

Hiroshi HARA*: **New or noteworthy flowering plants
from Eastern Himalaya (9)**

原 寛*: 東部ヒマラヤ植物新知見 (9)**

From September 1971 to January 1972 I stayed in Great Britain under the Programme of Scientific Exchanges between the United Kingdom and Japan, and had an opportunity to study at the British Museum of Natural History, London, the Royal Botanic Gardens, Kew, and the Royal Botanic Garden, Edinburgh, and examine a large number of both historic and recent collections from the Himalayas and West China.

I am very grateful to the directors and curators of the British Museum (Natural History), and the Gardens at Kew and Edinburgh for allowing me to examine the herbarium specimens in their charge. Thanks are specially due to Dr. W.T. Stearn and Mr. L.H.J. Williams of the British Museum and Dr. J.P.M. Brenan of Kew for their kindness in giving me every facilities and help for my study. The cost of my travel was kindly defrayed by the Japan Society for the Promotion of Science.

42) *Arabis axilliflora* (Jafri) Hara, comb. nov.

Parryodes axilliflora Jafri in Not. Bot. Gard. Edinb. 22: 207 (1957).

S. Tibet: Gautsa to Phari [Gould, no. 2134 (not 2136), Jun. 18, 1939—type in K].

Bhutan: Kempfu, 12–16,000 ft. (Gould, no. 458, K); Barshong—Nala, 3,400 m (Kanai et al., no. 6214, May 25, 1967, TI); Tang Chu, 12–15,000 ft. (Ludlow & Sherriff, no. 3196, Jun. 6, 1937, BM).

var. *brevistyla* Hara, var. nov.

Bracteeae minores 2.5–12 mm longae. Pedicelli 3–15 mm longi. Petala 7–12 mm longa. Styli breviores 1–1.5 mm longi. Siliquae 3–5 cm longae 1.5–2 mm latae.

Bhutan: Pangotang, Tsampa, 12,500 ft. (Ludlow, Sherriff & Hicks, no. 19130, Jun. 14, 1949—type in BM, TI; Ludlow & Sherriff, no. 19697, Sep. 8, 1949, fr. BM); Waitang Tsampa, 13,500 ft. (Ludlow, Sherriff & Hicks, no.

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19198, BM); Naha, Thimbu Chu, 12,000 ft. (Ludlow, Sherriff & Hicks, no. 16342, BM, TI).

The genus *Parryodes* Jafri was distinguished from *Arabis* mainly by a lax few-flowered completely bracteate raceme, large bright-lilac flowers, short siliqua (?), long styles (2-2.5 mm), and subbilobed and subcapitate stigma. But the specimens cited above show a considerably wide range of variations in most of those characters.

The flowering stems are leafless in some individuals, but bear 3 cauline leaves in others even in the same collection. The siliquae are linear and flat, 2.8-5 cm long excluding the style and 1.5-2 mm wide, with a median vein; the fruiting pedicels are obliquely spreading and 6-25 mm long, the seeds are ovate, 1.5 mm long, and almost in one row in each loculus. In var. *brevistyla*, the bracts often become smaller, and are only 4 mm long even in the lowest one in some individuals, the flowers are sometimes smaller, and the styles are short and 1-1.5 mm long. The shape of stigma and the characters of siliquae also agree with those of *Arabis*.

As compared with the common species of *Arabis*, bracteate raceme and deep purple flowers are conspicuous. But the raceme is always bracteate also in *A. Turrita* L. Taking great variability of the genus into consideration, I think, *Parryodes* can be included in *Arabis*.

It is also noteworthy that the following species which is without doubt very closely related to *A. axilliflora* was found in N.E. Bhutan. It has bracteate racemes, but has smaller mauve flowers, very short styles about 0.5 mm long, and shorter siliquae, and is less hairy. More ample materials may prove that all of them are as variants of one species.

