

A MONOGRAPH OF CHINESE ACERACEAE.

By

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A MONOGRAPH OF CHINESE ACERACEAE.PREFACE.

The purpose of this work is to summarize our present knowledge of the Acereous plants of China¹, Since Pax published his last monograph of Aceraceae² in 1902, the multiplicity of new species and the huge collections of material which are not easily identified, have particularly emphasized the somewhat pressing requirement for a critical review and the necessity for supplementary descriptions and special notes.

This work was continued over a period of more than five years. During this time various herbaria were visited where type-specimens and numerous collections were carefully examined. The main work has been done at the Royal Botanic Garden, Edinburgh. I am greatly indebted to Professor Sir William Wright Smith, who has given me continual encouragement during the course of my work. My best thanks are also due to Dr. J. M. Cowan for invaluable suggestions and criticism; to Mr. W. E. Evans for special arrangement of material; to Mr. J. T. Johnstone for assistance in gathering literature, and to Dr. H. R. Fletcher for his critical reading of some parts of the manuscript. I should like also to tender my sincere thanks to Professor S. S. Chien of the Biological Laboratory of the Science Society of China, Nanking, under whose supervision I laid the basis of my work there. I am very obliged to Professor A. Rehder of /

1. For Phytographical, Geographical and Meteorological point of view the term "China" used hereto includes China proper, Manchuria, Mongolia, Singkiang, Tsinghai, Tibet and all the near peninsulas and islands as such as Corea, Formosa etc.

2. Pax in Engler, Pflanzenreich, Heft 8 (IV.163). (1902) 1-89.--.

of the Arnold Arboretum, Jamaica Plain, Massachusetts, U.S.A.; Professor H. Handel-Mazzetti of the Botanic Institute and Garden, Vienna, Austria; Professor H. H. Hu of the Fan Memorial Institute of Biology, Peiping; Professor W. Y. Chun of the Botanic Institute of Sun-Yatsen University, Canton; and to Professor F. P. Metcalf of the Lingnan University, Canton, for their kindness in sending me material, and valuable suggestions on some special problems. My warmest thanks are also due to the authorities of various herbaria - too numerous to be mentioned individually - who sent specimens on loan. I wish to express my special acknowledgment to Mr. J. Ramsbottom of the Department of Botany, British Museum (Natural History), London; to Sir Arthur W. Hill and Dr. A. D. Cotton of the Royal Botanic Gardens, Kew, England; to Professor L. Diels and Professor R. Pilger of the Botanic Museum, Berlin-Dahlem, Germany; to Professor F. Pax and Professor H. Winkler of the Botanic Institute, Breslau, Germany; to Professor K. Sussenguth of the Botanic Garden, Munich, Germany; to Dr. K. Keissler of the Natural History Museum, Vienna, Austria; to Professor F. Knoll of the Botanic Institute and Garden, Vienna, Austria; to Professor G. Negri and Professor A. Messeri of the Botanic Museum, Florence, Italy; and to Professor H. Humbert of the Natural History Museum, Paris, France, for their courtesy in granting me the privilege of examining specimens in their herbaria.

Wen-pei Fang,

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INTRODUCTION.HISTORICAL NOTE.

The family ACERACEAE which now comprises only two genera - the large genus Acer, and the small genus Dipteronia - was first placed by the authoritative Swedish botanist, Linnaeus¹, in 1753, in his system "Monoecia" of the class "Polygamia" (often referred to as "Polygamia Monoecia"). Thirty-six years later this group was proposed as a special order and named as "Acera" by the French botanist, Jussieu², in 1789. But he included, under this order, three groups:- I. Aesculus Linn., II. Acer Linn., and III. Hippocratea Linn. and Thryallis Linn; the first and third groups were not thereafter accepted in this family. Thirty years later after Jussieu's proposal, De Candolle³, a Swiss botanist, proposed in 1819 the family name "Acéracées". De Candolle⁴, in 1824, still considered "Acerineae" as an order or family with two genera - Acer Linn. and Negundo⁵ Ludwig. His species of Negundo were later included in Acer by the German botanist Koch⁶ in 1869. Don⁷, a British botanist, followed De Candolle in calling "Acerineae" an /

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1. Linnaeus, C., Spec. Pl. II. (1753) 1054, class No. XXIII.
Linnaeus, C., Gen. Pl. ed. 5 (1754) 474, genus No. 1023.
Linnaeus, C., Gen. Pl. ed. 6 (1764) 546, genus No. 1155.
 2. Jussieu, Gen. Pl. ed. 1. (1789) 250, order No. VI.
Jussieu, Ann. Mus. XVIII. (1811) 477.
Jussieu, Gen. Pl. ed. 2 (1791) 277, order No. VI.
 3. De Candolle, Théorie élémentaire de la botanique, ed. 2
(1819) 244, family No. 31.
 4. De Candolle, Prodr. I. (1824) 593-596, order No. XL.
 5. Ludwig, Gen. Pl. ed. 3 (1760) 508.
 6. Koch, K. Dendrol. I. (1869) 513.
 7. Don, G., Gen. Hist. Dichl. Pl. I. (1831) 647.

an order, and, under this name, he placed the three genera - Acer Linn., Negundo Ludwig, and Dobinea¹ Hamilton. The last genus, Dobinea, a native of Nepal, which differs from members of this family in its lenticular ovary adnate to a lanceolate bract and in its fruit adnate to a round membranaceous bract, was referred to Anacardiaceae by Engler² and Brandis³.

Lindley, a British botanist, in 1829⁴, followed De Candolle in calling this family "Acerineae", but at first included only the one genus Acer Linn.; later in 1830⁵ he added the genus Negundium Rafin⁶. Lindley⁷ formally proposed "Aceraceae" as a name of this order in 1836, and this is the first time that the present family name was used.

The chief difference between this family and its nearest ally, Sapindaceae lies in the fruit which has two carpels only and the petals without scales. Lindley eventually referred to this family four genera:- Acer Linn., Negundium Rafin., Dobinea Hamilt., and (?) Geissois/

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1. Dobinea Hamilton ex Don Prodr. Fl. Nepal. (1825) 249.
 2. Engler, Anacardiaceae in Engler et Prantl, Pflanzenfamilien, III. 5 (1892) 138-178, Dobinea on 177.
 3. Brandis, D., Indian Trees, impression 4 (1921) 204.
 4. Lindley, J. Synop. Brit. Fl. ed. 1 (1829) 55, order 17. Ibid. ed. 2 (1835) 55, order 17.
 5. Lindley, J. Introd. Nat. Syst. Bot. (1830) 117 order No. 101.
 6. Negundium Rafin. in Desv. Journ. de bot. II (1809) 170, which is the same as Negundo Ludwig and had been sunken to Acer Linn.
 7. Lindley, J., Nat. Syst. Bot. ed. 2 (1836) 81, Order No. 60.

Geissois Labill.¹ a genus of plants confined to New Caledonia, differs in having stipules, apetalous flowers, as well as polyspermous fruit; it was referred to the Cunoniaceae first by Don² and later by Lindley³ himself. Lindley's system was not followed by other contemporary botanists.

About the same period Endlicher⁴, an Austrian botanist, proposed "Acera" as a class to consist of two orders - Acerineae and Malpighiaceae. Under Acerineae he included three genera - Acer Linn., Negundo Ludwig and Dobinea Hamilt. More than thirty years after Lindley established his system, Bentham's and Hooker's⁵ work was published. They suggested "Acerineae" as a sub-order of the order "Sapindaceae" and under it they also placed the three genera - Acer Linn., Negundo Ludwig and Dobinea Hamilt. Six years later, Baillon⁶, a French botanist, also placed this family under Sapindaceae, but he called it "Acereae" and included only two genera, Acer Linn. and Dobinea Hamilt.

However, Pax, in his monograph, followed Lindley in /

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1. Geissois Labill. Set. Austro-Caled. (1825) 50, t. 50.
 2. Don, J., in Edinb. Phil. Journ. April 1830.
Don, J., Gen. Hist. Dichl. Pl. III. (1834) 203.
 3. Lindley, J., Veg. Kingd., (1847) 572.
 4. Endlicher, S., Gen. Pl. (1836-40) 1055, class No. 53.
 5. Bentham et Hooker, Gen. Pl. I. (1867) 409, Order No. L. I.
 6. Baillon, H., Nat. Hist. Pl. V. (1873) 373, 427,
family No. VIII, genera Nos. 73 and 74.

in using the name the "Aceraceae", and in this family he placed two genera - Acer Linn. and Dipteronia Oliver¹.

Pax's arrangement is the one that is adopted here.

The genus Acer was founded by the French botanist Tournefort² in 1719, who described nine species from Europe and America. The great botanist, Linnaeus³, followed him in considering Acer to be a distinct genus and in 1753 described nine species mostly from Europe, but none of his nine species agreed with those of Tournefort. Linnaeus⁴ in 1754 and 1764 mentioned Acer pseudo-platanoides Linn. and Acer rubrum Linn. as the type species of the genus. De Candolle⁵ in 1824 listed under Acerineae (in the two genera Acer and Negundo) 32 species from Europe, North America and Asia, including one from Nepal⁶ and four from Japan⁷, which were later found in China. These are the first Chinese species to be described.

