

Toshio HAMAYA*: **Some taxonomical notes on Thymelaeaceae
from Japan and the adjacent regions (2)**

浜谷稔夫*: ジンチョウゲ科雑記 (2)

II. On *Daphne* (sect. *Genkwa* Benth. et Hook. f.) *Genkwa* Sieb. et Zucc.

This species blooms ordinarily from Mar. to Apr., before leaves develop. Out of terminal or axillary buds, short racemes or spikes grow at first with a little long peduncles in early spring. During or after the flowering period, a few pairs of leaves—some of which are scaly—appear below the peduncle, not growing so large. A new shoot then develops out of an (rarely both) axile of the most upper pair of the opposite leaves. As the result of shoot-elongation, the remainder of the peduncle is left like lateral, as has been observed in *Daphne* sect. *Mezereum*, though in the latter the peduncle is absent and pedicels attach immediately to a shoot. The author supposes that this character made Endlicher, Spach and Meissner to include this section into sect. *Mezereum*.

The growing habit often becomes irregular too in this species. For example, the author observed a specimen with flowers and unmaturing fruits in Jan. In other specimens (*D. Genkwa* var. *Fortuni* Fr.: Isls. Seki (席島) and Cho (椒島) in the Yellow Sea, coll. T. Nakai, Jul. 31 and Aug. 1, 1929), each vigorous shoot with an old peduncle at its base has another blooming inflorescence near its top, which is a phenomenon of reblooming. The phyllotaxis being normally opposite, but changes often to alternate partially or completely on a same plant. Specimens from the Shantung Peninsula seem to involve such plants with alternate leaves more than from other places.

Moreover, the size and shape of leaves and flowers (sometimes shape of calyx-tubes) are very variable. But these variations are obviously continuous, and show the characters attributed to *Daphne Fortuni* Lindl. within them, as Nakai (Fl. Sylv. Kor. 17: 34; 1928) and Rehder (Pl. Wils. 2: 539; 1916) pointed out previously.

A figure of a flower of *D. Fortuni* drawn by Fortune (Journ. Hort. Soc. Lond. 2: tab. 1; 1847) shows such a scale-like disc as in the original description notes. But in all flowers observed by the present author there were cup-shaped discs only. The figure also shows an ovary having hairs on its upper part, though Lindley described it as smooth. Except these ambiguous points, the author believes that

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D. Fortuni has been described due to merely vigorous plants having alternate and large leaves, large flowers and a little less hairy ovaries.

The specimens from Taitung of Formosa bearing Hayata's manuscript "*Daphne taitoensis*—near *D. Genkwa* S. et Z., but differs from it in the much acuter leaves with smaller leaves," have pubescent discs in their flowers which have never been observed in almost all other specimens of *D. Genkwa*. As the typical *D. Genkwa* was likewise found in Taitung district, the author thinks these specimens are nothing but a form. Such characters of the leaves as Hayata described are not of taxonomical value by the above-mentioned reasons. The hairiness of the discs also is never seen in the other species of this family at least from the regions under consideration.

Daphne Genkwa Sieb. et Zucc., Fl. Jap. 1: 137; 1840.

Distr. China: Shantung, Honan, Shensi, Kiangsu, Anhwei, Chekiang, Kiangsi, Hupeh, Hunan, Fukien; Southern Corea; Formosa; Japan (cult.).

f. *taitoensis* (Hayata) Hamaya, form. nov.—*D. taitoensis* Hayata in sched.

Discus hypogynus annularis pubescens vel ciliatus.

Herb. Formosa: Taitung (T.

Soma, Mar. 1913—type in Herb. Fac. Sci. Univ. Tokyo; G. Nakahara, Jan. 1906); two herb. without any record but supposed obviously from Formosa (S*); (E. Matuda, Aug. 1919) (A*).

