

Hiroyoshi OHASHI*: **Infraspecific taxa of *Desmodium microphyllum* (Thunb.) DC. (Leguminosae)****

大橋広好*: ヒメノハギ (マメ科) について**

Four infraspecific taxa of *Desmodium microphyllum* (Thunb.) DC. have been described under the name of *D. microphyllum* or *D. parvifolium* which is a synonym used frequently.

They are *D. parvifolium* var. *macrocarpum*, *D. parvifolium* f. *yunnanense*, *D. microphyllum* var. *macrocarpum* and *D. microphyllum* var. *longipilum*, but they have sometimes been erroneously treated or sometimes been neglected. Moreover, one new form of this species may be recognized. In the present paper I revise the known infraspecific taxa and describe a new form.

D. microphyllum is distributed widely in Asia and Australia (Fig. 1). This species is distinct in external morphology from the others of the genus in having densely leaved, delicate branches, small leaves with long stipules, thinly chartaceous leaflets, lax-flowered racemes, and long, filiform pedicels, but shows considerable ranges of variation in the habit, size and hairiness of branches, leaves and pods.

D. parvifolium var. *macrocarpum* was described by Baker (1876) based on two specimens from Khasia in India, i. e., Griffith and Hook. fil. & Thomson. It is characterized by the large pods with less indented sutures. This form was described again by Schindler (1925), and was coincidentally named var. *macrocarpum*. His treatment was independent from that of Baker. He characterized it by the longer pedicels, longer and differently hairy calyces and larger pods. He cited 10 specimens of the variety which are regarded as the syntype. I have examined six sheets of the syntype kept in CAL and distinguished this form from the typical one by the longer fruit-bearing pedicels which are up to 20 mm long against up to 15 mm long of the typical, larger calyces which are 6-6.5 mm long against 3-4 mm long of the typical form and larger articles of pods which are about 5 mm by 4 mm in size against 3-4(-5) mm by 2.5-3(-4)

* Biological Institute, Faculty of Science, Tohoku University, Sendai 980. 東北大学 理学部生物学教室.

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mm in size of the typical form. Although I chose Gammie 366 (CAL) as the lectotype of *D. microphyllum* var. *macrocarpum* Schindler (Ohashi 1973), this type cannot be regarded as the type of *D. parvifolium* var. *macrocarpum* Baker. Therefore, it becomes necessary to choose the lectotype of Baker's var. *macrocarpum*. Dr. Polhill helped me to find the two specimens, Griffith and Hook. fil. & Thomson, preserved in Kew and send me their colour-photo copies. The Griffith's specimen is numbered by himself as 355 and Griffith already labeled this form as '*D. parvifolium* var.? Legumen paulo diversum'. The specimen, Hook. fil. and Thomson, is composed of three specimens mounted on one sheet and identified altogether as '*D. parvifolium* (ut *parviflorum*) DC. var. β '. A specimen collected at Churra (mounted on upper left on the sheet) has no flowers and fruits, but the remainings have good fruits, of which one is numbered as 1484 and is identified by Schindler as *D. microphyllum* var. *macrocarpum* Schindler, and another is collected on Sept. 14, 1850. Of these syntypes I choose the

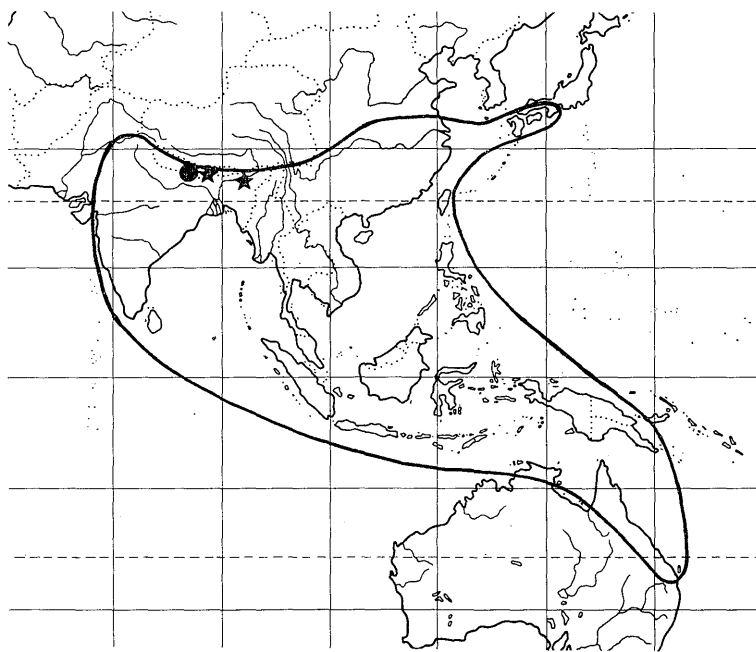


Fig. 1. Distribution of *Desmodium microphyllum*; var. *microphyllum* (—), f. *glabrum* (●) and var. *macrocarpum* (★).

Griffith 355 in K as the lectotype of *D. parvifolium* var. *macrocarpum* Baker.

