

## 原 寛\*: 東亜植物註解 (19)\*\*

Hiroshi HARA\*: Comments on the East Asiatic plants (19)

68) ギンバイソウ属 ギンバイソウ属も日本中南部の山地と中国の湖北省に隔離分布しているが、バйкаアマチャの場合とちがって、日本のギンバイソウと中国種とははっきり別種として区別できる。中国の *Deinanthë caerulea* Stapf では、葉は通常4枚で輪生状につき先端が2裂していないものも多く、正常花は大きく、花卉は6-8個で藍紫色、集散花序は扁圧されず斜上する枝を分ち、苞は通常小形緑色で鋸歯があり、萼片は円味をもち、蒴果の上部は長く突出している。

ギンバイソウ属は、多年生草本で裝飾花をつける点が似ているためクサアジサイ属と近いとみられることが多いが、かなり縁遠いものと考察される。ギンバイソウでは葉は対生しよく先端が2裂し、葉面に硬い毛の他に小さい圧伏した2極性の毛が見られるのも面白い性質であり、正常花は大きく径2cm以上あり下向いて開き、雄蕊はきわめて多数で広い花盤の周囲に数列にならんでつき、子房は5-6個の隔膜胎座が突出して中央で相接しており、花柱は1本に合着し、柱頭は5-6裂して立ち粘液質であり、蒴果は先端部で5-6胞間裂開する。また花粉粒は大きく長さ25-31 $\mu$ あり、発芽溝が短かく、外層にははっきりした平滑な網状紋が見られ、幾瀬 (1956)、若林 (1970) 両氏の指摘のようにアジサイ科の中で特異なものである。染色体数も  $2n=34$  で、クサアジサイの  $2n=30$ 、その他の属とも異なっている。

広義のユキノシタ科には日本と中国にだけ分布する属がいくつかあり、ギンバイソウ、バйкаアマチャ、クサアジサイの他にもキレンゲショウマ、イワユキノシタ、イワガラミが知られている。これらの属は何れもきわめてはっきりした特徴をもち、おそらく古く第三紀に起源を發して分化し遺存したものと思われ、相互にかなり縁遠いものと考えられる。

*Deinanthë* Maxim., Rev. Hydrang. in Mém. Acad. Sci. St.-Pét. ser. 7, 10 (16) : 2, t. 1 (1867)—Hutchinson in Kew Bull. 1927: 101 (1927)—Engler, Pfl.-fam. ed. 2, 18a: 200 (1930)—Hutchinson, Gen. Flow. Pl. 2: 18 (1967); Fam. Flow. Pl. ed. 3, 202 (1973).

Perennial herb, with thick woody creeping rhizome. Stem erect, simple. Leaves opposite, simple, often bifid at the apex, serrate, exstipulate, with simple

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\*\* 本誌 61: 65-73 (1986) から続く。

or bipolar hairs. Inflorescence terminal, cymose, bracteate, generally with a few ornamental sterile flowers having 2-4 large sepals. Fertile flowers hermaphrodite, nodding, white or blue, medium-sized. Sepals 5-6, imbricate, persistent. Petals 5-8, free, imbricate, caducous. Stamens numerous (over 300), inserted to the margin of disk in several rows, caducous; filaments filiform; anthers oval, basifix, 2-celled, longitudinally dehiscent, with an oblong connective. Ovary subinferior, broad campanulate, spuriously 5-6-celled, with 5-6 intruded parietal placentas. Style united in 1, persistent, surrounded by a flat disk, 5(6)-lobed at the apex; stigmas connivent, glutinous. Capsules semisphaerical, generally nodding, septicidally dehiscent in the apical part. Seeds numerous, small, with short tails at both ends. Chromosomes  $2n=34$ .

Type: *Deinathe bifida* Maxim.

Includes two distinct species: *Deinathe bifida* Maxim. in Japan, and *D. caerulea* Stapf in Central China. (Fig. 1. f).

The genus is often considered to be closely related to *Cardiandra*. *Deinathe*, however, widely differs from *Cardiandra* not only by opposite leaves and a connate style, but also by subinferior ovary spuriously 5 (6)-celled with 5 (6) intruded parietal placentas, 5 (6) connivent stigmatic branches with glutinous stigmas, broad epigynous disk, very numerous (often over 300) stamens arranged in several rows, larger nodding flowers and capsules, larger pollen grains with short colpi and with coarsely reticulate and smooth sexine (Ikuse 1956, Wakabayashi 1970), capsules septicidally 5 (6)-dehiscent in the apical part, and  $2n=34$  chromosomes.