III. On ***Diplomorpha*** Meissner.

In 1928 (Nakai, l. c. 38) and 1937 (Journ. Jap. Bot. 13; 881), Nakai reestablished *Diplomorpha* as a distinct genus, adopting systems of Meissner and others. The characteristics by which he divided the genus from *Wikstroemia* were found in inflorescences, the per-

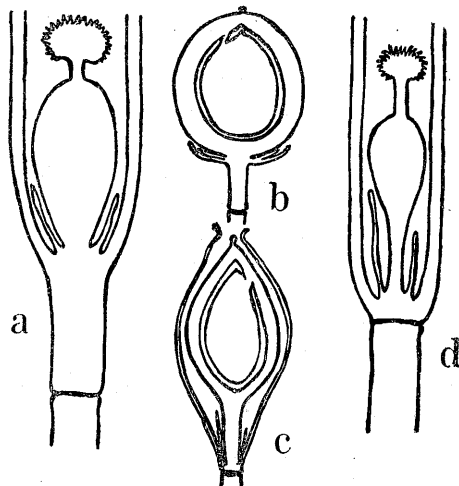


Fig. 2. The relative position between perianths and articulations of pedicels in flowers (a, d) and in fruits (b, c); a and b for *Wikstroemia*, c and d for *Diplomorpha*.

* S: Herbarium of Faculty of Science University of Tokyo.

A: that of Institute of Forest Botany, both of

sisting duration of perianths, fruits and the shape of discs.

Among those characteristics only the fruits and somewhat the perianths can divide these two genera without any intermediate form. The others have more or less transitional forms; especially the shape of the discs has only the value for sections or sometimes for species, though old taxonomists (e. g. Gilg in Engler, Pflanzenfam.) regarded it as a generic character in *Daphniae* and *Wikstroemiinae*. The transition of the shape of the discs can be seen between *Wikstroemia* and *Daphne*, too, as Rehder noted already in 1916 (l. c.).

In this study, the author has been able to recognize some important characteristics in *Diplomorpha*.

a) The position of the articulation of a pedicel: In this genus, a calyx-tube articulates immediately with a pedicel at its base. And as an ovary has usually an apparent stipe, a marcescent perianth remains at the base of long or short stipe when it matures. In *Wikstroemia*, on the other hand, the calyx-tube articulates more or less downward from its base. And as the ovary usually has no apparent stipe, fragments of the perianth remain attached immediately to the base of the fruit.

b) The branching habit: The branching habit in *Wikstroemia* is similar to that of *Daphne* sect. *Genkwa* or sect. *Mezereum*. For example, in *W. retusa*, leaves fall from Jun. to Jul., and short racemes or spikes come out terminally or laterally from Jul. to Aug. Then new shoots develop usually from leaf-axiles near to the inflorescences. However this habit shows similar irregularity to sect. *Mezereum*, and this species is sometimes evergreen, the blooming period being long. In other species, terminal inflorescences are observed and new shoots grow out from their base in the next season. The peduncles in this genus are thus retained partially or completely, for a long time.

In *Diplomorpha*, the leaves are entirely annual. After defoliation, the inflorescences and the upper parts of shoots become generally withered, and then fall leaving several lower nodes by the next flower season at latest, as one observes typically in *Diplomorpha Ganpi* and *D. trichotoma*. In this next year new shoots develop from the lower or middle axiles, and rudiments of the old shoots become like long naked stalks or short rigid needles.

Gilg (l. c.) regarded such sympodial growth as a general characteristic in *Thymelaeaceae*. And the author thinks that this extremity in *Diplomorpha* is worth to be a criterion of the intergeneric taxonomy.

i. Group of *D. trichotoma*.

Member of this group have usually decussate leaves and glabrous flowers. Perianths, a little caducous. Discs are of comparatively simple scale-shape.

D. trichotoma, *D. albiflora* and *D. mononectaria* belong to this.

1. **Diplomorpha trichotoma** Nakai, l.c. ; 1928.

f. *pilosa* Hamaya, form. nov.

Folia partim alterna pilosa. Inflorescenti ramique pilosi.

Herb. Prov. Hyuga: Masaki (K. Maebara, Aug. 1935—type); Prov. Higo: Aida (K. Maebara, Jul. 31, 1927) (A and S).

The author went to Higo to search this form in Oct. 1953. Mr. K. Maebara, the first collector of it, kindly guided him, but after all they could not find any living plant except a young one with slight hairs.

Almost all parts of this form except old branches and stems are hairy and the phyllotaxis becomes sometime partially alternate, but the other important characters are those of the type. var. *ohsumiensis* (Hatusima) Hamaya, comb. nov.—*Wikstroemia ohsumiensis* Hatusima in Journ. Jap. Bot. 29: 232; 1954.

