1. *Diplotaxis nepalensis* Hara (left), and *Asparagus penicillatus* Hara (right).

This species is the easternmost representative of the genus, and is characterized by having oblanceolate glabrous leaves with a few coarse teeth, yellow flowers, and long-stipitate siliquae. It is remarkable that the plant is closely allied to *Diplotaxis crassifolia* (Rafin.) DC. of the Mediterranean region.

76) ***Draba cholaensis*** W. W. Smith in Rec. Bot. Surv. Ind. 4: 352 (1913)—O. E. Schulz in Engl., Pfl.-reich IV-105, Ht. 89: 327 (1937).

var. ***leiocarpa*** Hara, var. nov.

Ovarium glabrum.

East Nepal: Barun Khola, N. of Num, Arun Valley, 13000 ft. (Stainton, Jun. 12, 1956, no. 639, fl. & young fr.—type in BM).

In Eastern Himalaya and West China, there occurs an interesting group of medium-sized *Draba* which has larger yellow flowers, loose racemes with slender pedicels, slender styles, and somewhat obovate leaves. *Draba cholaensis* W. W. Smith from Sikkim and *D. jucunda* W. W. Smith from West China belong to this group, although they were placed in widely separated sections in O. E. Schulz's monographic work (1927). Here I add to this group one variety from East Nepal, and the following new species from Bhutan.

77) ***Draba bhutanica*** Hara, sp. nov. (§ *Chrysodraba*) (Fig. 2)

Perennis caespitosa. Rami caudicularum inferiore petiolis foliorum emortuorum persistentibus obtecti. Folia rosularia obovata—oblanceolata 5-12 mm longa 1.5-5 mm lata, apice breviter subacuta, basi cuneato-attenuata, integra, utrinque et ad marginem pilis simplicibus vel apice 2-3-furcatis laxe adspersa, interdum longe petiolata. Caules floriferi 3-8 cm alti aphylli pilosi. Inflorescentiae corymboso-racemosae (1-)2-5-florae pilosae bracteatae. Flores pro ratione magni flavi vel sulphurei. Bracteae ellipticae vel oblongae basi cuneatae foliaceae integrae pilosae, infimae ad 10 mm longae 4.5 mm latae. Pedicelli graciles pilosi, inferiores saepe elongati 4-18 mm longi. Sepala oblonga 3-3.5 mm longa albomarginata, dorso parce pilosa. Petala obovata 7-8 mm longa 3.5-5 mm lata, apice rotundata vel leviter emarginata. Antherae ovoideae ca. 0.7 mm longae. Ovarium oblongum pilosum, pilis albidis simplicibus longis raro 2-3-furcatis; stylus 2-2.5 mm longus; stigma parvum. Siliculae juveniles fere oblongae pilosae.

Bhutan: Wortang, Mangde Chu, 14500 ft. (Bowes Lyon, Jun. 10, 1966,

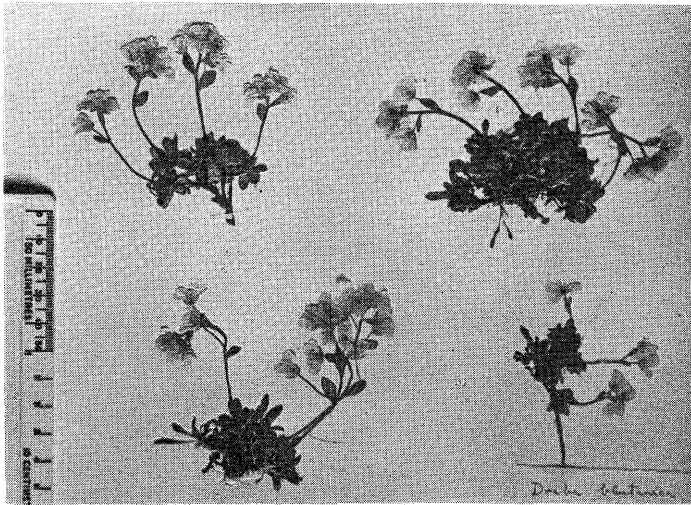


Fig. 2. *Draba bhutanica* Hara.

no. 3432—type in BM); Sega La, Upper Mangde Chu, 14000 ft. (Ludlow, Sherriff & Hicks, Jul. 15, 1949, no. 16841, BM); Narim Thang, 14000 ft. (Ludlow, Sherriff & Hicks, Jul. 24, 1949, no. 21339, BM).

This species is near to *Draba jucunda* W. W. Smith, but is very distinct in having conspicuously bracteate racemes.

78) *Rorippa benghalensis* (DC.) Hara, comb. nov.

Nasturtium benghalense DC., Syst. 2: 198 (1821); Prodr. 1: 139 (1824)—O. E. Schulz in Fedde, Rep. 33: 281 (1934).