***Arabis venusta* Hara, sp. nov.**

Perennis. Caules 3-10 cm alti vulgo 1-2-foliati pubescentes. Folia radicalia ovato-spathulata 5-20 mm longa 4-10 mm lata utroque 1-2-serrata, longe petiolata, margine et ad nervos minute pubescentia, pilis simplicibus vel bifurcatis. Racemi bracteati; bracteae inferiores foliis caulinis similes, 6-20 mm longae. Pedicelli 2-9 mm longi minute pubescentes oblique ascendentes. Flores lilacini. Sepala oblonga 2.2-3.2 mm longa margine albo-membranacea glabrescentia, lateralia basi saccata. Petala spathulata 5-6 mm longa 2-3.4 mm lata. Ovarium glabrum; stylus ca. 0.5 mm longus; stigma incrassatum. Siliquae lineares 1-1.5 cm longae ca. 1.2 mm latae.

N.E. Bhutan: Shingbe, Me La, 13,000 ft. (Ludlow & Sherriff, no. 20333, Jun. 7, 1949—type in BM); *ibid.* (Ludlow & Sherriff, no. 20365, Jun. 14, 1949, BM).

43) **Cardamine scoriarum** W.W. Smith in Not. Bot. Gard. Edinb. 11: 203 (1919).

Cochlearia scoriarum (W.W. Smith) Hand.-Mzt., Symb. Sin. 7: 359 in nota (1931).

Cardamine Smithiana Biswas in Journ. Bot. 76: 22 (1938).

Bhutan: Near Chendebe, 8,000 ft. (Ludlow, Sherriff & Hicks, no. 17056, BM, E); Donga La, 9,500 ft. (Ludlow & Sherriff, no. 324—type of *C. Smithiana*, BM); Trashi Yangsi Chu (Ludlow, Sherriff & Hicks, no. 20829, BM).

Yunnan: N.W. of Tengyueh, 7,000 ft. (Forrest, no. 8201—type of *C. scoriarum*, E, K); (Forrest, no. 7947, E, K); (Forrest, no. 18157, E); (Forrest, no. 27035, E, K).

It is worthy of note that the ovaries of this species do not well develop after anthesis in all specimens, and no mature siliquae have been found. However, the young siliquae are linear, and seem to be different from those of *Cochlearia paradoxa* (Hance) O.E. Schulz, with which Handel-Mazzetti compared the species.

44) **Rubus acaenocalyx** Hara, sp. nov. (Fig. 1)

Fruticulus. Caules biennes vulgo robusti teretes rufo-brunnei glabri paullo pruinosi, aculeis 6–8 mm longis basi dilatatis et incrassatis apice interdum leviter curvatis parce armati. Rami fertiles vulgo breves, petiolique aculeati et dense pubescentes, pilis patentibus partim glandulosis. Stipulae lineares. Foliolae 3, ovatae vel obovatae (1) 1.5–4.5 cm longae (0.6) 0.8–2.5 cm latae crassiusculae, apice acutiusculae vel breviter acuminatae, inaequaliter inciso-serratae, supra virides pubescentes, nervis lateralibus depressis subtus albo-tomentosae. Inflorescentiae 1–3-flores vulgo terminales subfasciculatae, interdum axillares uniflorae. Pedicelli 7–20 mm longi declinati dense pubescentes, pilis patentibus partim glandulosis, et crebre aciculati. Calyces sub anthesin 11–15 mm longi, extus pubescentes et dense aciculati, aciculis rectis 2–5 mm longis brunnescentibus, setis glandulosis intermixti; lobi oblique ascendentes ovati apice caudato-acuminati ca. 1 cm longi intus pubescentes; lobi calycis post anthesin accrescentes subclausi, in fructu 15–20 mm longi, ultimo reflexi. Petala parva obovata alba ca. 6 mm