*Deinathe* shows a disjunct distribution in China and Japan similar to that of *Cardiandra*, *Kirengeshoma*, *Platycrater*, and *Tanakaea*. In my opinion, these genera are of ancient origin probably differentiated in the Tertiary in Asia.

Key to the species.

Leaves opposite, 2-4 pairs, with strict simple hairs and small bipolar ones.

Petals of fertile flowers 5, roundish or obovate, white or greenish, 10-13 mm long 7-10 mm wide. Cymes globose in bud, tightly enveloped by 4 involucrel bracts, depressed with 2-4 divaricate umbellate branches with small bracts. Fertile flowers 2-3 cm in diameter. Sepals 5, ovate. Capsules slightly elevated above the disk. ....1) *Deinathe bifida*

Leaves 4, subverticillate, without bipolar hairs. Petals 6-8, obovate, blue or purple, 8-18 mm long 6-14 mm wide. Cymes not depressed, with 4-5 scat-

tered ascending branches, and green foliaceous bracts. Fertile flowers larger, 2.5-5 cm in diameter. Sepals 5-6, depressed ovate or roundish. Capsules conically long-producing above the disk....2) *Deinanthë caerulea*

1) ***Deinanthë bifida*** Maxim., Revis. Hydrang. 1. c. 3, t. 1 (1867)—Matsumura, Ind. Pl. Jap. 2 (2) : 176 (1912)—Engler, Pfl.-fam. ed. 2, 18a, 200, f. 113 A-F, f. 114 A, B (1930)—Ohwi, Fl. Jap. 609 (1953); ed. Eng. 510 (1965); ed. rev. 713 (1965)—Hara, Distr. Maps Flow. Pl. Jap. 2: map 143 (1959)—Kitamura & Murata, Col. Ill. Herb. Pl. Jap. 2: 138, t. 33. 278 (1961)—Satake et al., Wild Flow. Jap. 2: 155, t. 146-1 (1982).

Perennial herb. Rhizome thick, woody, creeping or obliquely ascending. Stem stout, erect, simple, 40-80 cm high, hairy in the upper part. Scaly leaves several pairs in the lower part of stem. Leaves opposite, 2-4 pairs in the upper part, large, broad obovate to broad oblanceolate, 10-27 cm long 6-22 cm wide, generally bifid in the upper part, rarely 2-lobed to the middle, sometimes the upper ones not bifid, rarely all leaves undivided and acuminate at the apex, lobes long-caudate-acuminate, sharply incised and serrate, or coarsely double- or simply serrate, shortly decurrent to the petiole at the base, sparsely hairy above with coarse spreading hairs up to 1 mm long and also with minute bipolar appressed hairs, sparsely hairy beneath with rough spreading hairs on veins and also with minute bipolar hairs; veins and veinlets slightly impressed above and elevated beneath; petiole 1-10 cm long, with scattered hairs. Flowering peduncle erect, 3-6 cm long, glabrous, light green. Inflorescence terminal, depressed cymose, 5-11 cm in diameter, glabrous; at first globose enveloped with 2 pairs of the lowest (involucral) bracts which are at anthesis spreading, ovate, 1-2 cm long, 8-18 mm wide, obtuse or acuminate, greenish, persistent, sometimes foliaceous; branches 2-4, subverticillate, horizontally divaricate, with 2-4 flowers. Pedicels 5-15 mm long, whitish, recurved in fruit. Bracts oblong or elliptic, 4-8 mm long. Flowers nodding, white or greenish. Ornamental sterile flowers often on the top of branches with slender pedicels 15-25 mm long, 13-22 mm in diameter. Sepals large, (2-)3-4, sometimes unequal, ovate to depressed roundish, 6-12 mm long 4-15 mm wide, white sometimes pinkish, distinctly reticulate-veined. Fertile flowers hermaphrodite, 2-3 cm in diameter, white, nodding. Sepals 5, ovate, roundish or oblong, acutish to roundish at the apex, 6-8 mm long 3.5-6 mm wide, spreading or slightly reflexed, white then turning green, persistent. Petals 5, imbricate in bud, roundish obovate to elliptic, 10-18 mm long 7-15 mm wide,