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1. Dipteronia Oliver in Hooker Icon. Pl. XIX. (1889) t. 189
 2. Tournefort, Inst. I. (1719) 615, No. 386.
 3. Linnaeus, C., Spec. Pl. ed. 1 (1753) 1054.
 4. Linnaeus, C., Gen. Pl. ed. 5 (1754) 474, No. 1023.
Linnaeus, C., Gen. Pl. ed. 6 (1764) 546, No. 1155.
 5. De Candolle, Prodr. I. (1824) 593-596.
 6. Acer oblongum Wallich
 7. Acer japonicum Thunberg, Acer pictum Thunberg (now called as Acer mono Maxim.), Acer palmatum Thunberg and Acer trifidum Thunberg (now called as Acer Buergerianum Miquel).

Bentham and Hooker¹ still keeping Acer and Negundo distinct and mention some 54 species distributed in Europe, North America and Asia.

The first species to be described from China was Acer truncatum; this name was published by the Russian botanist Bunge in 1831, with a description based on material collected near Peiping. Then, twenty years later, Champion in 1851, described Acer reticulatum from Hongkong. Again after five years Trautvetter and Meyer, in 1856, described Acer ukurunduense from the borders of Manchuria. The many species from China subsequently described by other authors may be briefly referred to as follows:- 1857 to 1889, Maximowicz described nine species from northern provinces, of these five are now considered to be distinct; in 1884 Hance described one species from Kwangtung; from 1884 to 1894 Franchet described three species and one variety which was later raised to specific rank by Pax; from 1889 to 1922 Pax described eleven species from Western China, most of these were collected by Henry, and nine are distinct; in 1901 Schwerin described one species from Szechuan; from 1901 to 1904 Komarov described two species from Manchuria and Corea; in 1903 Molliard described one species from Kwangsi; from 1905 to 1933 Rehder described twelve species, mostly from Western China, of which nine are good; in 1910 Duthie described one species from Kwangtung; in 1910 Pampanini described one species which is not distinct; from 1911 to 1913 Léveillé described five species from Kweichow and Yunnan, of which two are distinct; from 1911 to 1913 Hayata described eleven species from Formosa and Fukien of which six are distinct; in 1911 Koidzumi /

1. Bentham et Hooker, Gen. Pl. I. (1867) p.409, genera Nos. 60 and 61.

Koidzumi described two species from Formosa, of which one is distinct; from 1912 to 1931 Diels described three species from Sikang and Yunnan; from 1913 to 1931 Nakai described five species from Corea; from 1917 to 1922 W. W. Smith described two species from Yunnan, of which one is distinct species and the other is now given varietal rank; from 1924 to 1933 Handel-Mazzetti described three species from Yunnan and Indo-China, of which two are good; in 1931 Hu described two species from Kwangsi, of which one is good; in 1931 Cheng described one species from Chekiang; in 1932 Merrill described one species from Hainan; in 1932 Chun described one species from Kwangsi; in 1932 Metcalf described four species from Southern China, of which two are distinct; between 1932 and 1934 the writer described four species from Chekiang and Szechuan, and in the present paper there are two new species, one from Kwangtung and the other from Tibet.

In addition to the species above-mentioned which have been reported from China only there are three Himalayan species widely distributed in Western China. Another three species which occur in the Himalayas have distinctive varieties which are very common in China. Seven species which are found in Eastern China occur also in Japan.

Dipteronia; the other genus of this family, with its type species D. sinensis was founded by Oliver in 1889 from material collected by Henry in Hupeh. Fourteen years later Henry described another species also discovered by himself in Yunnan. This interesting genus, with its two species, is confined to China.

The earliest work on the Chinese flora as a whole was /

was Forbe's and Hemsley's "Index Florae Sinensis"¹ in which fifteen species of Acer are reported from China, but the work was, unfortunately, based on poor material and about half of these species are now known by other names.

Altogether 87 species in this family have been definitely reported from China and there are a few doubtful ones besides of which I hope to have more material later.

The only comprehensive work on the Aceraceae is by Pax² who classifies the species into thirteen sections, including in his monograph altogether 114 species of which 30 and 15 varieties are reported from China.

Another valuable contribution to our knowledge of this family was made by Rehder³ in his "Enumeration of the Maples of the Continental Asia". 44 species are reported and 37 are from China. Rheder⁴ proposed a new section "Arguta" which is quite distinct.

1. Forbes et Hemsley, Index Florae Sinensis in Journ. Linn. Soc. XXIII. (1886) 140-142.
2. Pax, F., in Engler, Bot. Jahrb. VI. (1885) 288-374.
Ibid. VII (1886) 177-263.
Pax, F., in Engler, Pflanzenreich, Heft 8 (IV.163).
(1902) 1-89.
3. Rehder, A., in Sargent, Trees & Shrubs, I. (1905) 151-181.
4. Ibid. I. (1905) 181.

THE GENERAL CHARACTERISTICS.

The representative of this family in China are generally small trees or shrubs a few metres high, but Acer Okamotoanum Nakai is a large tree up to 30 metres high. The Acers grow in thickets or as underwood occurring all over China at elevations from a few hundred to more than three thousand metres above sea level.

The leaves of Aceraceae are opposite. They are simple or compound, membranaceous, chartaceous or coriaceous, entire or lobed, if lobed the lobes are either entire or serrate. These are very important characteristics in identifying both sections or species, and since botanical specimens are often of foliage only leaf variation requires special attention. Mostly the leaves are glabrous, but, occasionally on the lower surface glaucous or pubescent, a very important diagnostic character. For instance, the leaf-shape is nearly the same in Acer oblongum Wall., Acer cinnamomifolium Hayata, Acer coriaceifolium Leveille and Acer hypoleucum Hayata; Acer oblongum Wall has leaves glaucous below but not hairy; Acer cinnamomifolium Hayata has leaves with yellowish hairs; Acer coriaceifolium Leveille has leaves with greenish hairs; and Acer hypoleucum Hayata has leaves with whitish hairs. The nerves are not very important from a diagnostic point of view. But in the section Intergrifolia the nerves have been taken as a standard because flowers in that section are mostly unknown and sufficient characters are as yet not easily found.

The winter-buds usually have imbricate scales which are ciliate on the margin or glabrous. But some species have /

have two valvate outer scales, as in the sections Arguta and Negundo.

The inflorescence is a very important characteristic in classifying the sections. The section Platanoidea has a corymbose inflorescence with many flowers; the section Palmata has corymbs but few flowers; and the section Macrantha has a racemous inflorescence. The inflorescence is usually terminal on leafy branchlets, but in the section Arguta the staminate inflorescence is from lateral leafless buds and in the section Lithocarpa both the staminate and pistillate inflorescences are from lateral leafless buds.

The flowers are usually andro-polygamous or andromonoecious but dioecious in the sections Arguta and Lithocarpa. They are mostly 5-merous, but 4-merous in the section Arguta. The sepals are usually imbricate, ovate, greenish or purplish, glabrous or hairy either on the margin or outside, and are of little significance in classifying. The petals are usually white, the size and shape is useful in identifying the species. The shape of the disk and insertion of the stamens are important points. The disk is usually annular or lobed but in the section Negundo there is none. The position of the stamens on the disk is extrastaminal in the sections Platanoidea, Palmata, Spicata, Intergrifolia, Lithocarpa and Trifoliata with only one exception of Acer deacodrum Merrill, and /

and intrastaminal in the sections Macrantha and Arguta with also one exception, namely, Acer stachyophyllum Hieronymus. The number of the stamens varies from 6 to 10 (usually 8) but in the section Arguta there are only 4 to 6. The presence or absence of hairs on the ovary is another important characteristic in identifying the species. The short style is usually two-lobed, the stigmas are revolute.

Owing to the shortness of the flowering period of the Acer and the small flowers often escape the eye of the collector, herbarium specimens are mostly in fruit. Therefore the fruit takes a most important position in classification. The shape and size of the nutlets and wings, the presence or absence of hairs as well as the angle at which the wings are set varies in each species. The nutlets are usually convex but in the species of the section Platanoides they are much flattened. The genus Dipteronia has a round-winged fruit which makes it quite distinguishable from the long-winged fruit of the genus Acer.

SYSTEMATIC TREATMENT.

In the genus Acer Linn. I have followed the general system keeping the eight sections of Pax and the one section of Rehder without changing. In making a key to the sections I intended at first to take the character of the flower - the extrastaminal or intrastaminal disk is a very useful characteristic for /

for diagnosis - but as the specimens are mostly in leaf and fruit, to make the keys on flowers, would be almost useless. Then I came to the conclusion that the keys for sections and species should be based upon the leaves and nutlets as characteristics of first importance, and to use the flower and other characteristics as secondary.

In treating the species I have examined the type-specimens. The original descriptions are mostly brief, some describing only leaf and others with descriptions of leaf and fruit. Important details are often omitted. For instance, Acer truncatum Bunge was described one hundred years ago, but its original description is very brief; Acer discolor Maxim. was described about fifty-eight years ago but the original description is of leaf only. I have given the fullest descriptions pointing to the chief differences between the nearly related species. Under each species all the literature and specimens are cited.

The original descriptions are widely scattered in various periodicals of the world. In collecting them I have had the help of numerous botanists in Edinburgh, London, Berlin, Vienna, Paris and New York. I am quite sure that these will be useful to the Chinese botanists. I have published them as an appendix to this paper. (Without this appendix in the manuscripts handed to the University of Edinburgh for examination).

Geographical /

GEOGRAPHICAL DISTRIBUTION.

The distribution of the species is given in detail under each species, but some brief general notes may be given first.