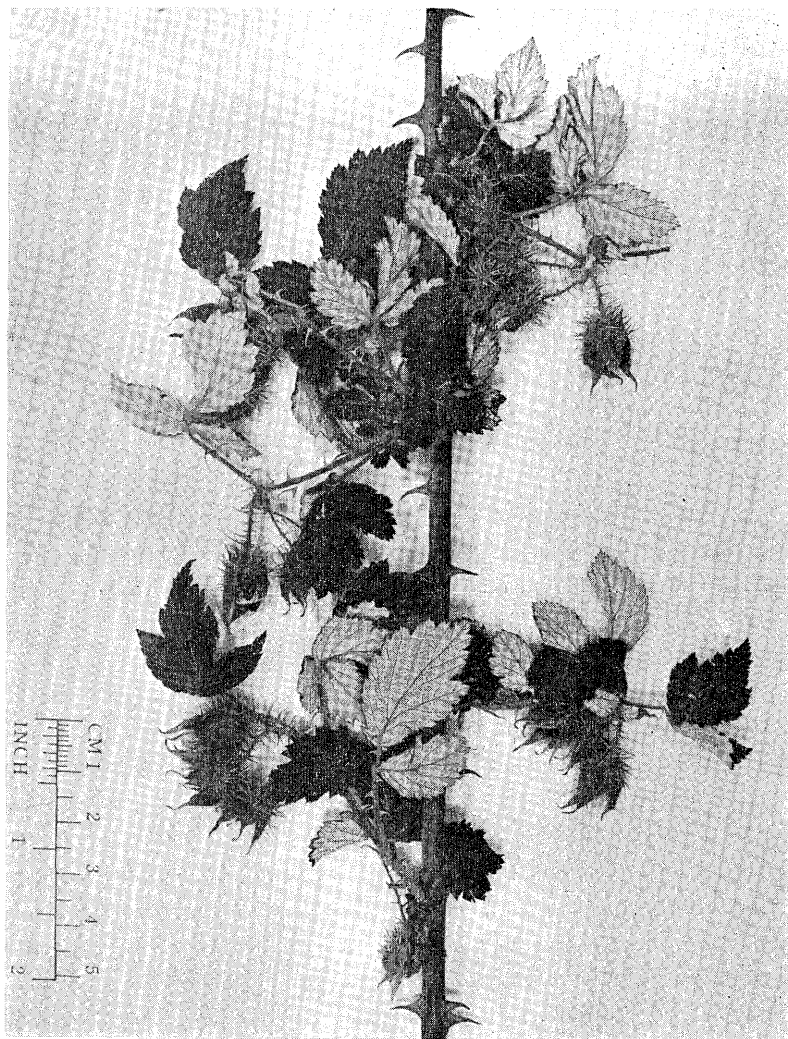


Fig. 1. *Rubus acaenocalyx* Hara.

longa. Ovaria glabra; styli basi floccosi. Receptaculum glabrum. Carpella matura reniformia 1.8 mm longa glabra reticulata.

Bhutan: Thimphu—Chimakhoti, 2,250–2,000 m (Kanai et al., no. 322, Jun. 1, 1967—type in TI); Bada La, 11,000 ft. (Gould, no. 526, Jun. 17, 1938, K).

C. Nepal: En route Tanget, 8,000 ft. (O. Polunin, no. 1448, Jul. 26-28, 1949, BM).

S.E. Tibet: Kyabden, Nyang Chu, Kongbo prov., 10,000 ft. (Ludlow, Sherriff & Taylor, no. 6198, Aug. 30, 1938, fr., BM); between Charko and Lilung, 10,100 ft. (Ludlow, Sherriff & Taylor, no. 4467, May 25, 1938, BM).

This species is allied to *R. biflorus* Hamilton ex Smith, but is clearly distinguished from the latter by densely aciculate calyces which are accrescent after anthesis, and young branches, petioles and pedicels densely pubescent with soft hairs and glandular ones, petals much shorter than the calyx, and glabrous ovaries.

45) ***Rubus pectinarioides*** Hara, sp. nov.

Suffruticosus. Caules longe repentes radicanes 1.5-3 mm crassi, inermes, setis 1-4 mm longis flexilibus rubescentibus vestiti. Rami floriferes ascendentes 5-18 cm alti, petioli pedunculique molliter pubescentes et setosobarbati. Folia longe petiolata, rotundato-cordata 1.2-4 cm longa 1.5-6 cm lata, basi profunde cordata, obsolete 3-5-lobata, lobis rotundatis, margine minute dense serrata, utrinque parce pilosa, praesertim subtus ad nervos pilis patentibus et setis longis vestita; stipulae liberae ellipticae 4-10 mm longae saepe versus apicem incisae. Pedunculi longi 1-3-floriferes; bractee ellipticae 3-7 mm longae; pedicelli 1.5-4 cm longi. Flores nutantes 1.5-2.3 cm in diametro. Calycis cupula extus dense barbato-setosa; lobi ovati subpatentes 6-8 mm longi 3.5-4.5 mm lati, apiculati interdum apice lacinulati, intus margineque albo-tomentosi. Petala obovata rosea 7-10 mm longa 6-9 mm lata lobis calycis longiora. Carpella numerosa glabra; matura reniformia 2-2.7 mm longa leviter venosa. Fructus rubri; receptaculum pubescens.