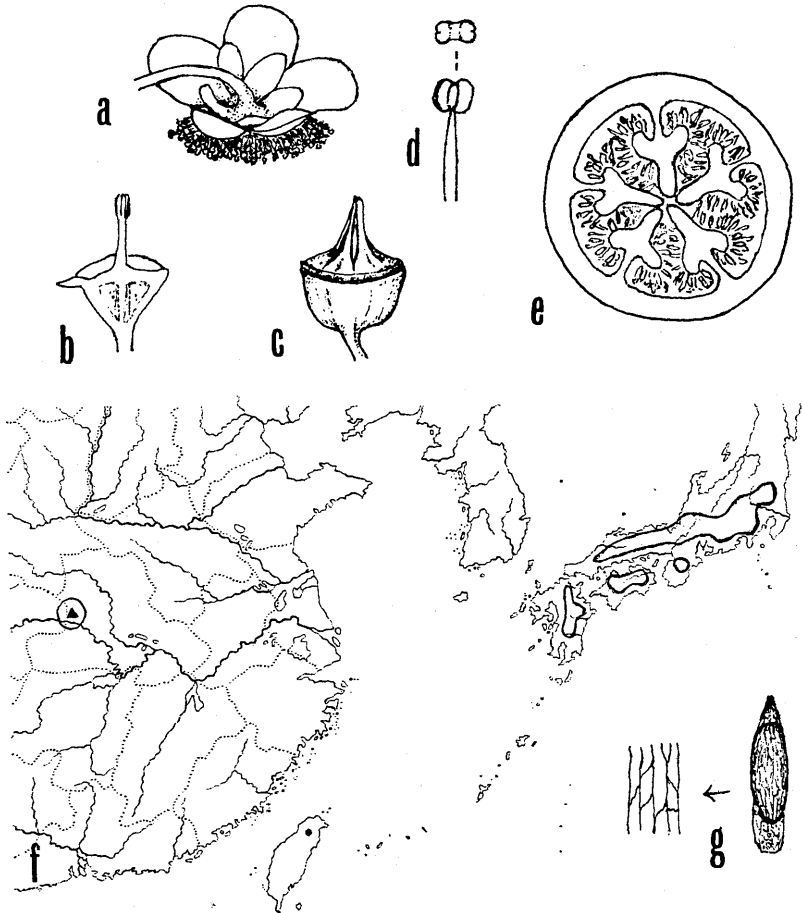


Fig. 1. *Deinanthe bifida* Maxim. a. Flower.  $\times 1$ . b. Longitudinal section of flower (petals, sepals, and stamens removed).  $\times 1$ . c. Fruit (sepals removed).  $\times 1$ . d. Anthers (mag.). e. Cross section of young fruit (mag.). f. Distribution map ( $\blacktriangle$  *Deinanthe caerulea* Stapf). g. Seed.  $\times$  ca 20.

roundish at the apex, concave in the centre, spreading or slightly reflexed, caducous. Stamens numerous (more than 300), unequal, 3-8 mm long, inserted to the margin of epigynous disk in several rows, slightly connate at the base and caducous in 5-several pieces; filaments filiform, white, attenuate to the apex, flattish at the base in the outer ones; anthers broad oval, 0.6-1 mm long, emar-

ginate on both ends, basifix, pale yellowish white, 2-celled, with an oblong carnose connective. Ovary inferior, depressed campanulate, 3 mm long, whitish, spuriously 5(6)-celled, with 5(6) intrusive parietal placentas connivent in the center. Epigynous disk flat, 5-7 mm in diameter, white, later green. Style connate in one, 5-8 mm long, white, 5(6)-branched in the upper part; branches ca. 3 mm long, connivent, stigmatose inside, later glutinous, brownish. Capsules generally nodding, semisphaerical, ca. 5 mm long, 8-11 mm in diameter, crowned with persistent style, septicidally 5(6)-dehiscent in the apical part. Seeds numerous, small, oblong, ca. 1 mm long, with short tails at both ends, testa loosely lengthwise reticulate. Fl. Jul.-Aug. Fr. Sep.-Oct. Chromosomes  $2n=34$  (Funamoto & R. Tanaka 1984).

In moist woods of *Fagus* zone or in the upper part of *Castanea* zone, often on slopes along valley, sometimes on calcareous soil, alt. 240-1600 m, Central and West Honshu, Shikoku, and Kyushu.