In the section Platanoidea there are more than 25 species distributed in Europe and Asia. 13 species, 7 varieties and 2 forms occur in China, one species (Acer mono Maxim.) which occurs in Japan as well as in China, the others are endemic. In China the centre of this section is in Szechuan and some species are distributed south-westward to Tibet and Yunnan, others eastward to the Yantze River and the Yellow River valleys, others to Corea and Manchuria. The most widely distributed species is Acer mono Maxim. which occurs commonly in all the provinces where other species of this section grow. The number of species occurring in various provinces is as follows:- 7 in Szechuan, of which two are endemic; 4 in Shansi; 3 in Shensi, Honan, Hupeh, Yunnan, Anhwei and Chekiang (1 endemic); 2 in Hopei, Shantung, Kiangsu, Hunan, Kweichow, and Corea (1 endemic); and 1 in Manchuria, Kiangsi and Kansu. No representative of this section has been reported in southern China of Fukien, Formosa and Kwangsi, except my new species (Acer Chunianum) discovered recently in Northern Kwangtung. Another new species (Acer tibetense) is the only member of this section in Tibet.

In the section Palmata there are more than 15 species distributed in Asia and North America. 11 species and 5 varieties occur in China, but 2 species (Acer palmatum Thunberg and Acer Japonicum Thunberg) occur/

occur also in Japan, the rest being confined to China. The centre of this section is in Corea where 6 species are growing and of these 4 are endemic. The number of species occurring in other provinces is 3 in Chekiang (2 being endemic); 2 in Hupeh (1 being endemic), Manchuria and Kiangsu; and 1 in Shantung, Honan, Anhwei, Kiangsi, Shensi, Szechuan and Yunnan. Acer palmatum Thunb. is the common species in Eastern China and Acer robustum Pax is the common representative in Western China. None are found in Northern and Southern China.

In the section Spicata, there are more than 30 species distributed in Europe, Asia and North America. 16 species, 17 varieties, 2 sub-varieties and 1 form occur in China; among those, 2 species (Acer ginnala Maxim. and Acer Buergerianum Miquel) occur also in Japan. The type species of the Himalayan Acer caudatum Wall. has not been found in China, but its 3 varieties are growing commonly in Western China. This is the largest section in China and its species are distributed in all provinces and even in Mongolia. The most common species is Acer sinense Pax. The number of species occurring in various provinces is 9 in Szechuan (2 being endemic); 8 in Hupeh; 6 in Yunnan (1 endemic); 5 in Chekiang and Kwangtung; 4 in Anhwei; 3 in Kweichow; 2 in Manchuria, Corea, Shantung, Shensi, Kansu, Kiangsi, Hunan and Sikang; and 1 in Jehol, Mongolia, Hopei, Shansi, Honan, Kiangsu, Tibet, Fukien and Hongkong.

In the section Intergrifolia more than 20 species have been reported and these are confined to Asia. 16 species and 9 varieties occur in China, except 2 species (Acer oblongum Wall. and Acer laevigatum Wall.) which occur /

occur also in the Himalayas, are endemic. The species are mostly found in Western China and South-eastern China, and are absent from North-eastern China. The number of species occurring in the various provinces is 4 in Hupeh, Kweichow, Formosa (3 being endemic) and Kwangtung (1 being endemic); 3 in Shensi, Szechuan and Kwangsi (2 being endemic); 2 in Yunnan, Chekiang, Fukien and Hongkong; and 1 in Kansu, Hunan, and Hainan (endemic).

The section Macrantha has more than 25 species reported from and confined to Asia. 16 species are known from China, 11 species are confined to China, 5 species are distributed also in other countries. Acer Davidi Franch. is the commonest species occurring in nearly all the provinces. The numbers of species reported from various provinces are 5 in Szechuan; 4 in Yunnan and Formosa (3 being endemic); 3 in Kansu, Hupeh, Hunan and Sikang; 2 in Manchuria, Shensi, Tibet and Kwangtung; and 1 in Hunan, Chekiang, Kiangsu, Kiangsi, Kweichow and Kwangsi.

The section Arguta consists of 5 species only, of those 3 species and 2 varieties occur in Western China and in the North-eastern coast provinces only. Acer stachyophyllum Hieronymus is found from the Sikkim-Himalayas eastwards, through Tibet, Sikang, Yunnan and Szechuan to Western Hupeh. The other two species are only known from China. Acer tetramerum Pax is known in Szechuan and Hupeh; Acer barbinerve Maxim. is limited to Manchuria and Corea. The number of species occurring in the various provinces is 2 in Hupeh and Szechuan; and 1 in Manchuria, Corea, Sikang, Yunnan and /

and Tibet.

The section Lithocarpa has 7 species all in Asia. 3 endemic species have been reported from China, distributed regularly along the Yangtze valley. Acer pilosum Maxim. has only been known in Southern Kansu; Acer sinopurpurascens Cheng is confined to Chekiang; Acer Francheti Pax is widely distributed in Shensi, Honan, Hupeh, Hunan, Szechuan and Yunnan. The occurrence of species is exactly 1 in each province mentioned above.

The section Trifoliata has 6 species and 2 varieties all occurring in China, with the exception of 2 species (Acer nikoense Maxim. and Acer mandschuricum Maxim.) reported also in Japan, the rest are confined to China. Acer mandshuricum Maxim and Acer triflorum Kom. are only known in Manchuria and Corea; Acer nikoense Maxim. is distributed along the Yangtze valley to Western Hupeh; Acer sutchuenense Franch. has been reported only from Western Hupeh and Eastern Szechuan; Acer griseum (Franch.) Pax is known in Hupeh, Szechuan, Honan and Shensi; Acer pentaphyllum Diels has been found only once in the Muli region of Sikang. The number of species occurring in the various provinces is 3 in Hupeh; 2 in Szechuan, Manchuria and Corea; and 1 in Honan, Shensi, Anhwei and Sikang (endemic).

The section Negundo has 5 species; 3 in North America; 1 confined to Japan; and other 1 confined to China. The Chinese species, Acer Henryi Pax, is very common at the Yangtze valley in Chekiang, Kiangsu, Anhwei, Honan, Shensi, Hupeh, Hunan, Szechuan and Kweichow.

Dipteronia Oliver, a very distinct and interesting genus, /

genus, confined to Western China. Its type species, D. sinensis Oliver, occurs in the mountainous regions of Szechuan, Southern Shensi, South-western Honan, Western Hupeh and Northern Kweichow. The species, D. Dyerana, is known from the province of Yunnan.

Nowadays in the genus Acer there are about 150 species known from Europe, North America and Asia. In this work 85 species are definitely reported in China and among those, 67 species are confined to China. So I believe China is the richest country in the world for Acerous plants.

For convenience take "Western China" to include Szechuan, Sikang, Yunnan, Southern Kansu, Southern Shensi, South-eastern Honan, Western Hupeh, North-western Hunan, and Northern Kweichow as a special region where most species are growing. The total number of species in this region is 44, and 22 are endemic. The endemic genus Dipteronia is also growing there. I therefore conclude that there is no region in the world richer in plants of the Acer tribe than Western China.

ECONOMICAL USES.

Owing to the very hard timber this family is often used to make furniture. In China more than three thousand years ago the wood was used to make wheels of wagons and is commonly called "Chia". Because of the beautiful fruits and leaves this is also a valuable garden genus. Some of the species are occasionally used as hedge plants.

ABBREVIATIONS.

In citing specimens I have noted the herbaria in which they are to be found, using the following abbreviations:-

- A. = The Herbarium of the Amoy University, Amoy, China.
- Arn. = The Herbarium of the Arnold Arboretum of the Harvard University, Jamaica Plain, Massachusetts, U.S.A.
- Berol. = The Herbarium of the Botanic Museum, Berlin-Dahlem, Germany. (In Germany known as "Museum Botanicum Berolinense").
- Bres. = The Herbarium of the Botanic Institute of the Breslau University, Breslau, Germany.
- Brit. = The Herbarium of the British Museum (Natural History), Cromwell Road, South Kensington, London, England.
- Cal. = The Herbarium of the University of California, Berkley, California, U.S.A.
- Cent. = The Herbarium of the Biological Department of the Central University, Nanking, China.
- Edinb. = The Herbarium of the Royal Botanic Garden, Edinburgh, Scotland.
- Fan. = The Herbarium of the Fan Memorial Institute of Biology, Peiping, China.
- Firen. = The Herbarium of the Botanic Institute of the Florence University, Florence, Italy (in Italy known as "Istituto Botanico della R. Unisersita di Firenze").
- Form. = The Herbarium of the Taihoku Imperial University, Formosa.
- Gray= The Gray Herbarium, Cambridge, Massachusetts, U.S.A.
- H. = The Herbarium of the Royal Botanic Garden, Hongkong.
- Kew. = The Herbarium of the Royal Botanic Gardens, Kew, Surrey, England.
- Len. = The Herbarium of the Botanic Garden of the Leningrad University, Leningrad, Pesotsch Naja 8km. 8, U.S.S.R.
- Lin. = The Herbarium of the Lingnan University, Canton, China. (or known as "Canton Christian College").