The second form, *D. parvifolium* f. *yunnanense* Pampanini was characterized by its small leaflets and patent, long, white hairs on stems, leaves and calyces. Also, a form with long hairs on leaves was described by Ohwi (1951) as *D. microphyllum* var. *longipilum* based on a specimen collected in Mt. Arisan in Taiwan. There are three sheets of the specimen in KYO. He considered that the hairs of leaves of the typical form are about 0.5 mm long and appressed, while those of var. *longipilum* are about 1 mm long and ascending. Having examined a number of specimens of *D. microphyllum* from various localities, I found that the diagnostic characters of these forms varied greatly in *D. microphyllum*. Therefore, I could not recognize these forms as distinct. In this species, as far as I know, it is difficult to distinguish any pubescent forms by the length and degree of hairs.

However, the entirely glabrous form is distinguishable from the typical one and is recognizable as a form of *D. microphyllum*. This form has glabrous pods and pedicels and has so far been collected only from eastern Nepal.

The type specimen of *D. microphyllum* (Thunb.) DC. is that of *Hedysarum microphyllum* Thunb. It was collected by Thunberg near Nagasaki in Kyushu, southern Japan. In the original description by Thunberg (1784) the pods and pedicels of *H. microphyllum* are described as follows: 'Legumina villosa scabra. Panicula pedicellis hispidis'. From this description *D. microphyllum* is judged as a form with hairy pods and pedicels.

The second name given to *D. microphyllum* is *D. parvifolium* DC. (1825). This species was described as 'leguminis glabri' (Prodr. 2: 334) based on the specimen collected by Wallich in Nepal. But, Wallich's specimens are hairy on pods and pedicels. I have examined Wallich 5700 which is probably the isotype of *D. parvifolium* and Wallich s. n. collected in 1819 (TI). The type specimens were collected in central Nepal, but I could not find specimens of the glabrous form collected in the region.

The third name to *D. microphyllum* is *Hedysarum tenellum* Buch.-Ham. ex D. Don, but this name is a later homonym. Its description did not mention about hairiness on pods and pedicels. Therefore, all the previous names cannot be applied to the glabrous form.

Followings are the taxonomic treatments on *D. microphyllum* including addition and emendation of my previous treatments (Ohashi 1973). For detailed

citation of literature and synonyms see Ohashi (1973).

Desmodium microphyllum (Thunb.) DC.: Ohashi in Ginkgoana 1: 241-244 (1973); in Hara & Williams, Enum. Flow. Pl. Nepal 2: 118 (1979)—Verdcourt, Man. New Guinea Legum. 402 (1979).

var. **microphyllum**.

Hedysarum microphyllum Thunb. ex Murray, Syst. Veget. ed. 14, 675 (May-June 1784)¹⁾—Thunb., Fl. Jap. 284 (Aug. 1784).

D. parvifolium DC. in Ann. Sci. Nat. 4: 100 (Jan. 1825); Prodr. 2: 334 (1825).

H. tenellum Buch.-Ham. ex D. Don, Prodr. Fl. Nep. 243 (Feb. 1825), non H. B. K. (1824).

D. scoparium Wall., Cat. no. 5699 (1831-32), n. n.

Meibomia microphylla (Thunb.) O. K., Rev. Gen. 1: 198 (1981).

D. parviflorum DC. f. *yunnanense* Pampanini in Nuovo Giorn. Bot. Ital. 17(1): 14 (1910).

D. microphyllum (Thunb.) DC. var. *longipilum* Ohwi in J. Jap. Bot. 26: 234 (1951).

f. **glabrum** Ohashi et T. T. Chen, f. nov.

A typo legumine pediceloque glabris differt.

Type. E. Nepal. Arun Valley: Ala-uling—Kasuwa Khola, alt. 1450 m. On sunny rocks, with *Anaphalis*, *Crotalaria*, etc., on rocky slope. Fls. reddish purple inside, later bluish. Oct. 12, 1981 Y. Tateishi 8038 (TUS 76627—Holotype).

Other specimens examined. E. Nepal. Arun Valley: Hedanna—Ala-uling, alt. 1450 m. Oct. 11, 1981 Y. Tateishi 8033 (TUS). Arun Valley: Walung Mayam-Jimi Gaon, alt. 1870 m. Margin of *Eupatorium*-bush. Nov. 7, 1981 Y. Tateishi 8456 (TUS). Helok—Iladanda Nov. 8, 1963 Kanai, Murata & Togashi (TI-6301452). Baroya Khimty, alt. 2500 m Nov. 11, 1963 Hara, Kurosawa & Tuyama (TI-6301418).

var. **macrocarpum** (Baker) Ohashi, comb. nov.

D. parvifolium DC. var. *macrocarpum* Baker in Fl. Brit. Ind. 2: 174 (1876).

D. microphyllum (Thunb.) DC. var. *macrocarpum* Schindler in Fedde, Rep. 21: 4 (1925)—Ohashi in Ginkgoana 1: 243 (1973); in Hara & Williams, Enum. Flow. Pl. Nepal 2: 118 (1979).