Representative specimens:

Honshu. Ibaraki: Mt. Gozen-yama (M. Suzuki, Jun. 20, 1967, TNS).

Tochigi: Manganji, Mt. Idzuru-san (H. Hara, May 3, 1958, TI); Mt. Mitsumine-yama, Terao-mura (M. Takahashi, Jul. 2, 1946 & Jul. 25, 1947, TI).

Gunma: Mt. Kanou-yama, Nakazato-mura (T. Yamazaki, Jun. 13, 1953, TI).

Saitama: Mt. Mitsumine-san, Chichibu, 900 m (Y. Yabe, Oct. 26, 1900, fr., TI).

Tokyo: Mt. Ôtake (F. Maekawa, Sep. 29, 1935, fr., TI); Mt. Gozen-yama (M. Mizushima, Jul. 19, 1946, TI); Mt. Kawanori (T. Yamazaki, Jul. 30, 1948, TI).

Kanagawa: Yokohama, cult. (Maxim., 1862, ster., K).

Nagano: Senano (Maximowicz (Tschonoski), 1864, fl.,—Isosyntype, BM); Shoya-kôsen, Uchiyama-mura (F. Maekawa, Aug. 4, 1944, TI); Takeishi-tôge (S. Momose, Aug. 9, 1931, TI); Aokigawa, Ôshika-mura (Yamazaki, Aug. 21, 1965, TI).

Yamanashi: Sasago-tôge (R. Yatabe, Aug. 8, 1880, TI, BM); Mt. Kohushidake, (H. Uematsu, Aug. 28, 1949, TI).

Shizuoka: Ôtaki, Umegashima (H. Hara & S. Kurosawa, Jun. 18, 1983, TI); Tokusa, Upper Ôi River (H. Matsuda, Jul. 8, 1954, TI); Yamazumi, Misakubo (J. Sugimoto, Jul. 23, 1952, TI, TNS).

Aichi: Mochizuki-tôge, Toyone-mura (K. Torii, Nov. 4, 1956, TNS); Kouma-

yama, Asahi-mura (J. Ôhara, Jul. 24, 1952, TNS).

Gifu: Miyama-chō (N. Inagaki, Jul. 11-12, 1968, TI).

Fukui: Shinjō, Mihama-machi (Y. Hori, Jul. 1955, TNS).

Mie: Miike-dake (S. Okamoto, Oct. 13 & 24, 1938, TNS).