Mun /

- Mun. = The Herbarium of the Munich Botanic Garden, Munich, Germany, (in Germany known as "Staatsherbar Munchen").
- Paris = The Herbarium of the Natural History Museum, 57 Rue Cuvier, Paris 5e, France. (in France known as "Museum National d'Histoire Naturelle").
- Peip. = The Herbarium of the Institute of Botany, National Academy of Peiping, Peiping, China.
- Phil. = The Herbarium of the Bureau of Science, Manila, Philippine Islands.
- N.B. = The Herbarium of the Biological Department of the Nanking University, Nanking, China.
- N.F. = The Herbarium of the Forestry Department of the Nanking University, Nanking, China.
- N.Y. = The Herbarium of the New York Botanic Garden, New York, U.S.A.
- Sci. = The Herbarium of the Biological Laboratory of the Science Society of China, Nanking, China.
- Sin. = The Herbarium of the Biological Institute, Academia Sinica, Nanking, China.
- Suny. = The Herbarium of the Botanic Institute, Sunyatsen University, Canton, China.
- Tokyo = The Herbarium of the Botanic Institute, the Faculty of Science, Tokyo Imperial University, Tokyo, Japan. (In Japan known as "Herbarium Universitatis Imperialis Tokyoensis").
- Vind. = The Herbarium of the Natural History Museum, Vienna, Austria. (In Austria known as "Herb. Musei Hist. Natur. Vindobona").
- Wa. = The Herbarium of the United States National Museum, Washington, D.C., U.S.A.
- Wien = The Herbarium of the Botanic Institute of the Vienna University, Vienna, Austria. (In Austria known as "Botanisches Institut der K.K. Unisersitat, Wien").
- Wuhan = The Herbarium of the Biological Department of the Wuhan University, Wuchang, Hupeh, China.

KEY TO GENERA.

- A. Samara encircled by a broad wing; leaves pinnate, with 9-11 leaflets..... 1. Dipteronia.
- AA. Samara with an elongated wing only on one side, usually in pairs; leaves simple or if pinnate not more than 7 leaflets..... 2. Acer.

1. DIPTERONIA OLIVER.KEY TO SPECIES.

- A. Panicles glabrous; leaves glabrous except for tufts of hairs on the axils of nerves of the lower surface; petioles glabrous; fruits small, 2 - 2.5 cm. long, 1.7-2.3 cm. broad.....
1. D. sinensis.
- AA. Panicles densely yellowish green pubescent; leaves with nerves densely yellowish green pubescent on the lower surface; petioles densely yellowish green pubescent; fruits larger, 5-6 cm. in diameter.....2. D. Dyerana.

1. Dipteronia sinensis Oliver in Hooker Icon. Pl. XIX. (1889) t. 1898. - Pax in Engler & Prantl, Pflanzenfamilien, III. pt. 5 (1896) 269, t. 147; ex Diels in Engler, Bot. Jahrb. XXIX. (1900) 448 (Fl. Centralchina); XXXV. beibl. LXXXII. (1905) 73; in Engler, Pflanzenreich, Heft 8 (IV.163). (1902) 6, fig. 2. - Bretschneider, Hist. Europ. Bot. Discov. China (1898) 781. - Henry in Gard. Chron. ser. 3, XXXIII. (1903) 22. - Veitch in Journ. Roy. Hort. Soc. XXVIII. (1903) 60, figs. 18 & 19. - Schneider, Illustr. Handb. Laubh. II (1907) 192, figs. 124 a-f & 126 a. - Rehder in Sargent, Pl. Wilson. I. (1911) 83; in Journ. Arn., Arb., VII. (1926) 215; XV. (1934) 4; Manual Cult. Trees & Shrubs, (1927) 558. - Chun, Chin. Econ. Trees, (1921) 230; in Hu & Chun, Icon. Pl. Sin. I. (1927) 36, t. 36. - Thatcher in Gard. Chron. LXXII. (1922) 138, fig. 57 -
 Chung /

Chung in Mem. Sci. Soc. China, I. (1924) 148 (Cat. Trees & Shrubs China). - Cox in Garden, London, LXXXIX. (1925) 449 fig. in p. 448. - Bean, Trees & Shrubs hardy Brit. Isl. I. (1929) 498. - Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 144. -

? Acer Dielsii Léveillé in Fedde Repert. Spec. Nov. Reg. Veg. X. (1912) 432; Fl. Kouy-Tcheou, (1915) 383. -

Small tree usually 5 to 10 metres high, rarely up to 16 metres high. Branchlets purple or purplish green, slender, smooth, Lenticels oval, usually appearing on the branchlets of more than two years old. Winter buds small, naked, pubescent. Leaves deciduous, chartaceous, 20-40 cm. long, odd-pinnate; leaflets usually 7-11, terminal leaflet on petiolule about 1-2 cm. long, upper pair of leaflets sessile, lower pairs short-stalked, oblong-ovate to oblong-lanceolate, 7-10 cm. long, 2-4 cm. broad, acuminate or long acuminate on the apex, rounded or broadly cuneate at base, remotely serrate with acute or obtusish teeth; upper surface deep green, glabrous; lower surface lighter green, lateral nerves 10-11 pairs, glabrous, with tufts of hairs at the axils of nerves. Flowers white, andro-monoecious, about 2.5 mm. across, in terminal or axillary panicles, erect, glabrous, 15-30 cm. long, on peduncles 3-5 cm. long; sepals 5, ovate or elliptical; petals 5, broadly rounded, 1 mm. long, 1.5 mm. broad, alternate with the sepals; stamens 8, much longer than petals, rudimentary in pistillate flower, /

flower, filaments glabrous; ovary compressed, hirsute, 2-celled, rudimentary in staminate flower, style short, stigmas 2, revolute. Fruits consisting of two compressed nutlets, connate at base and encircled by a rounded or obovate wing, 2-2.5 cm. 1.7-2.3 cm. broad, hirsute while young, glabrous when matured; seeds nearly orbicular, 5 mm. across; pedicels about 1 cm. long, slender, glabrous.

HONAN: Yung-ning, Tsi-li-ping, alt. 1000 m., J. Hers, September 30, 1919, No. 1342 (in Arn. ex Rehder).

SHENSI: "Kian-san", G. Giralddi, August 4, 1897 sine No. (in Arn., Firen. & Kew); "Po-uo-li, "G. Giralddi, March 1898, No. 6050 (in Berol., Firen, & Mun.); "Huan-tou-san", G. Giralddi, June 1899, No. 6051 (in Berol., Firen. & Mun.); "Ki-fon-san, prope Pao-ki-seen," G. Giralddi, September 1899, No. 6052 (in Berol. & Firen); "in occidente montis Ngo-san", G. Giralddi, August, 1899, No. 6053 (in Berol. & Firen.); "Miao-wang-san, prope Pao-ki-seen, Scallan", G. Giralddi, July 1899, Nos. 6054 and 6055 (all in Berol. & Firen.); "sud von Zalu, alt. 1900 m., "G. Giralddi, July 20, 1900, No. 7276 (in Berol. & Firen); Pao-ki, Hugh Scallan, July 1897, No. 89 (in Arn. & Brit.); Mt. Ki-fong-san, Hugh Scallan in 1899, sine No. (in Arn. & Brit.); Mt. Ngo-san, Hugh Scallan, in 1899, sine No. (in Arn. & Brit.); Mt. Huan-san, Hugh Scallan, in 1897, sine No. (in Arn. & Brit.); Mt. Miao-wang-san, Hugh Scallan, July 1899, sine No. (in Arn. & Brit.); "Tsinling-schan, Tsinfeng-schan, inter Santscha et Feng, /

Feng, in silva, 1500 m.," G. Fenzel, in 1933, No. 155 (in Vind.); -

HUPEH: "Zan-lan-scian", C. Silvestri, August 1913, No. 6025 (in Firen.); Hsing-shan-hsien, tree 7 metres high, A. Henry, Nos. 6505 (in Edinb. & Kew) & 6505A (in Kew); same locality, E.H. Wilson, July 1907, No. 883 (in part) (in Arn. Berol. & Kew); same locality, Y. Chen, October 5, 1926, No. 2014 (in N.F.); North and South of Ichang, E.H. Wilson, June 1907, No. 883 (in part) (in Arn., Berol., Brit., Edinb. & Kew); Hsiu-tien-tze, W.Y. Chun, August 22, 1922, No. 4050 (in Cent.); Patung-hsien, E. H. Wilson, Nos. 883 (in part) (in Arn. Berol., Brit., Edinb., Paris & Vind.) & 5696 (in Kew & Paris); Chien-shih-hsien, A. Henry, Nos. 5696A (in Edinb. & Vind.) & 5870C (in Edinb.); same locality, E. H. Wilson, June and August 1907, No. 939 (in Berol., Edinb. & Vind.); without precise locality, E. H. Wilson, June 1907, No. 3729 (in Kew).

SZECHUAN: South of Wu-shan-hsien, A. Henry, Nos. 5696 (type in Kew; co-type in Brit. & Paris; photo. in Fan, Sci. & Suny.) 5696A (in Kew), 5696B (in Berol. & Kew), 5696C (in Brit.), 6505 (in Berol., Brit., Edinb., Paris & Kew) & 7259 (in Kew); "District de Tchen-keou-tin" (Cheng-kou-hsien), R.P. Farges, sine No. (in Berol., Edinb., & Paris); Northwest of Sungpan-hsien, W. C. Cheng, August 20, 1931, No. 3016 (in Sci.); Tien-chuan-hsien, in 1907, No. 883 (in part) (in Arn.).

KWEICHOW /

KWEICHOW: Yingkiang-hsien, Fan-ching-shan, Y. Tsiang, December 24, 1930, No. 7823 (in Berol., Kew, Sci. & Sin.); Tung-zen-hsien, Fan-ching-shan, T. T. Tu, August 12, 1932, No. 3477 (in Fan. & Sci.); Kweiting-hsien, Pin-fa, J. Cavalerie, June 23, 1903, No. 1097 (type of Acer Dielsii in Edinb.).

