

二色アル様ニ見エル、一ツハ北鮮ノ威鏡道ニ多ク葉莖ニハ多少トモ全體ニ粗毛ガ生ジ葉裏モ葉ノ表面ト大シテ色ノ相異ガナク赤色ノ腺ガアル、葉裏ノ中肋ニ添フテ特別ニ密ナ毛茸ガ生エテハ居ラナイ。此ハ記載ニヨルト *L. Maximowiczii* REGEL ニ相當スルモノノ様デアアル、他ノ一種ハ此處ニ記載スル金剛山、智異山、濟州島ノ漢拏山等ニ生ズル植物デ *L. sachalinensis* NAKAI ニ酷似シテ、莖ハ平滑葉ガ幅狭クテ一層先端ガ鋭ク、赤色ノ腺ガ全ク無ク表面及ビ縁邊ニ短カクテ稍硬イ毛茸ヲ生ジ、裏面ハ著シク粉白ヲ帯ビ、中肋ノ兩側ニ白色ノ密毛叢ガアル外ハ通常平滑デアアル、*L. sachalinensis* NAKAI ト *L. Tatarinowii* MAXIM. トノ中間ニ位スル種類ト考ヘラレルノデー昨年智異山デー緒ニ採集シタ京大農學部ノ岡本省吾氏ニチナンデ *L. Okamotoana* OHWI ト命名スル、此種ノ葉幅ノ廣イ廣卵形ノ變リモノハ變種ト認メテひろはうらじろへうたんぼくトスル。

70) えねししそくさ ポリネシア、マレー群島、比律賓等ニ分布スル本種ガ琉球列島ノ西表島デ採集サレタガ、本邦領土内ニ於ケル最初ノ記録デアラウ。小泉教授並ニ土井美夫氏ノ採集デアアル、しそくさは酷似シタ植物デ花ニ梗ガナク直接葉腋ニ着クノト蔓ガ果實時ニモ側脈ガ現ハレナイノガ重ナ區別點トナル、花ニ柄ガ無イ事カラ和名ヲ新稱シタ。

On the species of *Clematis* sect. *Tubulosae*.

by

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北川政夫：くさぼたん類ノ再檢

Clematis, being one of the largest genus, is none the less than any others of *Ranunculaceae* in making immense varieties. Among the series of these varieties, the group of *Clematis heracleifolia* has most outstanding yet defined characteristics. This group is now classed under the section *Viorna* as a subsection, but DECAISNE was more correct in confining it to a distinct section *Tubulosae*. Its diagnosis is the followings:—

Plants perennial. Stem often woody at base, usually upright, simple or branched. Leaves petiolate, always 3-foliolate. Leaflets petiolulate, dentate, terminal one largest and with longest petiolule. Flowers in terminal and axillary cymes or rarely solitary, upright or drooping, hermaphrodite or polygamo-dioecious. Sepsals

4, white or bluish, tubulous, connivent each other at least in lower half, silky tomentose outside, glabrous inside. Stamens shorter than sepals, with projecting connective, glabrous or often hairy.

The species belonging to this group are few but very distinct, each having confined area of distribution. This fact makes the writer to conclude that this group is phyletically old and its evolution had either stopped already or is just stopping. One can hardly trace back its phyletical connection with other sections, nor can make out the same of each species. It comprises seven species, of which three are continental, distributing from China to South Korea and the remaining four are all Japanese. They are predominated in open woods or sunny slopes with grasses and shrubs, in the bushes along the running water.

I. Key of the species

- A. Foliola terminalia quam 3 cm. multo longiora. Cymis axillares et terminales pluriflori.
- B. Foliola margine fere aequaliter adpresse repando-dentata. Filamenta apice emarginata. (Foliola tenuiter herbacea, terminalia indivisa aut manifeste 3-fida basi cuneata—leviter cordata. Flores erecti—cernui. Sepala extus densissime—densiuscule adpresse sericeo-tomentosa superne recurvata usque ad 2.5 cm. longa, parte recurvatâ vix dilatâtâ. Filamenta apice parce pilosella quam antheræ longiora et latiora. Stylus toto plumosus.
1. *Clematis speciosa* MAKINO
- BB. Foliola margine grosse inæqualiter serrato- vel crenato-dentata. Filamenta apice rotundata vel sensim angustata.
- C. Flores urceolati vel tubuloso-urceolati. Sepala extus sæpe distincte 3-carinata. 2. *Clematis urticifolia* NAKAI
- CC. Flores nec urceolati, non tubuloso-urceolati. Sepala extus non carinata.
- D. Filamenta præter basin pilosella. Stylus basi glaber. (Foliola herbacea—coriacea, terminalia leviter—manifeste 3-fida basi cuneata—truncata. Flores cernui. Sepala extus densiuscule—dense adpresse subsericeo-tomentosa superne recurvata usque ad 1.7 cm. longa, parte recurvatâ vix dilatâtâ. Filamenta

antheris fere æquilonga—breviora et fere æquilata.).

3. *Clematis stans* SIEBOLD & ZUCCARINI

DD. Filamenta apice tantum pilosella aut toto glaberrima. Stylus toto plumosus.

E. Sepala tantum apice recurvata, parte recurvatâ vix dilatâtâ. Filamenta quam antheræ longiora vel œquilonga et latiora vel æquilata.

F. Bracteæ triangulares integræ. Sepala vix 1.5 cm. longa extus densissime adpresse sericeotomentosa. Filamenta antheris æquilata toto glaberrima.

4. *Clematis psilandra* KITAGAWA

FF. Bracteæ superne dissectæ. Sepala 2.0 cm longa extus densiuscule—dense adpresse subsericeotomentosa. Filamenta quam antheræ latiora apice parce pilosella. (Foliola coriacea, terminalia basi vulgo rotundata—truncata. Flores cernui.)

