Nomenclature of *Acer pictum* Thunberg ex Murray and its Infraspecific Taxa (Aceraceae)

Hiroyoshi OHASHI

Biological Institute, Faculty of Science, Tohoku University,
Sendai, 980 JAPAN

(Received on July 3, 1993)

*Acer pictum* Thunberg ex Murray is the oldest and correct name of a maple usually known as *Acer mono* Maximowicz. Nomenclatural relations between *A. pictum* and *A. septemlobum* Thunberg ex Murray are clarified. The correct name, important synonyms and bibliography for *A. pictum* and its distinct infraspecific taxa of *A. pictum* are enumerated including the following 16 new combinations for Japanese and Chinese taxa:


*Acer pictum* Thunberg ex Murray is the oldest and correct name of a maple usually known as *Acer mono* Maximowicz. This paper aims to correct erroneous names of infraspecific taxa which are recognized as distinct under *A. mono*. These taxa are usually treated as varieties or forms of the species, but those varieties are considered to be subspecies under *A. pictum* in this paper, because they are distinct from each other in their morphology as well as habitat and/or geographical distribution. Relations between these taxa in Japan are clarified by Ogata (1964, 1965). His circumscription of infraspecific taxa under *A. mono* has principally been followed by subsequent taxonomists in Japan. In this paper I also adopt his system of classification for those infraspecific taxa, but modify his concept by recognizing subspecies instead of his variety after examining many specimens and fresh materials. The same concept is applied to Chinese varieties of *A. mono* recognized by Fang (1939, 1981), though further critical studies are needed to analyze variation patterns of *A. pictum* in China and Korea.

Nomenclatural relations between *Acer pictum* and *A. septemlobum*

Recently a proposal to reject *Acer pictum* Thunberg ex Murray was made by Wijnands (1990a) to conserve *A. mono*, but it was rejected by the Committee for Spermatophyta (Brummitt 1993). According to Wijnands, the name *A. pictum* is never used for a maple except Thunberg. However, he overlooked a
number of important taxonomic publication which have used *A. pictum* Thunberg for the maple which has recently been known under the name *A. mono* Maximowicz. Before a treatment of Nakai (1931), who adopted *A. mono* Maximowicz instead of *A. pictum* Thunberg for the first time, *A. pictum* had been used for the maple not only by Thunberg but also De Candolle (1824), Pax (1902), Schneider (1907), Rehder (1927) and others. Such literature of *A. pictum* is fully enumerated by Nakai (1931) and Hara (1954) as a synonym under *A. mono* in their papers.

The reasons why Nakai (1931) thought *Acer pictum* could not be used for the maple now commonly called *A. mono* were explained in detail by Nakai (1931, 1935) and Hara (1986). They had two reasons. First, they believed that Thunberg’s *Kaempferus Illustratus* part 2 (published in *Nova Acta Reg. Soc. Sci. Upsala* 4: 31–40) was published in 1783 in which *A. pictum* was described for the first time based on a plant now referred to *Kalopanax* in *Araliaceae* (Nakai 1927). Accordingly, the name *A. pictum*, so typified, appeared earlier than those published in Murray’s *Systema Vegetabilium* ed. 14 published in May or June in 1784 and Thunberg’s *Flora Japonica* published in August in 1784. Secondly, Nakai and Hara considered that the entity of *A. pictum* in the *Kaempferus Illustratus* was changed by Thunberg in *Flora Japonica*. *Acer pictum* in the *Kaempferus Illustratus* (published in 1783 as they thought) was divided by Thunberg into two species, i.e., *A. pictum* and *A. septemlobum*, in *Flora Japonica* (August 1784). However, the entity of *A. pictum* (1783) was moved by him to *A. septemlobum* Thunb. (1784), not to *A. pictum* Thunb. (1784). Hence, according to them, *A. pictum* in *Flora Japonica* is a later homonym of *A. pictum* in the *Kaempferus Illustratus*.