This species is characterized by its glabrous panicles and rounded or obovate winged fruits within 3 cm. in diameter.

The type of Acer Dielsii Leveille (Cavaleri's 1097) is an incomplete specimen having reddish branchlets and an odd pinnate leaf consisting of 7 leaflets which are identical with Dipteronia sinensis. About 9 withered flowers on a cymose inflorescence have oblong-ovate sepals and some puberulous stamens but the petals and styles have fallen away. It is questionable, however, whether Acer Dielsii should be reduced to Dipteronia sinensis judging from this incomplete type specimen. If it is not Dipteronia sinensis it should not belong to Aceraceae.

2. Dipteronia Dyerana Henry in Gard. Chron. ser. 3, XXXIII. (1903) 22. - Dunn in Journ. Linn. Soc. XXXIX. (1911) 443. - Chung in Mem. Sci. Soc. China, I. (1924) 148 /

148 (Cat. Trees & Shrubs China). -

Small tree about 3.5 metres high. Branchlets grey or greenish grey. Leaves deciduous, chartaceous, 30 - 40 cm. long, odd-pinnate; leaflets usually 11, on petioles about 20 cm. long; Terminal leaflet cuneate, with a petiolule about 2-3 cm. long; lateral leaflets opposite, usually oblique rarely round at base, subsessile; all the leaflets ovate-lanceolate, 9-13 cm. long, 2.4-4 cm. broad, acuminate, or caudate-acuminate at the apex, remotely and coarsely serrate with acute teeth; upper surface deep green, lower surface lighter green, both surfaces with middle nerves densely yellowish green pubescent, and 13-14 lateral nerves slightly yellowish green pubescent. Inflorescence a terminal yellowish green pubescent panicle. Flowers unknown. Fruits consisting of two compressed nutlets, connate at the base and encircled by an orbicular wing, 5-6 cm. across; pedicels 2 cm. long, slender, pubescent.

YUNNAN: Meng-tze-hsien, alt. 2300 m., in forests of east mountains, tree 3.5 metres high, A. Henry, No. 11352 (type in Kew; co-type in Edinb; photo. in Fan, Sci. & Suny.).

This distinct species differs from D. sinensis Oliver by its larger fruits and densely yellowish green pubescent inflorescences, petioles and nerves of the leaves.

2. Acer (Tournefort) Linnaeus.

Key to sections.

- A. Leaves simple, undivided or palmately lobed; leaves or lobes entire or serrate.
- B. Flowers andro-polygamous or andro-monoecious, in inflorescences terminal on leafy branchlets; nutlets flat or convex but not ridged (except in Acer Giraldii).
- C. Flowers andro-polygamous, in corymbose or paniculate inflorescences; disk extrastaminal (except in Acer decandrum)
- D. Leaves deciduous, usually palmately lobed, chartaceous; inflorescences long-paniculate or corymbose.
- E. Nutlets much flattened, smooth; lobes or leaves usually not serrate.....I. Platanoides.
- EE. Nutlets convex, veined; lobes serrate or serrulate.
- F. Leaves 7-13 lobed; inflorescences corymbose and consisting of few flowers.....II. Palmata.
- FF. Leaves 3-7 lobed; inflorescences usually long-paniculate rarely short-paniculate or corymbose, mostly consisting of numerous flowers.....III. Spicata.
- DD. Leaves mostly persistent, usually undivided, coriaceous; inflorescences short-paniculate..
.....IV. Integrifolia.
- CC. Flowers andro-monoecious in simple racemes; disk intrastaminalIV. Macrantha.
- BB. Flowers dieocious; staminate flowers from lateral leafless buds; nutlets strongly convex or ridged.
- C. Winter-buds with 2 valvate outer scales; flowers 4-merous; stamens 4-6; pistillate inflorescences, terminal/

terminal on leafy branchlets; (leaves undivided or 5-lobed).....VI. Arguta.

CC. Winter-buds with numerous imbricate outer scales; flowers 5-merous; stamens 8-10; pistillate inflorescences, like the staminate inflorescences, from lateral leafless branchlets; (leaves 3-5 lobed).....VII. Lithocarpa.

AA. Leaves pinnately compound, consisting of 3-7 foliate; leaflets entire or coarsely serrate.

B. Winter-buds with numerous imbricate scales; flowers few in corymbose inflorescence; disk large, extrastaminal; (leaves 3-foliate (except 7-foliate in Acer pentaphyllum)).....
.....VII. Trifoliata.

BB. Winter-buds with 2 valvate scales; flowers numerous in long racemes; disk wanting; (leaves 3-5-foliate).....IX. Negundo.

Sect. I. PLATANOIDEA Pax.

Key to Species.

- A. Leaves deeply 3-lobed; lobes narrow, parallel and of equal length..... 1, A. stenolobum
- AA. Leaves undivided or shallowly 3-5-7-lobed; if lobed lobes wide, ovate, not parallel and not of equal length.
- B. Wings of fruits 1-2 times as long as nutlets.
- C. Leaves usually truncate at base; wings of fruits usually as long as nutlets.....
..... 2, A. truncatum
- CC. Leaves subcordate or cordate at base; wings of fruits usually 1.5-2 times as long as nutlets.
- D. Leaves usually 5-lobed; wings included nutlets 3-3.5 cm. long, within 1 cm. broad
..... 3, A. mono
- DD. Leaves usually 7-lobed; wings included nutlets 4-4.5 cm. long, 1.5-1.8 cm. broad (according original description)
..... 4, A. Okamotoanum
- BB. Wings of fruits 2-4 times as long as nutlets.
- C. Peduncles of inflorescence 1-2 cm. long.
- D. Leaves large (7-14 cm. long, 7-12 broad) with acuminate or caudate lobes; inflorescence large and loose (5-8 cm. long).
- E. Leaves glabrous, with acuminate lobes.
- F. Leaves cordate at base, usually 5- or 7-lobed, rarely 3-lobed (in f. *tricaudatum*); wings broad, usually spreading at obtuse angles
..... A. cappadocicum

FF. Leaves rounded at base, distinctly 3-lobed;
wings narrow, spreading at acute angles

..... 5. A. Bodinieri

EE. Leaves pubescent below, with caudate lobes.

F. Leaves slightly rufous-pubescent below;
fruit with nutlets and wings 3 cm. long

..... 6. A. fulvescens

FF. Leaves densely yellowish grey pubescent
below; fruit with nutlets and wings 4.5

cm. long 7. A. tibetense

DD. Leaves small (4-6 cm. long, 3-6 cm. broad),
with obtuse or acutish lobes; inflorescence
small (3-4 cm. long) ... 8. A. tenellum

CC. Inflorescence sessile or subsessile.

DD. Leaves densely greyish pubescent below; wings
spreading at acute angles.. 9. A. longipes

DD. Leaves glabrous or nearly so when matured;
wings usually spreading at obtuse angles (except
spreading at acute angles in A. acutum).

E. Leaves undivided or rarely with 1 or 2 obsolete
lateral lobes.

F. Leaves large, 9-20 cm. long, 4.5-13 cm.
broad, acuminate; wings widest at the middle,
usually 3 times as long as nutlets

..... 10. A. catalpifolium

FF. Leaves small, 6-9 cm. long, 2.5-5.5 broad,
long caudate-acuminate; wings parallel, 2
times as long as nutlets.. 11. A. Chunianum

EE. Leaves distinctly 5-7-lobed rarely 3-lobed.

F. Leaves densely greyish pubescent on the nerves

of lower surface while young, scarcely so when matured; flowers small, 10 mm. in diameter, with sepals and petals about 3 mm. in length; wings of fruits parallel, spreading at acute angles ... 12. A. acutum

FF. Leaves glabrous except axillary tufts of hairs on the lower surface while young, flowers large, 15 mm. in diameter, with sepals and petals about 5 mm. in length; wings of fruits widest at middle, spreading at obtuse angles 13. A. amplum

1. Acer stenolobum Rehder in Journ. Arn. Arb.

III. (1922) 216.-

Small tree or shrub. Branchlets slender, glabrous, those of the present year greenish, those of the more than one year old brownish or brownish grey, lenticels small, few and scattered. Winter-buds small, brownish, densely ciliate on the margin. Leaves deciduous, chartaceous, 2-3.5 cm. long, 2.5-6 cm. broad, nearly truncate at the base, deeply 3-lobed; lobes oblong-lanceolate, obtuse, entire or rarely with few serrations near the apex; sinuses acute, reaching five-sixth to the middle of the blade; upper surface deep green, glabrous; lower surface pale green, villous on the nerves and ciliate on the margin while young, soon glabrescent; petioles 1.5-3 cm. long, slender, glabrous. Flowers yellowish, numerous, andro-monoecious, in glabrous terminal corymbs, on peduncles 1-15 cm. long, from leafy branchlets; sepals 5, ovate sparsely ciliate on the margin; petals 5, linear-oblong, glabrous, as long as sepals or slightly shorter; stamens 5, in staminate flowers exserted and much longer than the sepals, in

fertile flower nearly as long as the sepals, filaments glabrous, anthers yellow and oval; disk lobed, extrastaminal; ovary puberulous in fertile flower, rudimentary in staminate flower, style glabrous, stigmas papillose and revolute. Young samara flat, yellowish puberulous, with wings nearly upright spreading, matured fruits greenish; nutlets 6 mm. in diameter, slightly convex; wings with nutlets 2 cm. long, 8-10 mm. broad, spreading at right angles.