Herb. Prov. Higo: Aida (K. Maebara, Aug. 1942) (A).

In 1953, they searched this plant again, as the author had seen a specimen which had made him imagine a hybrid between *D. trichotoma* and *D. Ganpi* in Maebara's collection, but all in vain as before. Therefore he had been wondering whether it was a hybrid or not, until he knew *W. ohsumiensis*. According to its original description, he interprets *W. ohsumiensis* is different from the type only by the entirely alternate leaves and the hairiness. The size and shape of leaves and the branching habit are not different. On the other hand, Maebara's specimen has smaller (max. 25×11 mm), much acuter and entirely alternate (but not so typically spiral as in *D. Ganpi*) leaves, and very erect slender dense shoots. And as it also has a dead shoot of the last year, it looks somewhat like *D. Ganpi* at a glance. But such habit is observed in *D. trichotoma* though rarely, and the branching of the upper parts of the shoots are similar to that of *D. trichotoma*. The size of flowers and somewhat the shape of discs are those of the type. Consequently, it is reasonable to regard this Maebara's plant as the same with *W. ohsumiensis*.

In the shape of cross sections of midribs too, as shown in fig. 3, *D. trichotoma* and *D. Ganpi* are very different, and in this character this Maebara's specimen belongs to the former. Furthermore, in *D. Ganpi*, the cuticle on upper surface of a petiole and the base of a midrib has microscopically conspicuous furrows parallel

with the axis of the midrib. In *D. trichotoma*, on the contrary, the furrows are inconspicuous. This specimen is near to the latter in this character too. Such character may be strongly affected by environmental influences, and seems to be

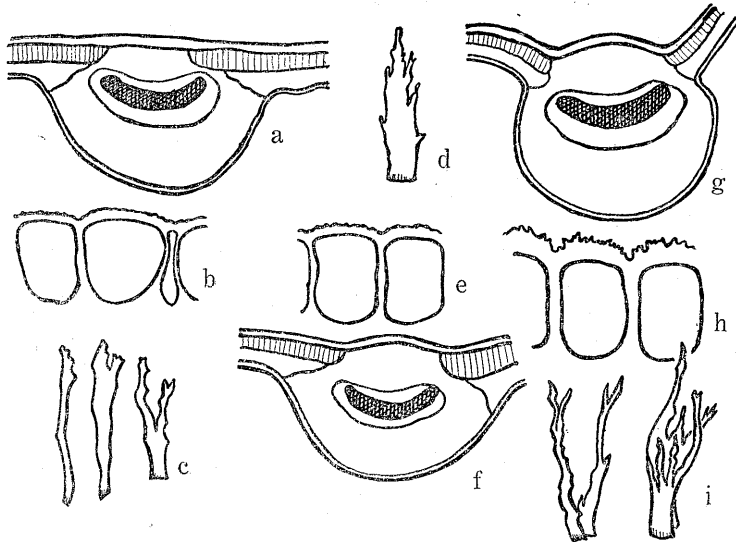


Fig. 3. The shape of cross sections of midribs (a, f, g; $\times 25$), the furrows of the Cuticle of the upper surface of petioles or midribs cut transversely (b, e, h; $\times 500$) and some examples of discs (c, d, i; $\times 10$). From the left column to the right: *D. trichotoma*, *D. trichotoma* var. *ohsumiensis* and *D. Ganpi*, respectively.

conspicuous in hairful and light-loving members of the group iii, especially in *D. Ganpi* and *D. sikokiana*. But the author thinks that there can be set some taxonomical value upon it so far as it concerns to these two species and a variety.

Considering these characteristics and the occurrence of these forms in a narrow district, one can arrange them continuously in sequence of *D. trichotoma*, f. *pilosa*, *W. ohsumiensis* and Maebara's specimen. And as much larger gap can be recognized between Maebara's specimen and *D. Ganpi*, the author thinks it better to reduce *W. ohsumiensis* to a variety of *D. trichotoma*. ii. Group of *D. Chamaedaphne*.

This group is near to the preceding, but differs from it by silky flowers, sometime by pubescent leaves.