Sinapis benghalensis Roxb. ex DC., l. c. (1821), pro syn.

Nasturtium indicum DC. var. *benghalense* (DC.) Hook. f. et Anders. in Fl. Brit. Ind. 1: 134 (1872).

Rorippa indica Hochreut. var. *benghalense* (DC.) Deb in Bull. Bot. Soc. Bengal 22: 201 (1968).

Distr. India, Nepal, Burma, Indo-China, and Java (fide O. E. Schulz).

This is a good species, as treated by O. E. Schulz, but the combination under *Rorippa* has not yet been published.

79) *Viola betonicifolia* J. E. Smith in Rees, Cyclop. 37: *Viola* no. 7 (1817)—Jacobs et D. M. Moore in Fl. Males. 7: 202 (1971).

subsp. **jaunsariensis** (W. Becker) Hara, comb. nov.

Viola Patrinii DC. var. *suaveolens* G. Watt in Journ. Linn. Soc. 18: 379 (1881).

V. prionantha Bunge subsp. *jaunsariensis* W. Becker in Engl., Bot. Jahrb. 54 (Beibl. 120): 181 (1917).

V. kashmiriana W. Becker, l. c. 182 (1917).

Distr. Himalaya (Kashmir to Nepal).

var. **cordifolia** Hara, var. nov.

Folia ovata apice saepe acuta basi cordata margine multicrenata saepe utrinque pilosa; petioli graciles non alati; stipulae majores pallidae. Flores vulgo 1.5-2 cm longi violacei fragrantis; calcar 5-7 mm longum leviter sursum curvatum. Sepala apice saepe obtusa.

West Nepal: Chaudhabise Khola, 10000 ft. (Polunin, Sykes & Williams, May 15, 1952, no. 958, fl.—type in BM); Padmara, northeast of Jumla, 9000 ft. (Polunin, Sykes & Williams, no. 4037, BM); Jargeng Khola, 13000 ft. (Lowndes, L.932, BM).

In Western Himalaya, there is a distinct race which has generally been included in *Viola Patrinii* or *V. betonicifolia*. It has larger pale-coloured stipules, oblong or ovate leaves which are often shallowly cordate or subtruncate at the base, multi-crenate on the margin, and sometimes minutely pilose on nerves beneath and on petioles, and longer spurs 4-6 mm long. This race was first named as *V. Patrinii* var. *suaveolens* Watt (1881), and later it was regarded as an independent species, *V. kashmiriana* W. Becker (1917). *V. prionantha* subsp. *jaunsariensis* W. Becker (1917) also belongs to the same race, and its isotype (BM) has long spur about 5 mm long.

Some specimens from Western Nepal have acutish ovate leaves which are deeply cordate at the base and more hairy, wingless petioles, and more obtuse sepals. In appearance they resemble *V. prionantha* Bunge or *V. japonica* Langsd., but this extreme form seems to be connected with *V. betonicifolia* subsp. *jaunsariensis* through a series of intermediate forms, and I here treat it as a new variety.

80) **Primula megalocarpa** Hara, sp. nov. (§ Nivales)

P. Stuartii Wall. var. 4. *macrocarpa* G. Watt in Journ. Linn. Soc. 20: 12 (Dec. 18, 1882)—Hook. f., Fl. Brit. Ind. 3: 491 (Dec. 1882).

P. nivalis Pall. var. *macrocarpa* (Hook. f. et Watt) Pax in Engl., Bot.

Jahrb. 10: 208 (1888), in nota; in Engl., Pfl.-reich IV-237 Ht. 22: 104 (1905).

P. macrophylla D. Don var. *macrocarpa* (Watt) W. W. Smith et Fletcher in Trans. Roy. Soc. Edinb. 60: 590 (1942).

Folia oblanceolata vel lineari-lanceolata 5-18 cm longa 5-20 mm lata, margine minute denticulata, subtus vulgo lutescenti-farinoso. Scapi 3-12 cm alti 1-8-flori. Pedicelli 6-18 mm longi, in fructu interdum ad 4.5 cm longi. Bractee oblanceolatae foliaceae 7-22 mm longae. Corollae albae, rosaceae vel lilacinae, 18-30 mm in diametro; tubus calyce aequilongus vel longior, fauce distincte annulatus lutescens vel albus; lobi obcordati 8-12 mm longi 6-14 mm lati apice bilobi. Calyces 9-12 mm longi, fere ad basin 5-fidi, lobis linearibus vel oblanceolatis apice rotundatis vel obtusis 2-3 mm latis, in fructu ad 18 mm longi. Capsulae crasse cylindricae (15-)18-30 mm longae 8-10 mm in diametro, vulgo lobis calycis obtusis exsertae.

Type: E. Nepal, Saju Pokhari—Topke Gola, 4200 m (Kanai et al., Jun. 16, 1972, no. 723034, TI).