5. *Clematis heracleifolia* DE CANDOLLE

EE. Sepala supra medium recurvata, parte recurvatâ valde dilatâtâ. Filamenta quam antheræ breviora et angustiora. (Foliola coriacea, terminalia basi cuneata sed rarius rotundata—subcordata. Flores erecti vel patententes non cernui. Sepala extus densissime adpresse sericeo-tomentosa usque ad 2.8 cm. longa.)

6. *Clematis tubulosa* TURZANINOW

AA. Foliola terminalia usque ad 3 cm. longa. Flores axillares et terminales solitarii. (Foliola herbacea, terminalia 3-fida basi late cuneata. Flores cernui. Sepala extus densissime villososericeo-tomentosa supra medium recurvatâ usque ad 1.5 cm. longa, parte recurvatâ manifeste dilatâtâ. Filamenta glabra (teste OHWI) quam antheræ longiora vel breviora et æquilata (teste OHWI). Stylus?)7. *Clematis tsugetorum* OHWI

II. Critical notes on each species

1. *Clematis speciosa* MAKINO in Journ. Jap. Bot. I. p. 39(1918); MAKINO & NEMOTO, Fl. Jap. ed. 1. p. 971 (1925), ed. 2. p. 327 (1931).

Clematis heracleifolia DE CANDOLLE var. *speciosa* MAKINO in Tokyo Bot.

Mag. VI. p. 50, 170 (1892), XI. p. 332 (1897).

Clematis heracleifolia DE CANDOLLE var. *Hookeri* MAKINO in Tokyo Bot. Mag. XXI. p. 87 (1907) nom. tantum, excl. syn. nonn.; MATSUMURA, Ind. Pl. Jap. II. 2. p. 111 (1912).

Clematis tubulosa (non TURCZANINOW) KOIDZUMI, Fl. Symb. Orient.-Asiat. p. 47 (1930); NEMOTO, Fl. Jap. Suppl. p. 221 (1936).

Nom. Jap. *Oo-kusabotan* (T. MAKINO 1892)

Distr. Japonia (Sikoku & Kyûsyû).

An isolated species strongly marked by its thin leaves with short dentations, long tubulous flowers, and emarginate filaments. *Clematis tubulosa* to which this plant had once been reduced by Dr. KOIDZUMI, differs from this in the characters mentioned above. The geographical area of this is much restricted and it is seldom even in its home. One of the type specimens preserved in the herbarium of Tokyo Imperial University is an abnormal form with coarsely crenate leaflets.

2. ***Clematis urticifolia*** NAKAI in Tyôsen Sanrin Kaihô no. 122-5. p. 23 nomen, p. 31 nomen seminud., cum diagn. Jap. (ut *urticiflora*) (1935). [Fig.1]

Clematis heracleifolia DE CANDOLLE var. *tubulosa* TURCZANINOW ex NAKAI in Journ. Coll. Sci. Imp. Univ. Tokyo XXVI. 1. p. 12 (1909) nomen tantum, excl. syn.

Clematis tubulosa (non TURCZANINOW) NAKAI, Tyôsen Syokubutu p. 39 cum f. (1914); MORI, Enum. Pl. Cor. p. 157 (1922).

Suffrutex usque ad 2 m. altus vel ulter. Caulis inferne lignosus cortice fibroso-fisso, superne seu in ramis hornotinis herbaceus erectus sed apice sæpe subvolubili-flexuosus teres vel valde angulato-costatus atro-purpurascens versus apicem densius albo-villosulus. Folia opposita 3-foliolata; inferiora longe petiolata, petiolus ad 16.3 cm. longus angulato-costatus supra sulcatus apice parce incrassatus ubi purpurascens vel toto atro-purpurascens basi valde tumidus et inter sese conjugatus ita rami fere perfoliati parciuscule albo-villosulus, foliola terminalia breve—longiuscule petiolulata elliptica ovato-ovalia obovato-orbicularia late obovata late rhombea vel ovato-rhombea apice breviter acuminata basi cuneata—rotundata superne sæpe breviter

3-fida ita subtrinervia, lobis late deltoideis acuminatis, margine præter basin et apicem grosse inæqualiter serrato-dentata, dentibus apice acuminato-mucronatis late deltoideis, sine petiolulo usque ad 12.5 cm. longa et 9.5 cm. lata, foliola lateralia brevissime petiolulata oblique ovata—deltoidea apice breviter acuminata basi cuneata—rotundata sæpe inæqualiter breve 2-fida margine grosse inæqualiter serrato-dentata sine petiolulo usque ad 9.5 cm. longa et 6.5 cm. lata, foliola omnia in sicco papyracea—crassiuscule papyracea supra viridissima ad nervos nervulosque adpresse strigilloso-hirtella nervis impressis ita bullato-rugosa infra pallidiora sed haud glaucescentia ad nervos nervulosque parce—dense pubescentia margine ciliata; folia suprema valde minora bracteiformia profunde 3-partita—integra. Inflorescentiæ axillares et terminales trichotome cymosæ foliosæ vel fere aphyllæ. Bracteæ lanceolatae—lineares vel foliaceo-3-sectæ quam flores breviores intus glabræ extus densissime sericeo-villosæ. Pedunculi sat longi—brevissimi recti rigidi dense—densissime albo-villosi. Pedicelli breves—brevissimi pilis nitentibus subadpressis densissime albo-villosi. Flores in alabastra erecti vel patentes sub anthesin sæpe cernui post anthesin erecti urceolati vel tubuloso-urceolati circa 15 mm. longi. Sepala violacea pulchella lanceolata crassa intus glabra extus longitudine 3-exarato-carinata densissime adpresse sericeo-tomentosa apice obtusa præter apicem recurvatam toto conniventia, parte recurvatâ paulum dilatatâ. Stamina 12, 3-serialia ca. 12-13 mm. longa; filamenta 7-9 mm. longa ad 2 mm. lata anguste lineari-oblongata medio longitudine 1-nervata ex medio subito lunare incurva ubi purpurascentia et in antheras conniventia supreme tantum pilosella ceterum glaberrima quam antheræ manifeste latiora et longiora; antheræ lineares 4-5 mm. longæ extus dorso adpresse pilosellæ ochroleucæ connectivo valde producto apice purpureo. Discus pubescens. Ovarium densissime sericeo-pilosum pilis superioribus valde longioribus. Stylus toto longe sericeo-plumosus pilis superioribus sensim brevioribus. Stigma recurvum sublabiato-incrassatum papilloso-ciliatum. Achænia matura ignota.