D. Chamaedaphne belongs to this. iii. Group of *D. Ganpi*.

Young branches are pubescent. Leaves, usually alternate and more or less pubescent. Flowers pubescent. Perianths persistent, and especially in *D. sikokiana*

and *G. Ganpi* they fall with fruits. Discs, usually long and profoundly divided or simple needle-shaped, rarely scaly.

D. sikokiana, *D. Ganpi*, *D. canescens*, *D. phymatoglossa*, *D. pauciflora* and *D. yakushimensis* belong to this.

2. **Diplomorpha Ganpi** Nakai, l. c. : 883; 1937—*D. lasiocarpa* (Hayata) Nakai, l. c. ; 1937, nom. nud.

Distr. Central and southern Japan, southwards from Kanto district and Pref. Fukui; Formosa (new distr.).

A specimen (Formosa: Aampai-chin 安平鎮, coll. T. Soma, Jul. 1910) with Hayata's manuscript is very incomplete. At a glance, it has more densely arranged flowers than *D. Ganpi*, but is to be included into the variation of the latter. The author has been doubting the absence of *D. Ganpi* in Formosa although there was no record of it, because it grows in the Amami Islands and because *D. canescens* from China is very near to *D. Ganpi*. He is also afraid of that *D. lasiocarpa* may be a form of *D. canescens*, when it is studied with the latter.

3. ***D. pauciflora*, *D. yakushimensis* and *D. phymatoglossa*.**

Between these species there can be observed the next differences.

The length of calyx-tubes is in *D. pauciflora* 5 mm, in *D. yakushimensis* 7~9 mm and in *D. phymatoglossa* 5~6 mm. Inflorescences in *D. phymatoglossa* are similar to *D. Ganpi* and differ from the others. Leaves in *D. yakushimensis* have always tailing tips especially on the upper part of shoots, but in the others the tailing is unseen entirely or almost entirely. The arrangement of leaves in *D. phymatoglossa* is spiral as in *D. Ganpi*, but the others usually distichous with twisting of petioles and partially of shoots.

Consequently whether the former two are to be treated as different species or not, belongs to personal opinion. With concern to *D. phymatoglossa*, however, the author expects more accurate research at the type locality.

II. フジモドキの分枝法はオニシバリ節に似ているが、春開花後花梗下部の若干対の葉の最上葉腋から今年の枝を出し、且冬期無葉の点で稍々異なる。又同じく種々の異常習性を示す。中国・台湾・南鮮に産し、葉序、葉・花の大きさと形等の変異は大きく、*D. Fortuni* はその原記載と図に若干疑問を残す外は明らかに本種の変異内に入る。

タイトウフジモドキ (新品種) は台湾台東地区にのみ知られ、多少不規則な盃状の花盤に子房に見る如き毛を生じている。この性質はフジモドキには全く見られない。又本科としても珍らしい。

III. ガンビ属 *Diplomorpha* は中井先生 (1937) によつて指摘されたアオガンビ属 *Wikstroemia* との区別点の中の果実及び花被の宿存性に関する差違と今回報告する性質によつて充分独立の属として扱はう。

a) 小花梗の関節の位置: *Diplomorpha* は萼筒が直ちに小花梗と関節する。従つて果実の柄の基部に萼の残片をつける。*Wikstroemia* では萼筒底より下つて関節するので、萼残片は果実底につく。

b) 分枝法: *Diplomorpha* では本年枝は必ず上半又は大半が花後枯れ落ちるので跡が棒状又は針状に尖る。*Wikstroemia* では前年枝に頂生又は腋生する花序の残部が2~3年以上宿存する。この点では *Wikstroemia* は *Diplomorpha* より *Daphne* に近い。

i. キガンビ類

通常葉は対生、枝・葉・萼筒は無毛、花盤は単一又は浅裂する鱗片状乃至鋭頭舌状、萼筒は幾分早落性。

キガンビ、ミヤマガンビ、ヒメガンビ。

1. ウスゲキガンビ (新品種) は肥後・人吉産で幹・老枝を除く各部に白疎毛をおびる。時に或る本年枝は大部分互生葉となるが、母種にも時にこの傾向の見られることがある。