Lectotype. India. Assam, Khasia (Griffith 355, K).

¹⁾ *microphyllum*. 41. H. fol. ternatis ovatis villosis, caule frutescente erecto glabro, flor. terminalibus paniculatis. *Thunb. japon. mspt. M.*

Distr. Khasia and eastern Nepal.

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References

- Baker, J.G. (1876) Leguminosae (*Desmodium*). In Hooker, J.D., Flora of British India 2: 161-175. Kent. Ohashi, H. (1973) The Asiatic Species of *Desmodium* and Its Allied Genera (Leguminosae). Ginkgoana 1. Tokyo. Ohwi, J. (1951) New Plants from Japan and its neighbours (1). J. Jap. Bot. 26: 229-236. Schindler, A.K. (1925) *Desmodii* generumque affinium species et combinationes novae. Fedde, Repert. Sp. Nov. 21: 1-21.

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ヒメノハギ *Desmodium microphyllum* (Thunb.) DC. はアジアから オーストラリアにかけて広い地域に分布する。日本では本州三重県以西、四国、九州に自生し、屋久島、種子島、琉球には分布していない。タイプ標本は長崎附近のもので、Thunberg ハーバリウムにある。

本種は草原や林縁では立ち上って、しばしば高さ 150 cm 位までの低木となるが、芝生や乾いた道ばた、岩の上などにもよく生えており、そのような所では地をはって草状となり、茎は長さ 20 cm 位になる。葉は 3 または 1 小葉で、小葉が小形であることが本種の特徴の一つであるが、その大きさの変異の幅は広い。ふつう頂小葉は長さ 1-2.5 cm、幅 0.8-1.4 cm の倒卵形あるいは橢円形であるが、長さでは 0.2-1 cm あるいは 2.5-3.5 cm となるものもしばしばみることができる。また若い枝、葉、花柄などには白軟毛があり、その長さ、密度などにもかなりの変異がみられる。

本種には 3 変種および 1 品種が知られている。Pampanini (1910) が中国雲南から記載した f. *yunnanense* は小葉が長さ幅とも 2-3 mm の大きさで、葉裏、茎、萼に長い白軟毛が密生する形である。大井先生 (1951) が台湾阿里山 (Faurie 467) から記載した var. *longipilum* は小葉の毛が長さ約 1 mm あって、斜上する形である。しかし、これらの形は母種の変異の範囲内に含まれるものであり、変種あるいは品種として区別することはできない。残る 2 変種は同じ形が 2 度命名されたもので、豆果と萼が大きく、果柄の長い形である。インド東部 アッサム州 Khasia 山地と東ネパールに生育する。

Baker (1876) と Schindler (1925) とが偶然にも 同じ変種名を使って、var. *macrocarpum* とそれぞれ命名していたもので、これは明らかに母種と異なる変種である。

次に新しい形であるが、豆果と果柄が全く無毛の個体がある。1981年に私の研究室の大学院生、陳子聡 (Tzu-tzung Chen) 君がこの形を見付け、注意してくれた。そこで、その後多くの標本を調べ、また1982年の台湾産マメ科植物調査の折にも本種の毛の変異について注意してみた。典型的な形では豆果と果柄には細かい鉤毛があり、さらに果柄には長さ約 1 mm の白軟毛の混る場合がある。まれに殆んど無毛に近い形が中部ネパールからの標本でみられた。しかし、全く無毛である形は東部ネパールに限られ、他の地域ではみられない。新品種として区別しておくこととした。

本種の変異と分化について地理的分布からみると、ヒマラヤ東部において形態的な多様化が起っているように見える。しかし、他の地域についてみると、個体あるいは集団としての変異に地理的な特定の傾向はみられない。

□白石市植物誌刊行会：白石市植物誌 256 pp. 1983. 非売品。宮城県白石市のフロラと民俗植物記で、同市在住の方々を中心とした宮城・福島県のアマチュア26人の熱心な協力によってまとめられた。環境、植物、生活と植物の3章から構成されている。第2章植物では、蘚苔と高等植物の目録が含まれており、高等植物目録では分布一覧表に地域内の種類をまとめている。調査地域を平地から高山（蔵王山塊）まで海拔高によってまず5区に分け、その中の丘陵帯だけを水平的に阿武隈山地帯と東北山地（奥羽山脈）側とに細分して示しておき、次に各種類ごとにそのどこに生育しているのかを表示してある。さらに、日本国内での北限、南限、東限および太平洋北限が地域内にあれば、それも示している。この点、全体のスペースが儉約されているため一目で多数を比較してみることができるので、分布状態について理解しやすい。この地域は日本海要素と太平洋要素あるいは南方系と北方系という、東西あるいは南北の植物分布の混り合っているところであり、正確な目録と詳細な分布の記録が望まれていた。本書はこの要望に充分に答えるものであり、刊行会諸氏の努力を高く評価したい。印刷、製本ともによくできている。非売品であるが、入手については鈴木六一郎氏（白石市██████████）に問い合わせるとよい。（大橋広好）