Shiga: Mt. Hira (C. Hashimoto, Aug. 9, 1935, TNS); Oike-dani, Oike-dake

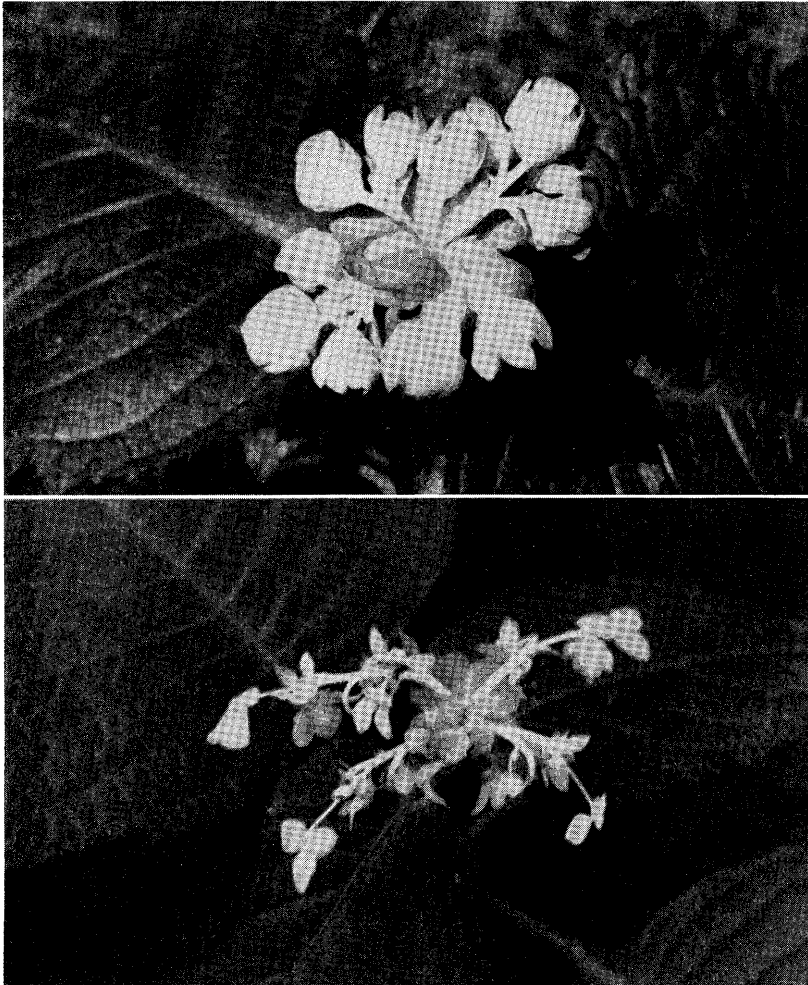


Fig. 2. *Deinanthe bifida* Maxim. Upper: Inflorescence before flowering. Lower: The same after flowering.

(H. Koyama & N. Fukuoka no. 36, Jul. 15, 1962, KYO, TNS).

Kyoto: Teradani, Hanase-mura (Y. Momiyama, Sep. 28, 1934, TI).

Nara: Dorogawa, Mt. Sanjogatake (H. Hara, Jul. 14, 1955, TI).

Hyogo: Mt. Myoken (M. Hiroe no. 7376, Aug. 11, 1952, fl., TI).

Shimane: Mt. Asa-yama (H. Kanai, Oct. 11, 1958, TI).

Hiroshima: Taishaku to Momijibashi, 300 m (N. Fujita, no. 169, Aug. 20, 1971, TNS); Taishaku-kyō (N. Miake, Aug. 26, 1973, TI).

Yamaguchi: Akagane—Shimose, Ikumo, Atō-chō (S. Miyake, no. 10923, Nov. 2, 1969, fr., TI).

Shikoku. Tokushima: Mt. Tsurugi (J. Nikai no. 1284, Aug. 13, 1904, TI, TNS); *ibid.* (T. Kato no. 3901, Aug. 24, 1983, TI).

Kochi: Nanokawa (K. Watanabe?, Aug. 7, 1892, TI); Mt. Tebako-yama (S. Yano, Aug. 10, 1890); Mt. Yokogura-yama (T. Tuyama, Aug. 2, 1934, TI).

Ehime: Wariishi-tōge (R. Yatabe, Aug. 11, 1888, TI); Mt. Ishizuchi (Y. Shibuya, Jul. 30, 1958, TI); Mt. Nishiakaishi-yama (T. Tuyama, Jul. 26; 1934, TI); Mt. Odafukayama (Y. Momiyama, Jul. 23, 1957, TI).

Kyushu. Nagasaki: ad Naga-yama (Maxim. 1863, fr.—isosyntype, BM, K).

Ōita: Yuno-hira, Yufuin-machi (K. Oka, no. 27242, Oct. 24, 1966, fr., TI).

Kumamoto: Mt. Fukaba-yama (Z. Tashiro, Jul. 11, 1931, TNS).

Taiwan. Taihoku Distr., Chōnaiho-shō (T. Kawakami, Suzuki & Kai, Nov. 1904, TI).

It is remarkable that a specimen of *Deinanthë* from Taiwan as cited above is extant in TI, although I could not confirm if the plants are really wild there. The specimen consists of 2 young sterile plants, and the leaves are hairy with strict simple hairs and small appressed bipolar hairs, and it agrees with *D. bifida* of Japan.

The species is variable in leaf-shape. The leaves are generally bifid in the upper part, and sometimes deeply bilobed to the middle. But the upper leaves are often acuminate at the apex, and not bifid. Rarely in some individuals all the leaves are acuminate at the apex, and such a plant was named as f. *rotundifolia* Satomi in Hokuriku Journ. Bot. 7: 128 (1958) (var. *ovatifolia* Akasawa). In Shikoku (Tokushima and Kochi) some populations consisted of individuals only with undivided leaves are rarely found.