SHANSI: Kiao-chen, E.Licent, June 21, 1916, no. 2064 (in Brit. & Vind.).-

SHENSI: West of Yen-an-fu, Wm. Purdom, in 1910, no. 337 (type in Arn.; cotype in Edinb. & Kew).

This species is characterized by its deeply and narrowly 3-lobed leaves with wide spreading lateral lobes, its 5 exserted stamens, and its puberulous ovary with long style.

2. Acer truncatum Bunge in Mem. Acad. Sci. St.-Petersb. div. sav. II. (1831) 84 (Enum. Pl. Chin. Bor. 10).- Turczaninov in Bull. Soc. Nat. Moscou, X. no 7, (1837) 150.- Maximowicz in Mem. Pres. Acad. Sci. St. Petersburg. IX. (1859) p. 68 (under no. (164)4 *Acer* mono) (Prim. Fl. Amur.), p. 469 (Prim. Fl. Amur. suppl. 1, Ind. Fl. Pekin.); Bull. Acad. Sci. St. Petersburg. XXVI. (1880) 444; Mel. Biol. X. (1880) p. 601, no. 18; Act. Hort. Petrop. XI. (1889) 109, excl.- Nicholson in Gard. Chron. n. ser. XVI. (1881) 375.- Franchet in Nuov. Arch. Mus. Paris, ser. 2, V. (1883) 228 (Pl. David. II. 76); Mem. Soc. Sci. Nat. Cherbourg, XXIV. (1884) 208 (Cat. Pl. Tche. fou).- Forbes & Hemsley in Journ. Linn. Soc. XXIII. (1886) 142

(Ind. Fl. Sin.) in part, excl. specimens cited from Kiangsi & Hupeh.- Pax in Engler, Bot. Jahrb. VII. (1886) 234; ex Dils in Engler, Bot. Jahrb., XXIX. (1900) 449 (Fl. Centralchina) excl. ; XXXV. beibl. LXXV. (1904) 49; Engler & Prantl, Pflanzenfamilien, III. pt. 5, (1896) 272; Engler, Pflanzenreich, Heft 8 (IV.163). (1902) 46 in part, excl. specimens cited from Knasu & Hupeh .- Graf von Schwerin in Gartenfl., XLII. (1893) 458.- Koehne, Deutsch. Dendr. (1893) 381.- Bretschneider, Hist. Europ. Bot. Discov. China, (1898) 331.- Faber in Denkschr. Entwick. Kiautschou, (1898) 33.- Rehder in Sargent, Trees & Shrubs, I. (1905) 151, t. 76; in Journ. Arn. Arb. VII. (1926) 215; Manual Cut. Trees & Shrubs, (1927) 561.- Schneider, Illustr. Handb. Laubh. II. (1907) 224, figs. 150 d, 151 l-m., in part.- Léveillé, Cat. Illustr. Pl. Seutcheounen. (1918) 179, MSS. excl.- Loesener in Bot. Centralbl. beih. XXXVII. pt. 2, (1919) 152 (Prod. Fl. Tsingtau.).- Hers in Journ. N. China Branch Roy. As. Soc. LIII. (1922) 106; Liste Ess. Lign. Honan Sept. (1922) 1.- Chung in Mem. Sci. Soc. China, I, (1924) 151 (Cat. Trees & Shrubs China) in part, excl. locality cited Kiangsi.- Liu in Bull. Pek. Soc. Nat. Hist. III. (1928) 128 (Chili Fl.).- Bean, Trees & Shrubs, hardy Brit. Isl. I. (1929) 161.- Fang in Contrib. Biol. Lab. Sci. Soc. China, Bott ser. VII. (1932) 144; VIII. (1932) 162.-

Acer laetum var. B. truncatum Regel in Bull. Phys.-Math. Acad. Sci. St. Petersb. XV. (1857) 217; Mel. Biol. II. (1857) 486.-

Acer lobelii subsp. truncatum Wesmael in Bull. Soc. Roy. Bot. Belg. XXIX. (1890) 56.-

Acer pictum Hiern in Hooker f. Fl. Brit.

Ind. I. (1875) 696, in part, excl. cited synonym. Acer truncatum.-

Acer pictum var. parviflorum (Non (Regel)

Schneider) Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. ser. VII. (1932) 145, in part, incl. specimens cited Chien 156 & Chiao 2109 from Hopei.

Acer laetum Meyer var. macrocarpa MSS. name

only on David's 2363 in Herb. Berol.

Tree 5 to 10 metres high. Bark greyish brown or dark brown. Branchlets slender, glabrous, those of the present year green, those of the more than one year old purplish brown or greyish brown. Winter-buds ovate; scales puberulous outside. Leaves deciduous, chartaceous, 5-10 cm. long, 8-12 cm. broad, usually truncate or rarely subcordate at the base, usually 5-lobed rarely 7-lobed; lobes triangular-ovate or triangular-lanceolate, entire, acuminate or caudate acuminate, 3-5 cm. long, 1.5-2 cm. broad; sinuses obtuse or acute, reaching one half to the middle of the blade; Upper surface deep green, glabrous; lower surface pale green, reticulate, glabrous, rarely with tufts of hairs at the bases of nerves while young; petioles 3-9 cm. long, glabrous, rarely puberulous at the base while young. Flowers andromonoecious, in erect, glabrous or slightly puberulous corymbs, on glabrous, slender peduncles about 1-2 cm. long; sepals 5, yellowish green, oblong, obtuse, 4-5 mm. long; petals 5, yellowish white, oblong-obovate, 5-7 mm. long; stamens 8, glabrous, 2-3 mm. long in staminate flower, rather shorter in pistillate flower, inserted near the inner margin of the disk, anthers yellow and oval; disk

disk slightly lobed; ovary in fertile flower compressed, viscidulous while young, then glabrescent, rudimentary in staminate flower, style about 1 mm. long, glabrescent, stigmas slender, revolute; pedicels about 1 cm. long, slender. Fruits usually 3 to 10 in pendulous corymbose fruiting inflorescences; nutlets glabrous, compressed, flat, 1.3-1.8 cm. long, 10-12 mm. broad; wings greenish white, usually as long as the nutlets, rarely longer than the nutlets, parallel on both sides, spreading at obtuse or right angles.

JEHOL: "environs de Gehol," A. David, nos. 1715, 1719 & 1771 (in Paris).

HOPEI: east Prince Tomb, J.C. Liu, April 24, 1927, no L308 (in Kew); near Peking (Peiping), Bunge, in 1835, sine no. (in Kew); near Peking, Kirilow, sine no. (in Kew); near Peking, Shatschkow, sine no. (in Brit., Kew, Paris & Vind.); near Peking, A. David, September 1863, 2363 (in Berol., Bres., Kew & Paris); near Peking, Bretschneider, summer 1881, no 167, (in Berol., Brit. no. 98 (in Kew); near Peking, Mollendorf, (in Kew); near Peking, S. W. Williams, August 1863, April 1864, June 1866, Summer 1869, Herb. Hance no. 10508, (in Arn., Brit., Edinb., & Kew); near Peking, W. R. Carles, in 1882, no. 98 (in Brit.), May 7, 1882, no. 50 (in Edinb. & Kew), July 17, 1885, sine no. (in Edinb.), April 22, 1888, sine no. (in Edinb.); near Peking, Hemeling no. 222 (in Edinb.); West Hills, Bushell, August 12, 1876, (in Kew); West Hill, O. Warburg, May 1887, nos. 6768 & 6769 (in Berol. & Vind.); "montagne de Tan-chan," Em., Bodinier, May 1888, no. 317, (in Paris); Tong-shan, J.C. Liu,

May 2, 1927, No. L337 (in Kew); Pagoda Hill, Summer Place, G. S. Sargent, September 17, 1903, (in Arn.); Summer Place, N. H. Cowdry, in 1919 (in Arn.); Pagoda Cemetery, J.G. Jack, October 10, 1905, sine no. (in Arn.); Tung-ling, N.H. Cowdry, May 18, 1921, No. 1931 (in N.B.); Maio-feng-shan, F. N. Meyer, October 1905, Nos. 192 & 215 (in N.B.); same locality, J. Hers, May 15, 1921, No. 1396 (in Arn. & Kew); same locality, C.Y. Chiao, Mau 9, 1929, No. 2109 (in Arn. & N.B.); Shong-shan, J. Hers, June 17, 1929, No. 2526 (in Arn. & Kew); same locality, S. S. Chien, April 2, 1925, No. 156 (in Sci. & Vind.); Pao-hwa-shan, J. Hers, May 1, 1921, Nos. 1411 & 1418, (in Arn. & Kew); Neichwang, J. Hers, October 11, 1922, No. 2222 (In Arn. & Kew); Trappist Monastery, J. Hers, October 4, 1922, No. 2098 (in Arn. & Kew); Jade Mountain, J.C. Liu, September 5, 1926, No. 183 (in Sci.); Hsiao-wu-tai-shan, F. N. Meyer, August 23, 1913, No. 1314 (in Berol.); Tsingiwán, near Tientsien, E. Licent, June 4, 1915, No. 1045 (in Kew & Paris); Tien-tsien, E. Licent, June 29, 1927, No. 8191 (in Kew); "environs de la Trappe", E. Licent. July 16, 1917, No. 3148 (in Vind); Nankou Pass, Wawers, No. 1020 (in Vind.); Ping-chow, L. Chanet, July 1917, No. 1225 (in Kew); Hsiling, E. Licent, August 31, 1917, No. 3435 (in Kew); near the borders of shansi, L. Chanet, July 1917, No. 1335 (in Paris); Kwandien, J. Ross, April 29, 1876, No. 77 (in Kew); without precise locality, H. F. Chow, in 1930, Nos. 40186 & 40284 (in Fan. & Sci.).