Nom. Jap. *Tati-kusabotan* (T. NAKAI 1914), *Tube-kusabotan* (T. NAKAI 1935).

Specimina examinata : Korea :

Prov. TYŪ-NAN : In dumosis montis Zoku-ri-zan (T. NAKAI n. 14932. Aug.

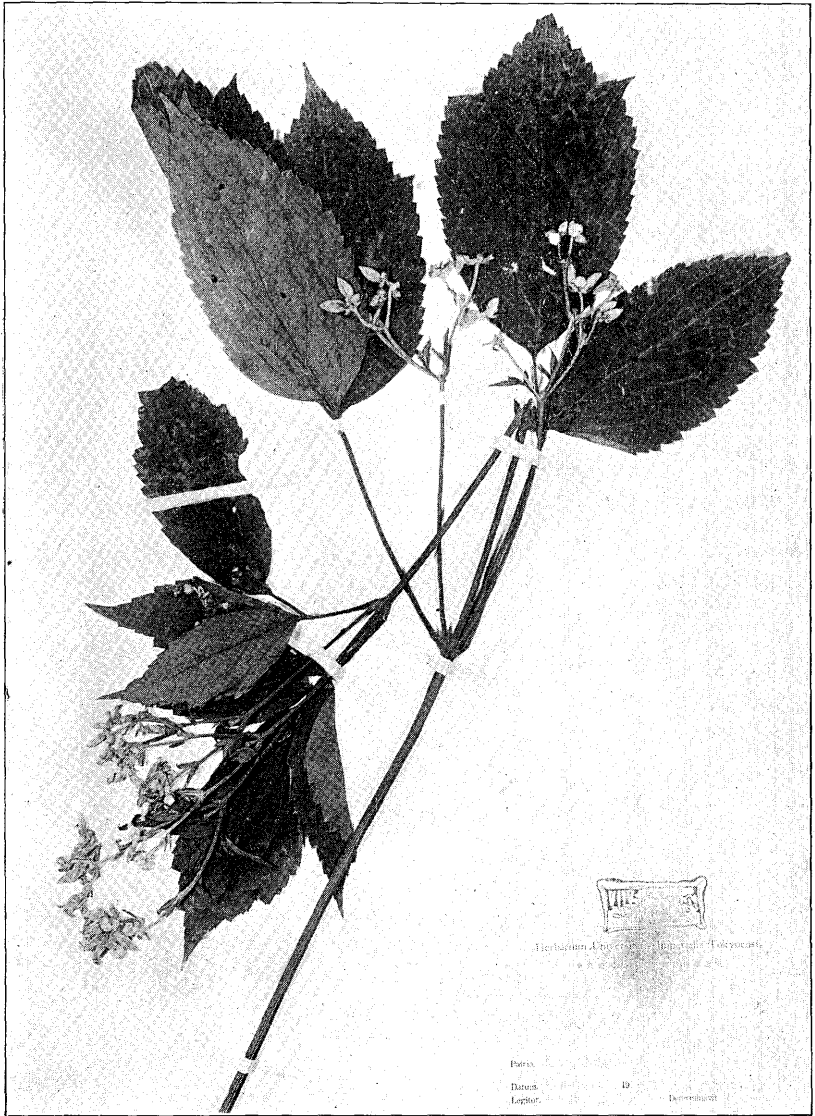


Fig. 1. *Clematis urticifolia* NAKAI
(T. NAKAI no. 14932) たちくさぼたん



Fig. 2. *Clematis psilandra* KITAGAWA
(T. HOSOKAWA no. 5405) しまくさぼたん

12. 1934—Typus in Herb. Imp. Univ. Tokyo.).

Prov. KÔ-GEN : Gun-sen-kyô, in monte Kon-gô-san (T. NAKAI n. 5422. Jul. 31. 1916); in monte Kon-gô-san (T. UTIYAMA Aug. 14. 1902).

Prov. KÊI-KI : Prope Tyô-en-ri (T. UTIYAMA Aug. 13. 1902).

Prov. KÊI-NAN : In monte Ti-i-zan (T. NAKAI Jul. 1. 1913 ; n. 366. Jul. 2. 1913); ibidem (T. MORI Aug. 1912); ibidem, 900 m. (T. NAKAI Jul. 30. 1913); Rend-dô in monte Ti-i-zan (T. NAKAI Jul. 9. 1913); Hiti-bussyuzan in monte Ti-i-zan (T. NAKAI n. 693. Jul. 9. 1913).

Distr. Korea.

f. *rosea* (NAKAI) NAKAI comb. nov. in herb. Imp. Univ. Tokyo.

Clematis tubulosa DECAISNE var. *rosea* NAKAI in Tokyo Bot. Mag. XXXI. p. 4 (1917).

Clematis tubulosa TURCZANINOW var. *rosea* NAKAI, Rep. Veget. Diam. Mt. p. 172, p. 195 (1918).