Bhutan: Lao, Trashiyangse Chu, 9,000 ft. (Ludlow & Sherriff, no. 20477, Jul. 5, 1949—type in BM); *ibid.*, 9,500 ft. (Ludlow & Sherriff, no. 21046, Aug. 13, 1947, BM); Trashiyangsi Valley, 10,000 ft. (Ludlow & Sherriff, no. 353, Aug. 2, 1933, BM); Senghor, Monger, 8,500 ft. (Lyon, no. 15132, Jun. 30, 1969, BM).

Sikkim: Changu to Karponang, 12,000 ft. (Gould, no. 2428, Jul. 27, 1939, K).

In the shape of leaves, the plants are similar to *Rubus calycinus* Wall. ex D. Don, but in other respects they resemble *R. nepalensis* (Hook. f.) O.

Kuntze¹⁾. They are inermous, but have long red-brown stiff hairs on stems, petioles, peduncles and calyces, pink nodding flowers with obovate petals longer than calyx-lobes, and ovate acuminate calyx-lobes entire or lacinulate at the apex.

The species is allied to *R. pectinarius* Focke of W. China, but the latter has oblong petals, narrower lanceolate calyx-lobes long caudate-acuminate at the apex, and the lower surface of leaves softly pubescent only on main nerves.

46) ***Begonia minicarpa*** Hara, sp. nov. (§ Begoniastrum) (Fig. 2)

B. parviflora Hamilton ex Wallich, Cat. no. 3674 (1831), nom. nud.; non Poepp. et Endl. 1835.

B. modestiflora Kurz sensu C.B. Clarke in Fl. Brit. Ind. 2: 640 (1879), quoad pl. ex Nepal.

Herba gracilis caulescens glaberrima basi tubifera. Caules 8-22 cm alti 1-2 mm crassi superne leviter flexuosi. Folia lanceolati-triangularia 2-9 cm longa, basi oblique subtruncata vel breviter cordata 1-3.5 cm lata, ad apicem longe attenuata, margine apresse serrulata, inferiora albo-maculata; petioli 3-18 mm longi; stipulae lineari-lanceolatae 2-7 mm longae 0.5-1.5 mm latae. Inflorescentiae terminales et axillares pauciflorae glabrae; inferiores axillares saepe flore unico femineo gerentes. Bractee minutae 0.5-1 mm longae ovatae acuminatae. Pedicelli floris feminei filiformes 5-10 mm longi, floris masculi breviores. Flores albi vel rosacei glabri parvi. Floris ♂ tepala exteriora 2 obovato-rotundata 2.5-3 mm longa 2-3 mm lata; tepala interiora 2 oblonga ca. 2 mm longa 0.8-1.2 mm lata; stamina ca. 10 in parte inferiore connata; antherae ellipticae 0.8 mm longae, connectivo leviter producto. Floris ♀ tepala 3 inaequalia, exteriora majora ovato-rotundata 3 mm longa; styli 3.2-3 mm longi in parte inferiore connati. Capsulae parvae nutantes ca. 4 mm longae triloculares tripterae; ala major elongata divaricata anguste triangularis 4-5 mm longa margine superiore subrecta apice obtusa; alae caeterae breves triangulares 2-3 mm longae. Semina minutissima ellipsoidea ca. 0.2

1) ***Rubus nepalensis*** (Hooker f.) O. Kuntze, Method. Sp. Rubus 125 (1879).

R. nutans var. *nepalensis* Hooker f., Fl. Brit. Ind. 2: 334 (1878).

R. nutantiflorus Hara in Journ. Jap. Bot. 40: 327 (1965); Fl. E. Himal. 130 (1966).

Type: E. Nepal. Tambur R., 9,000 ft. (Hooker f. in K).