SHANSI: Hia-hsien, Huang-lai-kow, J. Hers, October 2, 1921, No. 1864 (in Arn.); Chin-yuan, K. Ling,

July 3, 1926, no 1576 (in N.B.); Ta-ming, Kucheng, W. H. Shockley, May 10, 1899, sine no. (in Brit.); Nankia-pou, Tsai-yan-Shan, E. Licent, July 21, 1914, no. 346 (in Brit. & Vind.); Kiao-chen, E. Licent, June 22-24, 1916, nos. 2074 & 2082 (in Paris); Li-wan-sze, E. Licent, September 1917, nos. 3435 & 3482 (in Paris & Vind.).

SHANTUNG: Chefoo, Faber, in 1891, no. 202 (in Berol., Kew & Vind.); Chefoo, R. Swinhoe, in 1873, sine no. (in Brit.); Chefoo, Faber, October 10, 1874, no. 98 (in Brit.); Lao-shan, Tsingtao, R. Zimmermann, May 12, 1901, nos. 47, & 351 (in Berol.); Lao-shan, K. Ling, July 3-5, 1925, nos. 11 & 1756, (in N.B.); same locality, C.Y. Chiao, June 8, 1930, no. 2440 (in Edinb., Kew & Suny.); Lung-tung, Tsinan-fu, C.Y. Chiao, September 8, 1930, no. 3097 (in Edinb., Kew & Suny.); same locality, B. Krug, May 19, 1909, no. B9, (in Berol.).

NORTHERN KIANGSU: Su-chow-fu (Tung-shan-hsien), Huang-tsang-yu, alt. 200 m., J. Hers, November 1, 1919 and October 15, 1923, nos. 1601 & 2809 (in Arn.); Hsiao-hsien, Huan-tsang-yu, alt. 200 m., J. Hers, April 25 and May 26, 1919, nos. 1016 & 1016bis (in Arn.); same locality, T.P. Chang, October 9, 1932, no. 648 (in Sci.).-

HONAN: Tsi-yuan-hsien, Tien-tan-shan, J. Hers, September 21, 1921, no. 1731 (in Arn.); without precise locality, J. Hers, no. 702.

EASTERN CHINA: without precise locality, I.B. Balfour, in 1910, sine no. (in Edinb.)

This species is easily distinguished from other species by its truncate leaves and its flat fruits with broader nutlets and shorter wings which are usually as long as the nutlets.

3. Acer mono Maximowicz in Bull. Phys.-

Math. Acad. Sci. St. Petersb. XV. (1857) p. 126, no. 7;
 Mel. Biol. II. (1857); Mem. Pres. Acad. Imp. Sci. St.
 Petersb. div. sav. IX. (1859) 68, 388 (Prim. Fl. Amur.).-
 Ruprecht in Bull. Phys.-Math. Acad. Sci. St. Petersb.
 XV. (1857) p. 265 no. 14; Mel. Biol. II. (1857) 522.-
 Regel in Mem. Acad. Imp. Sci. St. Petersb. 7 ser. IV.
 no. 4, (1861) p.34, no. 107 (Tent. Fl. Ussur.).- Fr.
 Schmidt in Mem. Acad. Imp. Sci. St. Petersb. 7 ser. XII,
 no. 2, (1868) p.36, no. 80, p. 119 No 89 (Reis Amur.
 Insel Sachal).- Palibin in Act. Hort. Petrop. XIV.
 (1895) 105.- Matsumura in Tokyo Bot. Mag. IX. (1895) 88.-
 Bretschneider, Hist. Europ. Bot. Discov. China, (1898)
 584.- Komarov in Act. Hort. Petrop. XXII (1904) p. 730,
 no. 1052 (Fl. Mansh. II.).- Fedchenko (or Fedtschenko)
 in Act. Hort. Petrop. XXXI. (1912) p. 158, no. 375 (Mat.
 Fl. Far East).- Nakai in Tokyo Bot. Mag. XLV. (1931) 124.-

Acer pictum Thunberg, Fl. Jap. (1784) 162.-

Maximowicz in Bull. Acad. Sci. St.
 Petersb. XXVI. (1880) 443; Mel. Biol.
 X. (1880).- 599.- Nicholson in Gard.
 Chron n. ser. XVI. (1881) 375.- Forbes
 & Hemsley in Journ. Linn. Soc. XXIII.
 (1886) 141 (Ind. Fl. Sin.).- Pax in
 Engler, Bot. Jahrb. VII. (1886) 235;
 in Engler & Prantl, Pflanzenfamilien,
 III. pt. 5, (1896) 272; in Engler,
 Pflanzenreich, Heft 8 (IV. 163).
 (1902) 47; Engler, Bot. Jahrb. XXXVI.
 beih. LXXXII, (1905) 73.- Rehder in
 Sargent, Trees & Shrubs, I. (1905)

177; Manual Cult. Trees & Shrubs,
 (1927) 562.- Schneider, Illustr.
 Handb. Laubh. II. (1907) 225, figs.
 150a e-f 151 d-f.- Pavolini in Nuov.
 Giorn. Bot. Ital. n. ser. XV. (1908)
 409 (Contrib. Fl. Hupé).- Nakai in
 Journ. Coll. Sci. Imp. Univ. Tokyo,
 XXVI. art.1, (1909) p. 133 (Fl. Kor.
 1); Fl. Sylv. Kor. I. (1915) 18.-
 Pampanini in Nuov. Giorn. Bot. Ital.
 n. ser. XVII. (1910) 422 (Pi. Vas.
 Hupé).- Koidzumi in Journ. Coll.
 Imp. Univ. Tokyo, XXXII. art. 1, (1911)
 p. 58, fig. 32 (Rev. Acer. Jap.).-
 Léveillé, Cat. Illustr. Pl.
 Seutcheouen, (1918) 179.- Chung in
 Mem. Sci. Soc. China, I. (1924) 150
 (Cat. Trees & Shrubs China).-

Acer laetum Regel (non C.A. Meyer) in Bull.

Phys.-Math. Acad. Sci. St. Petersb.
 XV. (1857) p. 217, no. 7; Mel. Biol.
 II. (1857) P. 484 No 7.- Rehder in
 Sargent, Trees & Shrubs, I. (1905)
 177 (in part).-

Acer laetum var. parviflorum Regel in Bull.

Phys.-Math. Acad. Sci. St. Petersb.
 XV. (1857) p. 219; Mel. Biol. II.
 (1857) 486.-

Acer pictum var.? Baker & Moore in Journ.

Linn. Soc. XVII. (1879) 380.

Acer pictum var. mono Maximowicz in Mel.

Biol. X. (1880) 600 - Franchet in
 Nouv. Arch. Mus. Paris, ser. 2, V.
 (1883) p229 no. 189, (Pl. David. I.
 77).- Pax in Engler, Bot. Jahrb.
 VII. (1886) 236.- Korshinsky in
 Act. Hort. Petrop. XII. (1892) p318
 no. 131 (Pl. Amur.).- Palibin in Act.
 Hort. Petrop. XIV. (1895) 113 (Pl.
 Sinico-Mongolicae).- Veitch in
 Journ. Roy. Hort. Soc. XXIX. pt. 3,
 (1904) 347, 348, 360, figs. 87, 89.-
 Rehder in Sargent, Trees & Shrubs,
 I. (1905) 177.- Nakai in Journ. Coll.
 Sci. Imp. Univ. Tokyo, XXVI. (1909)
 133 (Fl. Kor.1), in part ; in Tokyo
 Bot. Mag. XXIX. (1915) 29; Fl. Sylv.
 Kor. 1. (1915) 18 fig. 12.- Pax &
 Hoffmann ex Limpricht in Fedde
 Repert. Nov. Spec. Reg. Veg. beih.
 XII. (1922) 435.-

Acer lobelii Franchet in Nouv. Arch. Mus.

Paris. ser.2, V. (1883) 229 (Pl. David.
 I. 77) (?).- Forbes & Hemsley in
 Journ. Linn. Soc. XXXIII. (1886)
 140 (Ind. Fl. Sin.)(?).-

Acer truncatum Maximowicz (non Bunge) in Act.