This consideration has been accepted exclusively since Nakai (1931) by Hara (1936, 1954), Rehder (1938, 1940), Ohwi (1953, 1965a, 1965b), Ogata (1965), Kitamura and Murata (1971), Kitagawa (1983), Shimizu (1989), etc. in Japan, by Fang (1939, 1981) in China and by Lee (1980) in Korea. They all used *Acer mono* Maximowicz assuming it to be the first correct species name instead of *A. pictum* Thunberg ex Murray.

When was Thunberg’s *Kaempferus Illustratus* part 2 published? It was thought to be published in 1783, one year earlier than the year when Thunberg’s *Flora Japonica* was published, by Nakai (1931) for the first time in relation to the name of *A. pictum*. Although it had often been treated as published in 1783 (Nakai 1927, Rehder 1938, Hunt 1977 and Hara 1986) or in 1974 but earlier than the *Flora Japonica* (Merrill and Walker 1938), the publication date of the *Kaempferus Illustratus* is mentioned as 1784 by Koidzumi (1925), Stafleu (1967) and Stafleu and Cowan (1979). Also, Wijnands (1990) concluded that “it was published late in 1784 or in 1785, in any case later than Thunberg’s *Flora Japonica* (August)”. These results indicate Thunberg’s *Kaempferus Illustratus* part 2 was published in 1784 and later than his *Flora Japonica*. *Acer pictum* published in the *Kaempferus Illustratus* has, therefore, no status as the new name.

Descriptions of *Acer pictum* change from “lobis integris” in Murray’s *Systema Vegetabilium* ed. 14 and *Flora Japonica* to “lobis aequaliter acuteque serratis” in the *Kaempferus Illustratus*, while those of *A. septemlobum* in the former two books and *A. pictum* in the last reference are almost identical.

Then, what is the entity of *Acer pictum* Thunberg ex Murray? There are two sheets of *A. pictum* determined by Thunberg in the Herbarium Thunberg of the University of Upsala (UPS-THUNB). According to Nakai (1935), the determination of one of them was changed by Thunberg to *A. septemlobum*, but, there remained traces of Thunberg’s handwriting as *A. pictum* on the sheet when he examined it in 1925. This specimen corresponds with UPS-THUNB 24085 cited by Hunt (1977 as 24095), Hara (1985) and Wijnands (1990), while the other agrees with UPS-THUNB...
24084 cited by Wijnands.

Koidzumi (1925), Nakai (1927, 1935), Hunt (1977) and Hara (1986) determined UPS-THUNB 24084 of *A. pictum* in Flora Japonica as a species of *Acer*, while UPS-THUNB 24085 of *Acer pictum* in the Kaempferus Illustratus and *A. septemlobum* of Flora Japonica as a species of *Kalopanax*. Koidzumi (1925) made a new combination *K. septemlobus* (Thunb.) Koidzumi based on UPS-THUNB 24085, but Nakai (1927) published another combination *K. pictus* (Thunb.) Nakai also based on UPS-THUNB 24085. Later, Hara (1986) selected UPS-THUNB 24085 as the lectotype of both *Acer pictum* Thunb. in the Kaempferus Illustratus (as 1783; not 1784) and *A. septemlobum* Thunb. in Flora Japonica (1784). Wijnands again designated this 24085 as the lectotype of *A. septemlobum* Thunberg.

**Taxonomic treatments of *Acer pictum***

*Acer pictum* Thunberg ex Murray is one of the most extensively studied species in the genus. Taxonomic relations between this species and its closely related ones are much problematic. *Acer pictum* and *A. mono* were treated by Pojarkova based on UPS-THUNB 24085. Later on UPS-THUNB 24084 cited by Wijnands. Hara (1986) determined UPS-THUNB 24085 of *Acer pictum* in the Kaempferus Illustratus and Hara (1986) determined UPS-THUNB 24084 of *Acer pictum* in Flora Japonica as a species of *Kalopanax*. Koidzumi (1925) made a new combination *K. septemlobus* (Thunb.) Koidzumi based on UPS-THUNB 24085, but Nakai (1927) published another combination *K. pictus* (Thunb.) Nakai also based on UPS-THUNB 24085. Later, Hara (1986) selected UPS-THUNB 24085 as the lectotype of both *Acer pictum* Thunb. in the Kaempferus Illustratus (as 1783; not 1784) and *A. septemlobum* Thunb. in Flora Japonica (1784). Wijnands again designated this 24085 as the lectotype of *A. septemlobum* Thunberg.