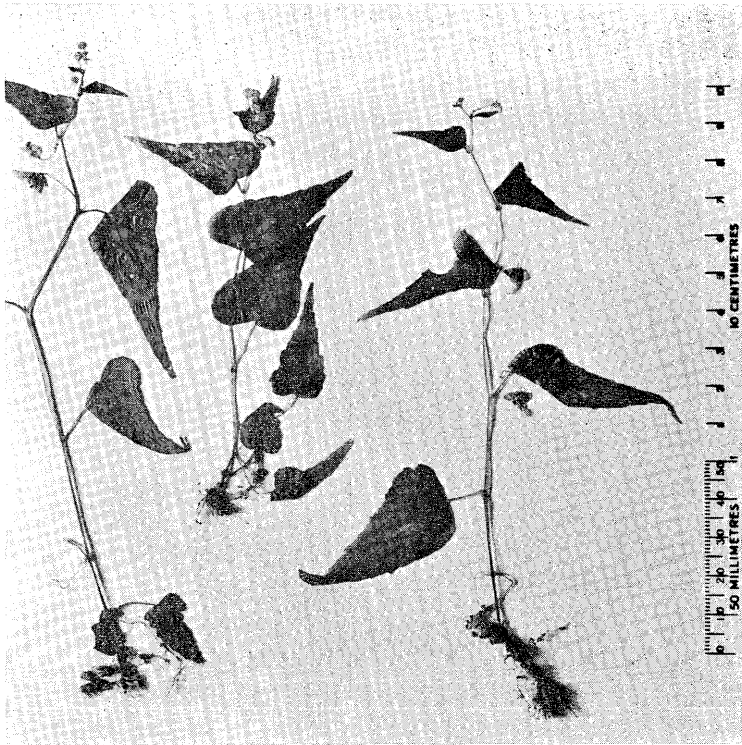


Fig. 2. *Begonia minicarpa* Hara

mm longa laxe reticulata.

Nepal: Morang Hills (Hamilton, Jul. 14, 1810, Wallich no. 3674, KW); Dharan, ca. 630 m (Williams & Stainton, no. 8319, Sep. 2, 1967—type in BM).

The flowering specimens of this tiny interesting species were first found by Hamilton in Central Nepal in 1810, but since then no specimen has been collected until Williams and Stainton rediscovered the species with flowers and fruits in East Nepal in 1967.

C.B. Clarke referred the Hamilton's specimens to *Begonia modestiflora* Kurz of Burma, but the latter has broader and more ovate leaves 3–6 cm broad, many-flowered terminal inflorescences, and fruits twice as large as those of *B. minicarpa*.

The species is also allied to *B. surculigera* Kurz of Burma, but is clearly

distinguished from the latter by narrow lanceolate-triangular leaves, and quite glabrous inflorescences.

47) **Disporum leucanthum** Hara, sp. nov.

Herba perennis stolonifer. Caulis 15–40 cm altus simplex, infra medium laxe 5–6-vaginato-foliatus, vaginis crasse membranaceis 2–5.5 cm longis, superiore 3–5-foliatus, glaber. Folia oblonga vel elliptica acuta vel abrupte acuminata basi late cuneata vel rotundata 4–8 cm longa 1.2–3.5 cm lata glabra, petiolis brevibus 3–7 mm longis. Flores terminales 1–4-fasciculati aperte campanulati nutantes. Pedicelli 1–17 mm longi laeves. Tepala alba ovato-spathulata subacuta ad basin longe attenuata basi leviter saccata 13–20 mm longa 4–5 mm lata laevia. Stamina tepalo subaequilonga; filamenta filiformia glabra 8–11 mm longa; antherae lineari-oblongae 4–5 mm longae. Styli graciles 9–12 mm longi apice breviter 3-fidi.

Darjeeling: Kurseong, 1,550 m (Togashi, no. 6602, Apr. 12, 1960—type in TI).

Sikkim: Choongtam, 7–9,000 ft. (Hooker f., May 20, 1849, K); above Rhikisum, 7,100 ft. (Lacaita, no. 15529, Apr. 25, 1913, BM).