タカクマキガンビは更に全株互生葉であるというのが他の点はキガンビと変らないらしい。同じく人吉産の1標本は葉がより小さく鋭頭で互生、本年枝は細く多数出る。又昨年の枝が1本枯れてコガンビ状に残っている (キガンビで稀に見ること)。しかし葉はコガンビのような螺旋を示さず、花序、花の大きさ、葉中肋の横断面及びクチクラの溝は全くキガンビに似る。母種・ウスゲキガンビ・タカクマキガンビ・この標本の順に互に極めて近く、コガンビとの間の差は大きい。従つて後二者をキガンビの変種とし、タカクマキガンビをこれにあてる。

ii. *Dipl. Chamaedaphne* 類

キガンビ類に近いが花に密毛を生じ、莢も多少有毛であるから区別できる。

Dipl. Chamaedaphne.

iii. コガンビ類

各部有毛、葉は通常互生、花被は宿存性、花盤は通常広針状に多岐深裂する。

ガンビ、コガンビ、*Dipl. canescens*、オオシマガンビ、サクラガンビ、シマサクラガンビ。

2. タイワンコガンビ (中井) のタイプは花序が稍々密でその上端が一平面に近いがコガンビの幼花序に似ている。一応コガンビの台湾新記録とする。中国産 *Dipl. canescens* もコガンビに非常に似ていて区別ははつきりしない。

3. サクラガンビ、シマサクラガンビ、オオシマガンビ、今まで余り注目されなかつた区別点として、萼筒長が夫々5.7~9.5~6mmであること。オオシマガンビのみ

コガンビに似た花序をもつこと、シマザクラガンビのみ先端尾状の葉を必ず（特に枝端の葉で）もつが他は鋭頭でも尾状とはならないこと、オオシマガンビはコガンビ状の螺旋葉序だが他の二つは外観上二列生的になること等の性質があげられる。

終りに御指導を仰いだ猪熊教授、倉田助教授、又腊葉・現地調査・文献等で種々御配慮にあづかつた東大理学部・科学博物館の両腊葉庫、館脇博士、前原勘次郎氏、原博士、天野鉄夫氏（琉球）、守屋忠之氏（秩父）の諸方に心から御礼申し上げる。

○マツバラシテ秩父に産す (永野 巖) Iwao NAGANO: *Psilotum nudum* Beauv. collected at Kuroya in Chichibu.

関東地方におけるマツバラシテの産地は非常に少く正宗敬博士によれば（植研 27 巻 3 号）静岡県下各地、栃木県塩谷郡船生村佐貴、千葉県鑑山が知られているのみである。私は 1955 年 7 月及び 8 月に本種を埼玉県秩父市黒谷瑞岩寺の硅質礫岩よりなる岩壁標高約 220 m）から採集したので新産地として報告する。この岩壁は高さ約 40 m 巾約 150 m で、秩父地方としては比較的石灰岩壁に良く着生するキンモウワラビ、クモノスシダ、ツルデンタ、ヒメイトラノオなどのシダ類や *Anomodon giraldii*, *A. decurrens*, *Homalothecium tokiodense*, *H. laevisetum*, *Hyophila propagulifera*, *Molendia sendtneriana* などの蘚類がみられる。またこの硅質礫岩の構成岩塊の大部分は砂状の石英粒であり（他に礫質の角岩、粘板岩を若干含む）化石や方解石の破片は含まれていないが石灰質の膠結物質を多量に含有しているものと思われる。即ち岩壁の表層には再結晶した炭酸カルシウムが厚く沈積し、70-95% の CaCO_3 を検出することが出来た。恐らく岩壁上面に降つた雨水が、透過水性をもつこの岩壁内部（全部硅質礫岩からできている）の膠結物質を溶解し、蒸発に際して岩壁の表層に沈積させたものと考えられる。このことは特に風化、分解の促進される陽向地の絶壁表層において顕著であり、樹陰においては少ない傾向がある。マツバラシテはこのような非常に石灰質な良く陽の当る岩壁の割目に沿つて下垂していた。（秩父自然科学博物館）

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33	11	will	will be
"	12	hereaftear	hereafter
35	27	Adj 1.	Adj.
36	31-32	to to	to
37	6	2: 180 (1911)	17: 45 (1928)
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