A recent historical change of treatments of infraspecific taxa in Japan is summarized in Table 1. The following are taxonomic treatments and enumeration of infraspecific taxa of *A. pictum* including necessary new combinations, synonyms and bibliography.


1. *A. pictum* subsp. *pictum*

var. *pictum*

1-1. f. *pictum*


Table 1. Historical changes of taxonomic treatments of infraspecific taxa of *Acer pictum* in Japan

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Acer mono</em></td>
<td><em>Acer mono</em></td>
<td><em>Acer mono</em></td>
<td><em>Acer mono</em></td>
<td><em>Acer pictum</em> Thunb. ex Murray イタヤカエデ</td>
</tr>
<tr>
<td>var. ambiguum</td>
<td>var. ambiguum</td>
<td>subsp. ambiguum</td>
<td>var. ambiguum</td>
<td>subsp. pictum オニイタヤ</td>
</tr>
<tr>
<td>f. albo-maculatum*</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>f. ambiguum (Pax) Ohashi オニイタヤ</td>
</tr>
<tr>
<td>var. glabrum</td>
<td>f. glabrum</td>
<td>f. glabrum</td>
<td>f. glabrum</td>
<td>f. pulvigerum (Ogata) Ohashi ミヤマオイタヤ</td>
</tr>
<tr>
<td>f. acutissinum</td>
<td></td>
<td></td>
<td></td>
<td>var. mono (Maxim.) Franch. エゾイタヤ</td>
</tr>
<tr>
<td>f. magnificum</td>
<td>f. magnificum</td>
<td>×</td>
<td>×</td>
<td>f. magnificum (Hara) Ohashi オオエゾイタヤ</td>
</tr>
<tr>
<td>f. latilatatum</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>var. marmoratum</td>
<td>var. marmoratum</td>
<td>subsp. marmoratum</td>
<td>var. marmoratum</td>
<td>subsp. dissectum (Wesmael) Ohashi エンコウカエデ</td>
</tr>
<tr>
<td>f. dissectum</td>
<td>f. dissectum</td>
<td>var. marmoratum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. heterophyllum</td>
<td>f. heterophyllum</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. tashiroi</td>
<td>f. tashiroi</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>var. connivens</td>
<td>f. piliferum**</td>
<td>×</td>
<td>×</td>
<td>f. piliferum (Ogata) Ohashi エンコウカエデ</td>
</tr>
<tr>
<td>f. subtrifidum</td>
<td>f. connivens</td>
<td>var. connivens</td>
<td>f. connivens</td>
<td>f. piliferum (Nichols.) Ohashi ウララゲエンコウカエデ</td>
</tr>
<tr>
<td>f. puberulum**</td>
<td></td>
<td>f. piliferum</td>
<td>f. connivens</td>
<td></td>
</tr>
<tr>
<td>var. connivens</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>var. glaucum</td>
<td>var. glaucum</td>
<td>subsp. glaucum</td>
<td>var. glaucum</td>
<td>subsp. glaucum (Koidz.) Ohashi ウラジロイタヤ</td>
</tr>
<tr>
<td>var. savatieri</td>
<td>var. savatieri</td>
<td>subsp. savatieri</td>
<td>var. trichobasis</td>
<td>subsp. savatieri (Pax) Ohashi イトマキイタヤ</td>
</tr>
<tr>
<td><em>Acer mayrii</em></td>
<td><em>Acer mayrii</em></td>
<td>subsp. mayrii</td>
<td>var. mayrii</td>
<td>subsp. mayrii (Schwerin) Ohashi アサイタヤ</td>
</tr>
<tr>
<td>var. taishakuense**</td>
<td></td>
<td>subsp. taishakuense</td>
<td>var. taishakuense</td>
<td>subsp. taishakuense (Ogata) Ohashi タイシャクイタヤ</td>
</tr>
</tbody>
</table>

* a horticultural form.
** the taxon described for the first time.
× the taxon not treated by the author.