Clematis urticifolia NAKAI var. *carnea* NAKAI in Tyôsen Sanrin Kaihō no. 122-5. p. 23, p. 31 (ut *Clematis urticiflora* var. *carnea*) (1935).

Sepala carnea vel rosacea.

Nom. Jap. *Benibana-tati-kusabotan* (T. NAKAI 1918), *Usuiro-tubo-kusabotan* (T. NAKAI 1935)

Distr. Korea.

This remarkable species was first illustrated by Prof. NAKAI in 1914 in his early work entitled 'Tyôsen Shokubutu' which means 'Plants of Korea' under the name *Clematis tubulosa*. It is distributed in southern part of Korea, while in the northern half, it is replaced by *Clematis tubulosa* which is the most common species in the continental Asia. The characters which make this plant quite distinct from others are its conspicuously 3-ridged sepals highly connivent to potlike calyx. The leaves are comparatively thin in texture and resemble those of *Clematis tubulosa* in their shape but have sharper teeth.

3. *Clematis stans* SIEBOLD & ZUCCARINI in Abhandl. Akad. Muench. IV. 2. p. 177 (1845); WALPERS, Annal. I. p. 953 (1848-49); MIQUEL in Ann. Mus. Lugd. Batav. III. p. 2 (1867); REGEL, Gartenfl. XIX. p. 203 t. 357 (1870);

FRANCHET & SAVATIER, Enum. Pl. Jap. I. p. 2 (1874); DECAISNE in Nouv. Arch. Mus. Paris, sér. 2. IV. p. 207 t. 12 (1881); LAVALLÉE, Clemat. p. 83 (1884); J.D. HOOKER in CURTIS, Bot. Mag. ser. 3. XLI. t. 6810 (1885); SCHNEIDER, Handb. Laubholz. I. p. 281 f. 184 i, f. 185 h-1 (1906); REHDER & WILSON in SARGENT, Pl. Wils. I. p. 321 (in adnota) (1913); REHDER, Man. Trees & Shrubs p. 219 (1927).

Clematis tubulosa (non TURCZANINOW) MAXIMOWICZ in Mél. Biol. IX. p. 589 (1876) pro parte, quoad pl. ex Jap.; FRANCHET & SAVATIER, l.c. II. p. 262 (1879).

Clematis Kousabotan DECAISNE, l.c. p. 208 t. 13 (1881).

Clematis Lavalleyi DECAISNE, l.c. p. 209 t. 14 (1881); LAVALLÉE, Clemat. p. 83 (1884).

Clematis Lavalleyi DECAISNE var. *foliosa* DECAISNE, l.c. p. 210 t. 15 (1881).

Clematis Savatieri DECAISNE, l.c. p. 211 t. 16 (1881); LAVALLÉE, Clemat. p. 83 (1884).

Clematis stans SIEBOLD & ZUCCARINI var. *monoica* LAVALLÉE, Clemat. p. 83 (1884).

Clematis heracleifolia DE CANDOLLE γ . *stans* O. KUNTZE cum 1. *Decaisneana* O. KUNTZE 2. *Maximowicziana* O. KUNTZE & 3. *Savatieroides* O. KUNTZE in Verhandl. Bot. Ver. Bradenb. XXVI. p. 183 (1885); MATSUMURA, Ind. Pl. Jap. II. 2. p. 112 (1912); MAKINO & NEMOTO, Fl. Jap. ed. 1. p. 969 (1925), ed. 2. p. 324 (1931); NEMOTO, Fl. Jap. Suppl. p. 219 (1936).

Clematis heracleifolia DE CANDOLLE δ . *Lavalleyi* O. KUNTZE cum 1. *lanceolata* O. KUNTZE & 2. *Kousabotan* O. KUNTZE cum a. *monoica* O. KUNTZE & b. *affinis* O. KUNTZE, l.c. p. 183 (1885).

Clematis heracleifolia DE CANDOLLE ϵ . *Savatieri* O. KUNTZE, l.c. p. 184 (1885).

Clematis heracleifolia (non DE CANDOLLE) HUTH in Bull. Herb. Boiss. V. p. 1061 (1897); H. DE BOISSIEU in Bull. Herb. Boiss. VII. p. 581 (1899); MATSUMURA, l.c. p. 111 (1912).

Clematis heracleifolia DE CANDOLLE var. *stans* SIEBOLD & ZUCCARINI ex HUTH, l.c. p. 1062 (1897).

Clematis heracleifolia DE CANDOLLE var. *Lavalleyi* DECAISNE ex HUTH, l.c. p. 1062 (1897); MATSUMURA, l.c. p. 112 (1912); MAKINO & NEMOTO, l.c. ed. 1.

p. 969 (1925), ed. 2. p. 324 (1931); NEMOTO, l.c. p. 219 (1936).

Clematis heracleifolia DE CANDOLLE var. *Savatieri* DECAISNE ex HUTH, l. c. p. 1062 (1897); MATSUMURA, l.c. p. 112 (1912); MAKINO & NEMOTO, l.c. ed. 1. p. 969 (1925), ed. 2. p. 324 (1931); NEMOTO, l.c. p. 219 (1936).

Clematis stans SIEBOLD & ZUCCARINI var. *typica* SCHNEIDER, l.c. p. 281 (1906).

Clematis stans SIEBOLD & ZUCCARINI var. *kousabotan* SCHNEIDER, l.c. p. 281 f. 184 1 (1906).

Clematis stans SIEBOLD & ZUCCARINI var. *Lavallei* SCHNEIDER, l.c. p. 281 f. 185 d-e¹ (1906).

Clematis Maximowicziana DECAISNE ex REHDER & WILSON, l.c. p. 321 (in adnota) (1913) (pro syn.).

Nom. Jap. *Kusabotan*, *Turigane-sô*, *Kutuwagara*

Distr. Japonia (Hokkaidô, Honsyû, Sikoku & Kyûsyû).