It is noteworthy that the young globose inflorescence of *Deinanthë bifida* is tightly enclosed by the lower involucrel bracts similar in appearance to that of

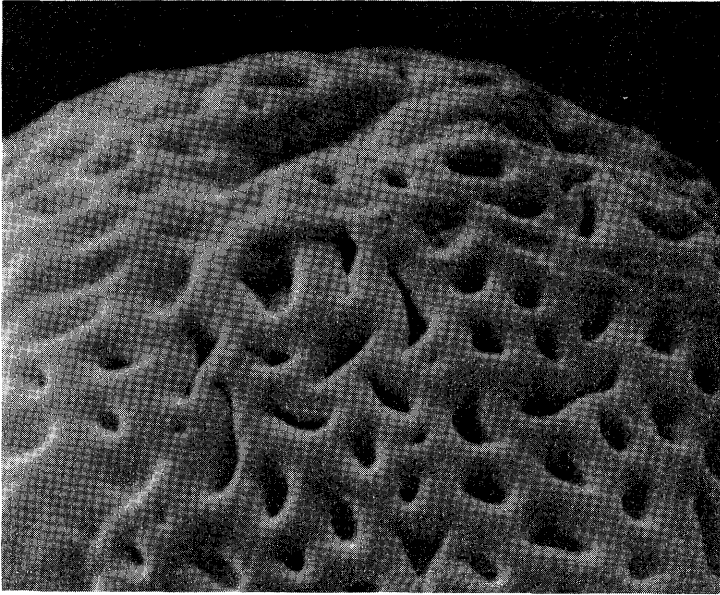


Fig. 3. SEM-photograph. Surface of pollen grain.  $\times 9,000$ . By M. Ikuse.

*Hydrangea involucrata* Sieb. of Japan.

As compared with *Deinanthe caerulea* of China, *Deinanthe bifida* shows some advanced characters such as depressed inflorescence enclosed by 4 involucrel bracts in bud, deeply bifid leaves, and in having appressed bipolar hairs.

2) ***Deinanthe caerulea*** Stapf in Bot. Mag. 137: t. 8373 (1911)—Gard. Chron. ser. 3, 77: 132, f. 53 (1925)—Blades in Gard. Chron. ser. 3, 86: 223 (1929)—Lemberg in New Fl. & Silva 2: 192 (1930)—Engl. in Pfl.-fam. ed. 2, 18a: 200 (1930)—W. Y. Chun in Acta Phytotax. Sin. 3: 106, t. 2 (1954)—Icon. Cormophyt. Sin. Suppl. 2: 47, f. 8765 (1983).

*D. bifida* Maxim. sensu Oliver in Hook., Icon. Pl. 19: t. 1884 (1889)—Diels, Fl. C.-Chin. 372 (1900).

Rhizome thick, nodose. Stem 30–65 cm high. Leaves generally 4, subverticillate, broadly elliptic or obovate, 10–25 cm long 6–22 cm wide, acuminate or bifid in the upper part in larger leaves, broad-cuneate or roundish at the base, sparsely hairy above and on nerves beneath with shorter appressed hairs, but without bipolar hairs, coarsely and sharply serrate; petioles 1.5–10 cm long



Peduncle 5-15 cm long. Inflorescence cymose, not congested; branches 2-4, ascending, 1-3-flowered. Bracts small, foliaceous, green and serrulate, sometimes up to 2.5 cm long, sometimes the lowest bract leaf-like, up to 12 cm long and 5 cm wide. Ornamental flowers 1.5-2 cm in diameter, purple-blue; sepals 3-4, depressed cordate, 8-18 mm long 6-16 mm wide; pedicels slender, up to 4 cm long. Fertile flowers nodding, 2.5-5 cm in diameter. Sepals 5-6, depressed ovate to roundish, 3-7 mm long 4-8 mm wide, bluish. Petals 6-8, roundish obovate, 8-18 mm long 6-14 mm wide, concave, bright purple-blue. Stamens numerous, bluish. Ovary short-turbinate, with 5-6 intruded parietal placentas. Style 5-7 mm long, surrounded by a broad disk at the base, with 5-6 connivent stigmas at the apex. Capsules nodding, semispherical, semi-inferior, conically long-producing above the disk tipped with persistent styles, ca. 15 mm long, septicidally 5-6-dehiscent in the apical part. Chromosomes  $2n=34$  (Hamel 1951 & 54).

In moist forests along valley, alt. 500-1400 m, in the Shennongjia district of North-west Hupeh Province, China.

Specimens examined.