1-3. f. *pulvigerum* (Ogata) Ohashi, comb. nov.


2-2. f. *connivens* (Nichols.) Ohashi, comb. nov.


2-4. f. *puberulum* (Ogata) Ohashi, comb. nov.


*A. pictum* var. *glaucum* subvar. *latilobum* Koidz., l.c. 64 (1911) [Holotype: G. Koidzumi s.n. Uzen: Azumayama. TIF].


*A. truncatum* Bunge var. *latilobum* (Koidz.) E. Murray, l.c. 8 (1969).

Ogata (1964, 1965) adopted a combination made by Sugimoto (1928) in his private publication, Nippon Journal of Botany, for *A. mono* var. *glaucum*. Later, however, Honda et al. (1980) proposed to treat the Sugimoto’s publication as an invalid publication. In this paper, therefore, I referred the author name for this variety as cited above.


Symb. Or.-Asia. 54 (1930), spalhm. var. nov.


Who made first the effective combination of _Acer mono var. mayrii_? Ogata (1965) referred the author of the combination to Sugimoto, but, as noted under subsp. _glaucum_ his publication is thought to be invalid. The next combination, according to Ogata (1965), was made by Murai (1935) in his publication treated a local flora as cited above. Nemoto (1936) adopted this variety under _A. mono_ as “var. _Mayri_ Koidz. [ex Nakai, Veg. Apoi 59 (1930) – _A. pictum var. typicum_ subv. _Mayrii_ Koidz.]”. Ohwi (1953) referred the author of the variety as Koidz. _ex_ Nemoto.

5. _A. pictum subsp. _savinarii_ (Maxim.) Ohashi, comb. nov.

_var. _mono_ (Maxim.) _ex_ Franch., Pl. David. 1: 77 (1883).

5-1. _f. _mono_ 


_A. pictum_ var. _γ_ Maxim. in Mel. Biol. 10: 600 (1880), _quod syn._ _A. mono_ Maxim.


5-2. _f. _magnificum_ (Hara) Ohashi


_A. mono var. latialatum_ Hara in Bot. Mag. Tokyo 50: 248 (1936) [Holotype: H. Hara 3154b. TI].


6. _A. pictum subsp. savatieri_ (Pax) Ohashi, comb. nov.

_A. pictum var. savatieri_ Pax in Engler, Bot. Jahrb. 7: 236 (1886), _p. maj. _p., _excl. specim. cit._ Yezo:
Hakodate (Maxim., Wilford).


_A. cappadocicum subsp. savatieri_ (Pax) E. Murray, l.c. 12: 17 (1982).


7. _A. pictum subsp. taishakuense_ (Ogata) Ohashi, comb. nov.


II. Chinese taxa

8. _A. pictum subsp. incurvatum_ (Fang et P.L. Chiu) Ohashi, comb. nov.


9. _A. pictum subsp. macropterum_ (Fang) Ohashi, comb. nov.


10. _A. pictum subsp. minshanicum_ (Fang) Ohashi, comb. nov.


11. _A. pictum subsp. tricuspis_ (Rehd.) Ohashi, comb. nov.


I am thankful to Dr. R.K. Brummitt of The Herbarium of Royal Botanic Gardens, Kew, for his comments and reading on this manuscript on the nomenclatural part and to Dr. H. Ohba of The University Museum, University of Tokyo, for his information on references and help for my studies in TI.