Most common and well known species in Japan, marked by its numerous small flowers changing from blue to white in colour, much hairy stamens and the style which is always glabrous in its basal portion. The density of hairs on sepals and the length of flowers are considerably variable in the case of this species.

Clematis Kousabotan, *Clematis Lavallei* and *Clematis Savatieri*, named and illustrated by DECAISNE are better regarded as the individual forms because the shape of leaves and the mode of inflorescence are strongly changeable in the plants of this group.

4. *Clematis psilandra* KITAGAWA nom. nov. [Fig. 2]

Clematis heracleifolia DE CANDOLLE var. *taiwanica* T. SUZUKI & HOSOKAWA in Trans. Nat. Hist. Soc. Form. XXIII. p. 96 (1933); MASAMUNE, Short Fl. Form. p. 65 (1936); NEMOTO, Fl. Jap. Suppl. p. 219 (1936).

Caulis inferne adscendens superne erectus glaber teres sed costatus quam 30 cm. altior ramosus. Folia longe petiolata; petiolus præter basin dilatatum puberulam glaber ad 8 cm. longus; foliola coriacea supra viridia parcissime minuteque hirtella infra ± pallidiora elevato-nervata ad nervos tantum adpresse hirtella ceterum glaberrima, terminalia longiuscule—longe petiolu-

lata late ovata—fere orbicularia paulum 3-fida basi rotundata—truncata conspicue 3-nervia ad 8.5 cm. longa et 7.3 cm. lata lobis apice acuminatis vel obtusis grosse inæqualiter crenato-dentatis dentibus apice acuminato-mucronulatis petiolulo usque 4.5 cm. longo, lateralia oblique late ovata—deltoidea breviter petiolulata inæqualiter et leviter 3-fida basi rotundata—truncata lobis apice acuminatis vel obtusis inæqualiter grosse crenato-dentatis dentibus apice acuminato-mucronulatis usque ad 6.5 cm. longa et 5.5 cm. lata petiolulo ad 6 mm. longo. Inflorescentiæ axillares et terminales cymosæ pluri-floræ. Bracteæ dense imbricatæ triangulares fere integræ extus densissime adpresse sericeo-tomentosæ intus præter apicem glaberrimæ. Pedunculi longi—nulli densissime sericeo-tomentosi ad 2.5 cm longi. Pedicelli ut pedunculi sed breviores circa 10 mm. longi sub flore valde incrassati. Flores erecti—cernui. Sepala vix 15 mm. longa extus densissime adpresse sericeo-tomentosa intus glabra lineari-lanceolata inferiore conniventia superne recurvata, parte recurvatâ vix dilatâtâ. Stamina 6.2 mm. longa toto glaberrima; filamenta linearia versus basin paulum angustata 4 mm longa 0.8 mm. lata antheris fere æquilata complanata medio longitudine 1-nervia; antheræ oblongo-lineares 2.2 mm. longæ connectivo producto obtuso. Ovarium dense pilosum. Stylus tomentosus plumosus. Stigma nudum paulum arcuatum apicem versus incrassato-clavatum. Achænia matura ignota.

Nom. Jap. *Sima-kusabotan* (T. SUZUKI & HOSOKAWA 1933)

Distr. Formosa (Takao).

Formosa had been far beyond the range of the group *Tubulosæ*, until Mr. T. HOSOKAWA discovered the present plant in 1932 and published it under the name *Clematis heracleifolia* var. *taiwanica* with his friend Mr. T. SUZUKI. At a glance, it recalls *Clematis stans* and *Clematis heracleifolia*, but is well distinguished from the former by its glabrous stamens, filaments being longer than anthers, and wholly plumose styles, and from the latter chiefly by its smaller dense silky sepals and quite glabrous stamens. I examined only one duplicate specimen lent me by Mr. T. SUZUKI, so I can not illustrate how much would vary the shape and texture of leaves, the form of inflorescence and other less important characteristics of this plant.

I have given a new name to this Formosan species, because the name *Cle-*

matis taiwanica is confusing with *Clematis taiwaniana* HAYATA.

5. ***Clematis heracleifolia*** DE CANDOLLE, Syst. I. p. 138 (ut *heracleæfolia*) (1818): Prodr. I. p. 3 (1824); FORBES & HEMSLEY in Journ. Linn. Soc. XXIII. p. 4 (1886) excl. syn. *Clematis tubulosa*; FINET & GAGNEPAIN in Bull. Soc. Bot. France L. p. 545 (1903) pro parte; REHDER & WILSON in SARGENT, Pl. Wils. I. p. 320 (1913) pro parte; REHDER, Man. Trees & Shrubs p. 219 (1927) excl. syn.; KITAGAWA in Rep. First. Sci. Exped. Manch. sect. 4. IV. p. 17 (1936).

Clematis tubulosa (non TURCZANINOW) HANCE in Journ. Linn. Soc. XIII. p. 75 (1872); ? LINDLY in Journ. Hort. Soc. III. p. 78 (1848); MAXIMOWICZ in Mém. Biol. IX. p. 589 (1876) pro parte; DECAISNE in Nouv. Arch. Mus. Paris sér. 2. IV. [p. 204 t. 9 (1881)]; LAVALLÉE, Clemat. p. 82 (1884); SCHNEIDER, Handb. Laubholz. I. p. 281 f. 184 h, f. 185 a-c (1906).

Clematis Hookeri DECAISNE, l.c. p. 206. t. 11 (1881).

Clematis tubulosa TURCZANINOW var. *Hookeri* J.D. HOOKER in CURTIS, Bot. Mag. ser. 3. XLI. t. 6801 (1885).