Distr. E. Himalaya (Nepal to Bhutan), and S. Tibet.

The species is clearly separable from *Primula macrophylla* D. Don by paler-coloured (white, pink or mauve) flowers with obcordate lobes, obtuse calyx-lobes, and thick larger capsules.

81) **Bruinsmia polysperma** (C. B. Clarke) v. Steenis in Engl., Bot. Jahrb. 86: 393, fig. 3, a-g (1967).

Styrax polysperma C. B. Clarke in Fl. Brit. Ind. 3: 590 (1882)—Kew Bull. 1928: 333 (1928)—Kanjilal et al., Fl. Assam 3: 221 (1939).

Central Nepal: Hills north of Pokhara, 4000 ft. (Stainton, Sykes & Williams, Apr. 17, 1954, no. 4827, fl. cream, BM); Kusma, Kali Gandaki R., 3000 ft. (Stainton, Sykes & Williams, Aug. 30, 1954, no. 6982, fr., BM).

Distr. Nepal, Khasia, N. Burma, and N. Thailand.

This Styraceous genus is a new addition to the flora of the Himalayas. The extension of distribution range of the genus to Nepal is particularly interesting in considering the botanical relationship between Himalaya and Malaysia, as pointed out by Dr. Steenis.

82) **Asparagus penicillatus** Hara, sp. nov. (§ Asparagopsis) (Fig. 1, right)

Caules erecti 30-90 cm alti stricti teretes, basi lignosi rubescentes ad 9 mm crassi; folia bracteeformia basi spinosa, spinis strictis 3-7 mm longis paullo declinatis. Rami multi divaricati stricti ad nodos vulgo spinulosi.

Ramuli copiosi divaricati gracillimi teretes laeves, foliis inconspicuis, phyllocladiis dense obtecti, internodiis supremis ca. 1 mm longis. Phyllocladia (1)2-3(4)-fasciculata 3-5 mm longa ascendentia setacea tenuissima stricta teretia laevia laete viridia, apice tenue cuspidata. Flores hermaphroditii pallide viridescentes axillares vulgo solitarii, raro 2; pedicelli tenue filiformes 3-7 mm longi, ad medium articulati. Perianthium 4-5 mm longum; lobi anguste oblongi 0.8-1.2 mm lati superiore aperti. Filamenta ca. 2 mm longa; antherae rotundato-cordatae ca. 0.5 mm longae. Baccae immaturae globosae 4-5 mm in diametro; pedicelli graciles 7-10 mm longi.

West Nepal: Near Dunaihi, Bheri Valley, 8000 ft. (Polunin, Sykes & Williams, Jul. 16, 1952, no. 2484, fl.—type in BM); between Narku and Ila, Bheri River, 6500 ft. (Polunin, Sykes & Williams, Sep. 6, 1952, no. 3202, fr., BM).

Among the Himalayan members of the genus, this is the most graceful species, and is easily recognizable by dense short hair-like phyllocladia generally 2-3 in a fascicle, terete branches, axillary filiform pedicels, and hermaphrodite flowers 4-5 mm long.

83) **Dipcadi hysudricum** (Edgew.) Baker in Journ. Linn. Soc. 11: 397 (1871), ut *hysudricum*—Hook. f., Fl. Brit. Ind. 6: 347 (1892)—Collett, Fl. Siml. 526 (1902).

Uropetalum hysudricum Edgeworth in Trans. Linn. Soc. 20: 88 (1846).

Dipcadi serotinum Medic. sensu Hook. f., Fl. Brit. Ind. 6: 346 (1892).

Punjab: Loodihana (Edgeworth, 1844, no. 105—type of *Uropetalum hysudricum*, K).

Simla, 5000 ft. (Gamble, no. 4507A; Collett, no. 345, K).

Kumaon: Kali Valley, 7-8000 ft. (Duthie, no. 6028, K).

West Nepal: Between Jumla and Garjigoth, 8000 ft. (Polunin, Sykes & Williams, Aug. 8, 1952, no. 5023, fl., BM); near Singa, Singa Khola, NW. of Jumla, 8500 ft. (Polunin, Sykes & Williams, no. 5075, fl., BM); Badalkot, Karnali Valley, 4500 ft. (Polunin, Sykes & Williams, no. 3964, fr., BM).

Distr. Himalaya (Punjab to Kumaon and W. Nepal).

The genus is new to Nepal. The Nepalese plants have subequal obtuse perianth-lobes and comparatively shorter bracts. The lower pedicels are 7-12 mm long, and the lower bracts are 5-13 mm long and are longer than or subequal to or even shorter than the pedicel. In *Dipcadi serotinum* (L.)