China. Hupeh: Hsingshan, 4000 ft. (A. Henry no. 6454, fl.—lectotype in K; isotypes in BM, E, TI). Hupeh (A. Henry no. 6357, bud, BM, E). Nanto (E. H. Wilson no. 1207, Jul. 1901, fl. & fr., K, E). Shennongjia, 800 m (Bot. Exped. Shennongjia no. 20348 & 21067, Jun. 26, 1976, fl., PEK).

*Deinanthe caerulea* Stapf occurs in a narrowly restricted area in Central China, and is clearly separable from *D. bifida* Maxim. of Japan. It retains more primitive characters especially in the shape of inflorescence.

69) コウツギ コウツギは紀伊半島以西山口県, 四国, 九州の山地に産し, ウツギよりは高地に分布し, 花期も遅い。多数の小形の花を円錐状につけ, 花はかなり平開し径 1 cm 内外, 花弁は長さ 5 mm 内外, 花糸上部の歯がはっきりせず, 果実は径 3 mm 位である。ウツギとは花の大きさと開き方, 花糸の歯の形も異なり, 生育地もずれているので別種として扱ってよいと思う。学名については *Deutzia floribunda* Lemoine という先行名があるとされていたが, その名は正当に出版されていないようで, *D. floribunda* Nakai を採用したい。またウツギの変種として扱う場合には, *D. crenata* var. *floribunda* (Engl.) の新組合せが必要になる。

*Deutzia floribunda* Nakai in Bot. Mag. Tokyo 35: 85 (1921)—Zaikonnikova, Monogr. Deutzia 51 (1966).

*D. scabra* Thunb. sensu Makino in Bot. Mag. Tokyo 12: (341) (1898).

*D. floribunda* var. *pubescens* Koidzumi in Bot. Mag. Tokyo 43: 399 (1929).

*D. Nakaiana* Engl., Pfl.-fam. ed. 2, 18a: 197 (1930).

*D. Nakaii* (sphalmate) Engl. var. *pubescens* (Koidz.) Koidz. in Acta Phyt. Geobot. 5: 47 (1936).

*D. scabra* Thunb. var. *Nakaii* (sphalmate) (Engl.) Ohwi, Fl. Jap. 614 (1953), nom. nud.; in Bull. Sci. Mus. Tokyo 33: 74 (1953).

*D. crenata* Sieb. et Zucc. var. *Nakaiana* (Engl.) Hara in Journ. Jap. Bot. 32: 138 (1957)—Ohwi, Fl. Jap. ed. Eng. 512 (1965); ed. rev. 717 (1965).

*D. crenata* var. *pubescens* (Koidz.) Kitamura in Acta Phyt. Geobot. 26: 7 (1974); Col. Ill. Woody Pl. Jap. 2: 125 (1979); non *D. crenata* f. *pubescens* (Makino) Hara (1957).

Lectotype of *D. floribunda* Nakai: Shikoku. Tokushima (Awa): monte Kōzusan (J. Nikai no. 1537, Jul. 9, 1905, fl., TI).

Distr. On mountains of Honshu (west of Kii Penin.), Shikoku, and Kyushu.

○シレトコトリカブトの白花品 (佐藤 謙) Ken SATO: A white-flowered form of *Aconitum maximum* var. *misaoanum* (Ranunculaceae)

1980年夏、筆者は北海道による知床半島自然生態系総合調査の際にシレトコトリカブトの白花品を採集し、その報告書に単に白花品を含む旨を記述した(鮫島・佐藤 1981, 高等植物目録, 知床半島現存植生図概説, 北海道)。この白花品の写真を伊藤浩司: 北海道の高山植物と山草(誠文堂新光社, 1981)に提供した際、伊藤氏はシロバナシレトコトリカブト(f. *album*)の名で仮に報告している。その後環境庁の遠音別岳原生自然環境保全地域の調査に際して知床半島の目録を改訂し、この白花品が未だ正式に記載されていない新品種であることを報告した(佐藤他 1985, 日本自然保護協会)。しかしながら、これらの報告は正式なものではないので、ここに記載発表する次第である。

*Aconitum maximum* Pall. var. *misaoanum* (Tamura et Namba) Tamura forma **album** K. Sato, f. nov.

Flores albi.

Nom. Jap.: Shirobana-shiretoko-torikabuto (K. Ito, nom.).

Hab.: Japan, Hokkaido, Shiretoko Peninsula, Cape Shiretoko (K. Sato, J. Samejima et K. Samejima, No. 1249, Aug. 25, 1980, Typus in SAPT).

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