Clematis heracleifolia DE CANDOLLE α . *normalis* O. KUNTZE cum 1. *tubulosa* O. KUNTZE (excl. syn.) & 2. *maxima* O. KUNTZE in Verhandl. Bot. Ver. Bra-der. XXVI. p. 183 (1885).

Clematis heracleifolia DE CANDOLLE var. *Hookeri* MAKINO in Tokyo Bot. Mag. XXI. p. 87 (1907) excl. specim. et syn. *Clematis heracleifolia* var. *speciosa*.

Nom. Jap. *Tô-kusabotan* (M. KITAGAWA 1936)

Distr. China bor. & Manshuria austr.

var. ***ichangensis*** REHDER & WILSON, l.c. p. 321 (1913); REHDER, l.c. p. 219 (1927).

Distr. China (Hu-pei & Shen-si)

In North China and Manchuria two kinds of *Clematis* of this subsection are found which are readily distinguishable from each other by the following characters :—

(A) Caulis potius gracilis sæpe basi adscendens. Foliola terminalia deltoideo-

orbicularia basi vulgo rotundata—truncata. Pedicelli longi graciles tenues densiuscule adpresse tomentelli. Flores cernui cylindrici, sepalis ad 2.0 cm. longis superne tantum recurvatis extus subdense—dense adpresse subsericeo-tomentosis parte recurvatâ vix dilatâtâ. Filamenta 1.0—1.5 mm. lata quam antheræ latiora æquilonga—longiora.

- (B) Caulis robustus strictus. Foliola terminalia sæpissime ellipticorhombea basi cuneata sed rarius usque latissime deltoidea basi rotundata—subcordata. Pedicelli sæpe brevissimi—breves raro longiusculi crassi densissime adpresse sericeo-tomentosi. Flores erecti vel patentés sed non cernui subhypocrateriformes, sepalis ad 2.8 cm. longis supra medium recurvatis extus densissime adpresse sericeo-tomentosis parte recurvatâ valde dilatâtâ. Filamenta 0.7 mm. lata quam antheræ vix angustiora et manifeste breviora.

In 1818, A.P. DE CANDOLLE published the name *Clematis heracleifolia* in his 'Regni Vegetabilis Systema Naturale I,' based upon the specimen collected between Peking and Jehol by Sir GEORGE STAUNTON in 1793 who had been sent by the King of Britain to China as the secretary of the embassy and served acting minister in the absence of the ambassador. STAUNTON collected several plants in his sojourn in China and *Clematis heracleifolia* is the one. DE CANDOLLE's diagnosis reads as follows :—

"12. *Clematis heracleæfolia*.

- C. caule scandente, foliis pinnati-sectis, segmentis ovato-lanceolatis late incisodentatis, ultimis trilobis, pedunculis erectis ramisque cinereo-velutinis.
 Hab. in China inter Peking et Jehol. Georg. Staunton 5 (v. s. sp. in h. Banks.)
 Rami teretes, sulcati, velutini, cinerascens; folia petiolis longis subtus striatis, superiora gerentia segmenta 3 glabra coriacea siccitate virenti-subcinerea, medio longe petiolato trilobo, lateralibus duobus sessilibus mediisque lobis late incisodentibus, irregularibus grossis mucronatis; inter flores sita, aliis similia, sed brevius petiolata, summa oblonga; pedunculi axillares, erecti, cinereo-velutini paniculati, pedicellis superioribus umbellatis; bracteæ oblongo-lineares, pedicellis breviores; alabastra oblonga, apice pyramidata, 6-8 lin. longa; sepalia 4, fere linearia, extus subvelutina, staminibus paulo longiora; stamina glabra; antheræ filamentorum longitudine; ovaria 15-20 in caudas barbato-plumosas breves desinentia."

This description is not sufficient to judge accurately the plant. So the name

had once been abandoned by later botanists as DECAISNE, MAXIMOWICZ, C. K. SCHNEIDER, etc.

The plants of (A)-type was first illustrated by DECAISNE in 1881 under the names *Clematis tubulosa* and *Clematis Hookeri* DECAISNE, and soon later by J. D. HOOKER under the name *Clematis tubulosa* var. *Hookeri* HOOKER fil. in CURTIS, Botanical Magazine t. 6801. The plant of (B)-type was named *Clematis Davidiana* by DECAISNE in 1867.

In 1886, FORBES & HEMSLEY published the first part of 'Index Floræ Sinensis' and stated that DE CANDOLLE'S *Clematis heracleifolia* or the STAUNTON'S type preserved in the herbarium of Kew, is a plant of (A)-type. They put *Clematis tubulosa* and *Clematis Hookeri* in the synonym of *Clematis heracleifolia* and affixed the (B)-type or *Clematis Davidiana* to it as a variety.

There remains, however, one more question of whether *Clematis tubulosa* is really the same with *Clematis heracleifolia* or not. The description is:—

“Cl.? *tubulosa* TURCZANINOW—Dioica subvelutina; foliis petiolatis trisectis, segmentis rhombis, acuminatis inæquilateris, glabris grosse serratis, serraturis mucronatis; corymbis axillaribus sessilib. aut breviter pedunculatis multifloris; sepalis linearib. ad medium concretis, extus velutinis; antheris filamenta glabriuscula duplo superantib. Habitat in China boreali.”

If 'foliis...segmentis rhombis...', 'corymbis axillaribus sessilib. aut breviter pedunculatis...', 'sepalis...ad medium concretis,...' and 'antheris filamenta glabriuscula duplo superantib.' are the reality, this species must be a plant of (B)-type and can not be regarded as *Clematis heracleifolia*. *Clematis tubulosa* is consequently the proper name of (B)-type and *Clematis Davidiana* is its synonym. J. D. HOOKER was alone right on these matters and he was the first author who illustrated *Clematis tubulosa* properly.