Medicus and *D. erythraeum* Webb et Berth., the lower bracts are much longer and often more than twice as long as the pedicel. Täckholm et Drar (1954) referred the N. Indian plants to *D. erythraeum*, but the latter has the inner perianth-lobes more distinctly shorter than the outer ones which are often caudate at the tip.

84) ***Vallisneria natans*** (Lour.) Hara, comb. nov.

Physkium natans Loureiro, Fl. Cochinch. 663 (1790)—Moore in Journ. Bot. 63: 290 (1925).

Vallisneria Physkium Juss. ex Spreng., Syst. 3: 900 (1826), nom. superfl.

Vallisneria spiralis L. sensu Hook. f., Fl. Brit. Ind. 5: 660 (1888), p. p.—Merrill in Trans. Amer. Philos. Soc. n. s. 24(2): 70 (1935).

V. gigantea Graebner in Engl., Bot. Jahrb. 49: 68 (1912)—den Hartog in Fl. Males. 5: 388, f. 4 (1957).

V. spiralis L. var. *subulispatha* Makino in Journ. Jap. Bot. 7(4): 6 (1931).

V. asiatica Miki in Bot. Mag. Tokyo 48: 329, figs. (May 1934).

V. subulispatha (Makino) Koidzumi in Acta Phytotax. Geobot. 3: 147 (Oct. 1934).

W. Nepal: Rapti Valley, near Ghora, 900 ft. (Polunin, Sykes & Williams, Oct. 28, 1952, no. 5937, BM).

Distr. Iraq, India, Indo-China, China, Japan, Malaysia, and Australia.

The Nepalese and Japanese specimens agree well with the type specimen of *Physkium natans* Loureiro in the British Museum, London. As Miki (1934) and den Hartog (1957) separated the Asiatic species from *V. spiralis* L., the above new combination is necessary. However, critical studies are much needed on living material from various part of Asia.

var. ***biwaensis*** (Miki) Hara, comb. nov.

V. asiatica var. *biwaensis* Miki in Bot. Mag. Tokyo 48: 331, figs. (1934).

V. biwaensis (Miki) Ohwi in Bull. Sci. Mus. Tokyo 26: 1 (1949).

V. gigantea var. *biwaensis* (Miki) Kitamura in Acta Phytotax. Geobot. 22: 74 (1966).

Distr. Central Honshu.

var. ***higoensis*** (Miki) Hara, comb. nov.

V. asiatica var. *higoensis* Miki, l. c. 331, figs. (1934).

V. higoensis (Miki) Ohwi, l. c. 1 (1949).

V. gigantea var. *higoensis* (Miki) Kitamura, l. c. 74 (1966).

China: Prov. Kiangsu, Kianang (Staunton, BM).

Distr. Kyushu, and C. China.

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大英博物館には東部ヒマラヤで採集された興味ある未研究の資料がまだ沢山残されており、ここに報告するのもその一部である。

75) *Diplotaxis nepalensis* Hara (新種) 主に地中海地域から西アジアに分布するアブラナ科の属で、本種がその分布の最も東方ネパール西部に見出されたものである。長角果の基部に細い柄があり、花は黄色。

76-77) *Draba* 中国西部から東部ヒマラヤの高地にナンブイヌズナ様で比較的大きい黄花を開き長い花柱をもつ一群がある。*D. bhutanica* Hara (新種) は花茎には葉をつけず、花序の苞が葉状になるもので子房に立った毛がある。

78) *Rorippa benghalensis* (DC.) Hara 本誌 30: 196 (1955) でイヌガラシの学名を考訂した時ふれた葉状の苞をもった一種であるが、その後まだ学名の組合せが発表されなかった。

79) *Viola betonicifolia* タイワンヤノネスミレの一群は非常に多型であり、ヒマラヤの西部ではコスミレによく似た型まででてくるが中間型も多く標本では種としては分けきれない。

80) *Primula megalocarpa* Hara (新種) 古くから知られていた型であるが、ここに独立種として記載する。

81) *Bruinsmia polysperma* (Clarke) v. Steenis ヒマラヤでは初記録のエゴノキ科の属である。Steenis 博士がマレイ諸島とアジア大陸との関連を示すものとして特に注意した面白い種である。

82) *Asparagus penicillatus* Hara (新種) 葉が非常に細く毛筆状に見え、花梗も細長く腋生するはっきりした種である。ネパール西部産。

83) *Dipcadi hysudricum* (Edgew.) Baker アフリカ、地中海からインドに分布しているユリ科の属で、ヒマラヤ西部に1種あり、今回東へネパール西部にまで分布することが初めて明らかになった。

84) セキショウモ 日本のセキショウモは *Physkium natans* Loureiro の基準標本とよく一致する。したがってアジア産を *Vallisneria spiralis* L. と別種として扱う場合には新組合せが必要になる。なおヒラモの型は中支にもあり別種説がよいかもしれない。この類については更にアジア各地で生品についての観察が必要である。