**References**


——— 1986. Typification of the Japanese plants named by
イタヤカエデの種名には Acer mono Maxim.が使われている。しかし、この学名は A. pictum Thunb. ex Murray の異名であることが明らかになった。これまでは、A. pictum Thunb.には先行同名があるとされていたため、イタヤカエデの最も早く発表された種名でありながら、この学名を使うことができず、A. mono が使われていた。この論文では、1) A. pictum Thunberg ex Murray は後続同名 later homonym ではないことを明らかにし、2) A. mono の種内分類群の学名を、A. pictum の下で整理した。

カエデ属の中で、イタヤカエデは最も詳しく研究されてきた種の1つであり、多くの変種や品種が記載されている。原（1954）は、日本産の種内分類群を整理し、学名を正した。また、アカイタヤを別種として扱った。緒方（1964, 1965）はアカイタヤを含むイタヤカエデの日本における分化と分類とを詳しく解明した。今日でも、日本のイタヤカエデについての分類学的な扱いは、基本的に緒方の研究結果に基づいている。中国の種については W. P. Fang（1939, 1981）の研究がある。

本論文では、日本産のイタヤカエデ種内分類群の範囲は緒方の見解に、中国産のものについてはFangの見解に従った。しかし、分類群のランクについての認識が異なるため、学名の扱いは異なるものとなった。緒方（1964, 1965）が明記しているように、彼がイタヤカエデの変種と認めた分類群は形態ばかりではなく、分布も異なっている。
この点で、緒方はこれらの変種それぞれを種と考えることも可能であるとしている。ところが、緒方の変種を種として認めるとすれば、それらの種は、Pax(1902), Schneider (1907), Fang (1981)などの文献をみると、これまで認められている Platanoidae 節の種に比べて、非常に小さく範囲づけられる種となると思う。そのため、私が北村(1972)のように、緒方(1965)の変種は亜種として扱うことがよいと考える。中国の変種についても同様に扱った。しかし、緒方と朝鮮におけるイタヤカエデの変異については今後の研究が必要である。

イタヤカエデの日本に野生する種内分類群についての分類学上の扱いと学名の変遷を原(1954)以後の主な見解について表1にまとめた。便宜上、私の見解には学名の著者名と和名をつけて、また、イタヤカエデの名を種名である A. pictum の和名として用いた。これは総称名である (和名については注1で述べる)。


Kaempferus Illustratus II は Flora Japonica より遅く出版されたことから、イタヤカエデもハリギリも Flora Japonica の原稿を引用した Murray の Systema Vegetabilium ed. 14 で、正式に発表されたことになる(注2)。タイプ標本は、A. septemlobum が UPS-THUNB 24085 であり、A. pictum は UPS-THUNB 24084 である。

注1) イタヤカエデは、Acer pictum または A. mono の一形に対する和名として用いられることもある。例えば、原(1954)は A. mono f. heterophyllum Nakai、清水(1989)は A. mono f. dissectum (Wesmait) Rehder に対してイタヤカエデを用いている。緒方(1964)は、イタヤカエデというう名は、A. mono の総称名と複数の種内分類群(「地方ごとにそこに生育する変種をそれぞれ指し……」北陸の植物 12:96) と用いられてい混雑しているという理由で、var. marmoratum f. marmoratum をエノコウカエデと呼び、イタヤカエデという和名を使用しなかった。Acer mono に対してはイタヤカエデ類とした。私はイタヤカエデという和名を A. pictum という種名に対応させる総称名として用い、この種に含まれる種内分類群にはイタヤカエデの名を使わないよう提案したい、A. pictum イタヤカエデの種内分類群の学名に対応する和名の全部を表1にまとめた。

和名の命名法にはタイプの概念がないので、和名と学名を対応させにくい。一方、和名にも種内種類の体系を示す序列があり、イタヤカエデがあって、その中の一形がオニイタヤ、さらにオニイタヤの中の一形がフィリオニイタヤとなる。これは種亜種-変種とする学名のランクに似た序列である。しかし、タイプ法を和名の命名法に適用すれば、学名ではフィリオニイタヤがタイプなので、イタヤカエデ全体をフィリオニイタヤと呼ぶならばならない。フィリオニイタヤの一形にオニイタヤがあるがなければならないが、これでは和名の序列に反する。そこで、実体が同じならば同じ和名を使うこととする。そうすると、subsp. pictum の和名をオニイタヤ、var. pictum もオニイタヤとする。ただし、f. pictum はフィリオニイタヤとする。オニイタヤは f. ambiguum とした。