The species is distinguished from *D. cantoniense* (Lour.) Merrill in having few-flowered terminal inflorescences, white and widely opening flowers, and smooth pedicels and tepals. J.D. Hooker has already collected the plant in 1849 and identified it with *D. Pitsutum* D. Don. However, the type specimen of *D. Pitsutum* by Hamilton at Chitlong, C. Nepal (April 10, 1802) in the British Museum is only a common Himalayan race of *D. cantoniense*.

The species also resembles *D. Leschenaultianum* D. Don of India and *D. uniflorum* Baker of China in some respects, but *D. Leschenaultianum* has shorter broad tepals, shorter stamens with smaller anthers, and shorter styles, and *D. uniflorum* belongs to the *D. sessile* group.

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42) ブータン・チベットから記載されたアブラナ科の新属 *Parryodes* は、その後の多くの資料により検討した結果 *Arabis* 属に合一した方がよいと考える。しかし葉状の苞と紅紫色の花をつける点で変つた一群で変異も多く、その中の極端な一型を新種 *Arabis venusta* Hara として記載した。

43) ブータン・中国西部に産するコンロンソウ類の一種で葉は3小葉からなり、*Cochlearia* 属にいれられることもあるが *Cardamine* として扱った方が妥当である。

- 44) ウラジロイチゴ類の一新種で、細い刺を密生する萼は花後伸長する点が著るしく、ブータン・チベット・ネパールに分布している。
- 45) マルバフユイチゴに似た新種で *Rubus calycinus* と *R. nepalensis* (*R. nutantiflorus* Hara) とのやや中間の性質を示し、ブータン・シッキムに産する。
- 46) ネパール産の小形な *Begonia* 属の新種で、花も果実もきわめて小さい。1810年に Hamilton が見出して以来長らく不明だったが150年振りに花と果実をつけた完全な標本が採集された。
- 47) シッキム・ダーズリン地方に産するチゴユリに似た新種で、これまでトウチクラン類と混同されていた。

□日本化石集 第一期分 Atlas of Japanese fossils. 東京築地書館発行 今迄に発表された日本産の化石の中から重要なものや良い標本の写真を集めた解説書で、化石の手引きとして恰好なものである。6シートづつで1回分として、1つのたとうに入れて750円で分売している。全部で108シートが1968年8月から1971年10月までの間に発行されたが、その内27シートは植物化石を扱っている。参考のため地質年代別と並べると下の通り。

白亜紀、北海道大夕張の花粉、石川県手取層群石徹白植物群 (2シート)。

ジュラ紀、福島県相馬地方の藻類。

第三紀始新世、石鎚山脈の植物。

新第三紀の植物：北海道福島、同じく西南部、会津盆地 (2)、能登珠洲 (2)、美濃山地 (3) 珪藻：佐渡 (2)、男鹿半島 (2)。石灰藻：秩父、伊豆、岐阜。

第四紀の花粉 (6)。

(前川文夫)

□佐藤敏也：日本の古代米 346頁，図版39，2,000円，昭和46年11月東京，雄山閣発行。著者は古代米に打ち込んでおられる考古学者であり農学者であるから、本書が古代米の一番たよりになるまとまったものとして推賞できることは当然である。縄文晩期の遺蹟出土の粳や米粒からはじめて、幕末時代の救荒米の残ったものまで、あますところなく計測したデータを挙げ、それに足場をおきながら、出土古代米の研究史、日本の稲と外国の稲との比較、日本の野生稲の論議、日本の稲の発現からその変遷等を述べている。日本の稲について関心のある方には基礎資料としておすすめしたい。

(前川文夫)

□山溪カラーデラックス：カメラ飛行日本列島 Japan from the air. pp. 355, pls. 152, 山と溪谷社 (東京), 2,800円，昭和46年6月。姉妹篇の「美しき日本」で近くからうつした日本の紹介を空からみたもの。印刷がきれいだし、ふだん見慣れぬ角度から物してある写真集だけに、見るだけでも楽しい。中には大雪山の針葉樹林から高山帯への推移、尾瀬の湿原とダケカンバ林との切り合い、サロマ湖のアッケシソウの大群落、宗谷の浅い浸蝕谷へ入り込む落葉樹林、宮崎青島のピロウの群落、伊勢外宮のスギの老齢林など、植物の群落の生態を大きく示すものもあって、参考になる。

(前川文夫)