The systematic position of var. *ichangensis* is dubious for me, as I have never examined its authentic specimens. It is said to be more densely pubescent plant.

6. ***Clematis tubulosa*** TURCZANINOW in Bull. Soc. Nat. Mosc. X. 7. p. 148 (ut *Clematis ? tubulosa*) (1837); WALPERS, Repert. I. p. 5 (1842); J. D. HOOKER

in CURTIS, Bot. Mag. LXXII. t. 4269 (1846); MAXIMOWICZ in Mél. Biol. IX. p. 589 (1876) pro parte.

Clematis Davidiana DECAISNE ex VERLOT in Rev. Hort. (1867) p. 90 cum icon.; DECAISNE in Nouv. Arch. Mus. Pacis sér. 2 IV. p. 205 (1881); LAVALLÉE, Clemat. p. 82 (1884); SCHNEIDER, Handb. Laubholzk. p. 281 f. 184 k, f. 185 f-g (1906); KITAGAWA in Rep. First Sci. Exped. Manch. sect. 4. IV. p. 17 (1936).

Clematis tubulosa TURZANINOW var. *Davidiana* FRANCHET, Pl. David. I. p. 13 (1882).

Clematis heracleifolia DE CANDOLLE α . *normalis* O. KUNTZE l. *tubulosa* O. KUNTZE in Verhandl. Bot. Ver. Bradenb. XXVI. p. 183 (1883) excl. diagn.

Clematis heracleifolia DE CANDOLLE var. *Davidiana* O. KUNTZE, l. c. p. 183 (1885); FORBES & HEMSLEY in Journ. Linn. Soc. XXIII. p. 4 (1886).

Clematis heracleifolia (non DE CANDOLLE) FINET & GAGNEPAIN in Bull. Soc. Bot. France L. p. 545 (1903) pro parte; KOMAROV in Act. Hort. Petrop. XXII. p. 285 (1903) [Fl. Mansh. II. (1904)]; REHDER & WILSON in SARGENT, Pl. Wils. I. p. 320 (1913) pro parte; LOESENER, Prodr. Fl. Tsingt. p. 122 (1919).

Clematis heracleifolia DE CANDOLLE var. *tubulosa* TURZANINOW ex NAKAI in Journ. Coll. Sci. Imp. Univ. Tokyo. XXVI. 1. p. 12 (1909) excl. specim. et syn. nonn.

Clematis heracleifolia DE CANDOLLE var. *Davidiana* DECAISNE ex NAKAI in Journ. Coll. Sci. Imp. Univ. Tokyo. XXVI. 1. p. 12 (1909).

Clematis heracleifolia DE CANDOLLE var. *Davidiana* FRANCHET ex YABE, Enum. Pl. Manch. p. 52 (1912); Prel. Rep. Fl. Tsing-t. Reg. p. 53 (1919).

Clematis Davidiana VERLOT ex REHDER & WILSON, l. c. p. 321 (1913) (pro syn.).

Clematis heracleifolia DE CANDOLLE var. *Davidiana* HEMSLEY ex REHDER & WILSON, l. c. p. 321 (1913) (pro syn.); REHDER, Man. Trees & Shrubs p. 219 (1927).

Clematis Davidiana SCHNEIDER ex NAKAI, Tyôsen Syokubutu p. 38 cum f. (1914); MORI, Enum. Pl. Cor. p. 155 (1922).

Nom. Jap. *Ruri-kusabotan* (T. NAKAI 1914), *Oo-kusabotan* (Y. YABE 1912)
Distr. China bor., Manshuria & Korea.

This is most common in China and Manchuria and the most beautiful species. It is characterized by its thick large leaflets and strongly spreading broad sepals. Flowers are usually upright never drooping.

As to the nomenclature of this species, see under *Clematis heracleifolia*.

7. ***Clematis tsugetorum*** OHWI in Act. Phytotax. Geobot. II. p. 153 (1933); MASAMUNE, Short Fl. Form. p. 65 (1936); NEMOTO, Fl. Jap. Suppl. p. 221 (1936).

Nom. Jap. *Takane-kusabotan* (J. OHWI 1933)

Distr. Formosa (Taihoku & Taityû).

The present species is the smallest member of this group; its leaflets measuring only 3 cm. in length. The flowers are usually solitary at the axils of leaves and at the top of stem. The sepals are densely covered by white rather

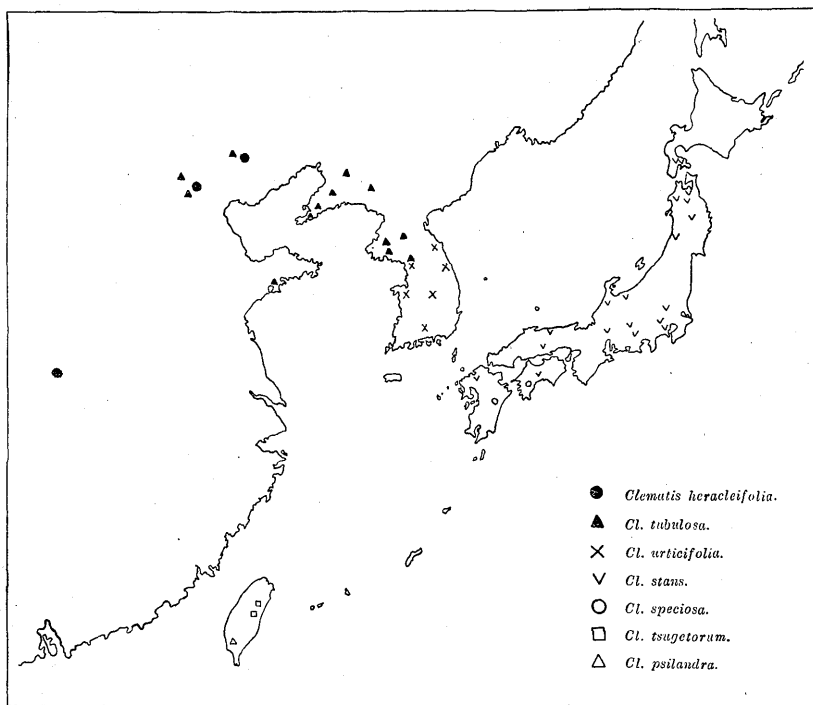


Fig. 3. Map showing the distribution of *Clematis heracleifolia* and its allies.

villous hairs outside and much recurved in the upper half.

This is found only in the alpine region of North Formosa.

HYBRIDS

1. × **Clematis Takedana** MAKINO in Tokyo Bot. Mag. XXI, p. 87 (1907) is a natural hybrid between *Clematis apiifolia* DE CANDOLLE and *Clematis stans* SIEBOLD & ZUCCARINI.

2. × **Clematis Jouiniana** SCHNEIDER in Wien. ill. Gartztg. (1904) p. 17. is a garden hybrid between *Clematis tubulosa* TURCZANINOW and *Clematis vitalba* LINNÆUS.

I here express my best thanks to Prof. NAKAI for his kind guidance in the course of this study. Thanks are also due to Prof. KOIDZUMI of Kyoto Imperial University and Mr. T. SUZUKI of Taihoku Imperial University who lent me the specimens. I am also indebted to Messrs. K. HISAUTI and T. MOMIYAMA for their helps to my study.

摘 要

くさぼたん類ハぼたんづる屬 (*Clematis*) ノ中デモ可ナリ特殊ナ形態ヲ持ツター一群デア
ツテ筆者ノ今回ノ再檢ニ依ツテ次ノ7種ヲ確認シ得タ。

1. **おほくさぼたん** (*Clematis speciosa* MAKINO)

日本四國及ビ九州産。極メテ特徴ノアル良イ種デア。コレヲ支那、滿洲、朝鮮ニ分
布スル *Clematis tubulosa* TURCZANINOW 即チるりくさぼたんト同一視スルノハ不適當デ
アル。

2. **ちくさぼたん** (つぼくさぼたん) (新種) (*Clematis urticifolia* NAKAI)

從來 *Clematis tubulosa* TURCZANINOW ニ當テラレテキタ南鮮分子デアツテ、壺形ノ萼
ガ特ニ著シイ。通常花色ハ莖色デアガ稀ニ美シイ薔薇色乃至肉色ヲ呈スル一品ガアル。
コレヲペニハなたちくさぼたん(うすいろつぼくさぼたん) (*Clematis urticifolia* f. *rosea*
NAKAI) ト云フ。

3. **くさぼたん** (*Clematis stans* SIEBOLD & ZUCCARINI)

日本産。最モ普通ノ種デ種々ノ學名ヲ付ケラレタガ結局1種ニ纏メラレルベキ性質ノ
モノデア。

4. **しまくさぼたん** (新種) (*Clematis psilandra* KITAGAWA)

臺灣南部ノ産。鈴木時夫氏及ビ細川隆英氏ニ依リ初メ *Clematis heracleifolia* DE CAN-

DOLLE var. *taiwanica* ト命名サレタモノ。獨立ノ種ト認メ新名ヲ付シタ。

5. **たうくさぼたん** (*Clematis heracleifolia* DE CANDOLLE)

北支那及ビ南滿ノ産。コノ種ノ異名中ニ *Clematis tubulosa* TURCZANINOW ヲ入レルノハヨクナイ。支那中部ニハ var. *ichangensis* REHDER & WILSON ナル變種ガアルガ原標本ヲ見ナイノデソノ確實ナ分類學的位置ヲ云々スルコトガ出來ナイノハ遺憾デアル。

6. **るりくさぼたん** (*Clematis tubulosa* TURCZANINOW)

北支那、滿洲及ビ朝鮮ノ産。從來 *Clematis heracleifolia* var. *Davidiana* 又ハ *Clematis Davidiana* DECAISNE ノ名デ呼バレテ來タモノ。ソレヨリ早イ TURCZANINOW 氏ノ名ヲ採用シタ。

7. **たかねくさぼたん** (*Clematis tsugetorum* OHWI)

臺灣北部ノ産。可憐ナ一種デ丈低ク葉モ小サイ。花ハ葉腋又ハ莖頂ニ通常單生スル。

Studies on Fresh-water Diatoms of Western Japan (III)*

By

Yasumi IWAHASHI

岩橋八洲民： 西部日本ノ淡水産硅藻 (其三)

X. *Fragilaria* (LYNGB.) AG.

There are six species and five varieties belonging to *Fragilaria* found from the fresh water of Japan. They have been reported by H. HATTORI, H. NAKANO, FR. MEISTER and FR. HUSTEDT, as follows :

<i>Fragilaria capucina</i> DESM.	<i>F. lapponica</i> GRUN.
<i>F. crotonensis</i> KITT.	<i>F. construens</i>
var. <i>media</i> SCHR. et VOGL.	var. <i>binodis</i> GRUN.
var. <i>curta</i> SCHR. et VOGL.	var. <i>genuina</i> GRUN.
<i>F. virescens</i> RALFS	<i>F. intermedia</i> GRUN.
<i>F. parasitica</i> SM.	<i>F. pinnata</i> var. <i>lancettula</i> HUST.

H. HATTORI already has reported that *F. capucina* and *F. crotonensis* occurred in water from the water mains, in Kobe and Nagasaki. But, unfortu-

* 本研究ニ關スル材料蒐集ニ當ツテ日本學術振興會カラノ援助ニ負フ所ガ大デアル。コ
コニ深ク感謝ノ意ヲ表スル。