Hort. Petrop. XI. (1889) 109.-

Acer pictum var. 2, typicum form 2, mono Graf

von Schwerin in Gratenfl., XLII.
 (1893) 458. Pax in Engler,

Pflanzenreich, Heft 8 (IV.163).
 (1902) 47, in part; in Engler, Bot.
 Jahrb. XXXVI. Beibl. LXXV (1904) 49.-
 Nakai in Journ. Coll. Sci. Imp.
 Univ. Tokyo, XXXI. (1911) 462 (Fl.
 Kor.II.).- Loesener in Bot. Centralbl.
 beibl. XXXVII. pt. 2, (1919) 152
 (Prod. Fl. Tsingtau).-

Acer pictum Thunberg var. parviflorum (Regel)

Schneider, Illustr. Handb. Laubh.
 II. (1907) 225, fig. 151 g.- Reher
 in Sargent, Pl. Wilson. I. (1911)
 83; in Journ. Arn. Arb. VII. (1926)
 216; VIII. (1927) 162; IX. (1928)
 89; Manual Cult. Trees & Shrubs,
 (1927) 562.- Léveillé, Cat. Illustr.
 Pl. Setcheouen, (1918) 179 ~~MSS~~.-
 Bailey, Gent. Herb. (1920) 35.- Chun.
 Chin. Econ. Trees, (1921) 227.- Hers
 in Journ. N. China Branch. Roy. As.
 Soc. LIII. (1922) 106; Liste Ess.
 Honan Sept. (1922) 1.- Chung in Mem.
 Sci. Soc. China, I. (1924) 150 (Cat.
 Trees & Shrubs China).- Liu in Bull.
 Pek. Soc. Nat. Hist. II. (1927-28)
 128 (Chili Fl.) .- Tang in Bull. Fan.
 Mem. Inst. Biol. III. (1932) 198.-
 Fang in Contrib. Biol. Lab. Sci. Soc.
 China, Bot. ser. VII. (1932) 145, (in
 part, excl. specimens cited Chien's
 156 & Chiao's 2109 from Hopei &
 Cheng's 3068 from Szechuan; VIII.
 (1932) 162.-

Tree usually 10 metres high, rarely up to 20 metres high. Bark grey, occasionally brownish grey or darkish grey, very rough. Branchlets slender, glabrous, those of the present year green or purplish green, those of the more than one year old grey or whitish grey with rounded lenticels. Winter-buds subglobose; outer scales glabrous outside, ciliate on the margin; accrescent scales purple, oblanceolate, densely yellowish pilose outside. Leaves deciduous, chartaceous, truncate or subcordate at base, 6-8 cm. long, 9-11 cm. broad, 5-lobed, occasionally 3-lobed and 7-lobed leaves found in the same tree; lobes ovate, acuminate or subcaudate-acuminate, entire; sinuses obtuse or broadly obtuse, reaching half way to the middle of blade; upper surface deep green, glabrous; lower surface pale green, reticulate, glabrous except yellowish or whitish pubescent on the nerves or at axils of nerves; petioles 4-6 cm. long, slender glabrous. Flowers numerous, andromonoecious, in glabrous terminal paniculate corymbs, about 4 cm. long and broad, on peduncles 1-2 cm. long, from leafy branchlets, appearing while the developing of leaves; calyx ciliate, sepals 5, greenish yellow, glabrous, oblong, obtuse, 2-3 mm. long; petals 5, whitish, elliptical or elliptical-obovate, about 3 mm. long; stamens 8, glabrous, shorter than petals, inserted near the inner margin of the evolute disk, anthers yellow and ellipsoid; ovary glabrous or glabrescent, rudimentary in staminate flower, style glabrous and very short, stigmas revolute; pedicels about 1 cm. long, slender glabrous; Fruits purplish green while young, yellowish when matured; nutlets flat, compressed, 1-1.3 cm. long, 8-10 mm. broad; wings oblong, included nutlets 3-3.5 cm. long, 1-1.5 cm. broad, spreading at obtuse angles or horizontally.

MANCHURIA: Amur, Maximowicz, sine no. (in Berol., Munch., Paris & Vind.); Amur, Maack, sine no. (in Berol. & Vind.); "Fluvium Amur circa stationer Radde," V. Komarov, May 28, 1895, (Fl.Mansh. no. 1052) (in Berol. & Brit.); "Districtus Omoso, vallis I-cre-sun-che," V. Komarov, August 3, 1896, (Fl.Mansh. no. 1052) (in Berol. & Brit.); "Voyage au lac Hanka et en Mandschaurie," M. Hugo Bohnhof, in 1898-99, no. 107Bia (in Berol.); Kirin, F.H. Chen, no. 359 (in Fan & Sci.); Kirin, F. H. Chen, July 30, 1931, no. 212 (in Brit., Fan & Sci.); S.E. Manchuria, G. Fenzel, June 1, 1930, no. 33 (in Vind.).

COREA: "Fluvium Tumingan, Districtus Cherieng, vallis Osong-don," V. Komarov, May 13, 1897, (Fl.Mansh no. 1052) (in Brit.); "Insula Yezo circa Makodate," U. Faurie, July 1902, No 5019 (in Berol.); "Circa aemori," U. Faurie, May 1902, no. 5020 (in Berol.); Kan-ouen-To. U. Faurie, July 1901, no. 168 (in Brit. & Edinb.); "in montibus Ouen-san," U. Faurie, July 1906, no. 472 (in Berol., Brit. Edinb., & Paris); Heian, Taiyudo, E. H. Wilson, June 16, 1917, no 8678 (in Brit.); Kogen, Korizo-san, E.H. Wilson, June 30, 1918, no. 10423 (in Brit.); Kum-gang-san, P. Klantke, July to August 1927, nos. 85 & 258 (in Berol.).

HOPEI: "Montagnes des environs de Pekin," A. David, July 1862, no. 433 (in Paris); Hsiao-wu-shan, F.N. Meyer, August 23, 1913, no. 1314 (in Arn.); same locality, J. Hers, July 14, and October 8, 1922, nos. 1487 & 2151 (in Brit.); Hsiao-wu-tai-shan, Tieh-ling-sze, J. Hers, October 7, 1922, no 2132 (in Paris); Western Hills, Hsiang-shan entrance, J.C. Liu, May 2,

1927, no. 337 (in Arn.); Po-hwa-shan, J. Hers, May 1, July 1, 1921, and October 12, 1922, nos. 1403, 1434, & 2240Bis (in Arn. & Paris); Trappist Monastery, Huai-lai-hsien, Yang-kia-ping, J. Hers, October 4, 1922, No. 2098 (in Arn.); Peking Prince's Tomb. J.C. Liu, April, April 24, 1927, no. 308, (in Arn.); Peking Botanic Garden, Cowdry, no. 2199 (in Arn.); east of Peking, E. Licent, July 16, 1917, no. 3148 (in Paris).

SHANSI: Chin-yuan, Lin-kan-shan, K. Ling, June 13, 1925, no. 1672 (in N.B.); Wu-tai-shan, J. Hers, July 31, 1923, no. 2640, (in Arn.); Tien-tai-shan, J. Hers, September 9, 1921, no. 1747 (in Arn.); Kiao-chen, Tien-sin, E. Licent, June 22, 1916, no. 2074 (in Brit.); Kiao-chen, near Ku-pichu, E. Licent, June 24, 1916, no. 2082, (in Brit. & Kew); Ma-kia-pou, Tsai-yen-shan, E. Licent, July 21, 1914, no. 346 (in Paris); Si-wan-tze, E. Licent, August 31, 1917, no. 3435 (in Paris).

SHENSI: "Monte Huan-tou-san," G. Giraldi, July 22-24, 1894, no. 2110 (in Berol. & Firen.); "in montibus Tsin-ling-san, G. Giraldi, July 10, 1900, no. 7136 (in Firen.); Tsing-ling, south of Sian-fu, J. Hers, October 20, 1924, no. 2955 (in Arn.); Hwa-shan, J. Hers, October 31, 1924, nos. 3060 & 3062 (in Arn. ex Rehder); "Tsin-ling-schan centr. inter Mei et Liupa, in silva, montis Tai-pei-schan, 1800 m., "G. Fenzel, May 1834, no. 677 Bis (in Vind.); "in saltu Lung-dung-wan in latere merid montis Tai-pei-schan, 1800 m.", G. Fenzel, August 22 to September 5, 1934, no. 883 (in Vind.); "in confl. Prov. Schansi et Kansu, in silva montis Kwan-schan pr. Lung, ad 2000 m., "G./

G. Fenzel, May 27-29, 1935, nos. 1867 & 1888 (in Vind.); same locality, G. Fenzel, September 4, 1935, no. 2828 (in Vind.); "Nan-wu-tai ad mer. urbis Hsingan," G. Fenzel, October 5-15, 1925, no. 2930 (in Wien);-

KANSU: Chi-shan, near Cheng-hsien, F. N. Meyer, October 1, 1914, no. 1757 (in Arn. ex Rehder); Lower Tebbu Country, forests of Wantsang, J. F. Rock, September-October, 1926, no. 15000 (in Arn., ex Rehder); T'ao-shi-ku forests, J. F. Rock, September 1926, no. 15098 (in Arn., Edinb. & Kew).

SHANTUNG: Tsingtau, R. Zimmermann, in 1901, no. 351 (in Berol., Bres. & Paris); same locality, F. N. Meyer, August 1907, no. 387 (in Arn., ex Rehder); same locality, S. D. Chi, August 1927, no. 15 (in N.F.); same locality, without name of collector, no. 118 (in Central no. 3165); same locality, Krug, April 1903, nos. 477 & 538 (in Berol.).

HONAN: Chi-kung-shan, L. H. Bailey, June, 1917, (in Arn., ex Rehder); Teng-feng, Yu-tai-shan, J. Hers, June 17, 1919, no. 301 (in Arn., ex Rehder); Hwei-hsien, Ta-fu-sze, J. Hers, June 16, 1919, no. 769 (in Arn. ex Rehder); Lu-shih, Hiung-eul-shan, J. Hers, October 12, 1919, no. 965 (in Arn., ex Rehder); Lu-shih, Lao-kiun-shan, J. Hers, September 21, 1919, no. 1216 (in Arn., ex Rehder); Tsi-yuan-hsien, Tien-tan-shan, J. Hers, September 21, 1921, no. 1747 (in Arn., & Paris); without precise locality, J. Hers, in 1918, no. 4 (in Arn., ex Rehder).

CHEKIANG: W. Tien-mu-shan, tree 15 m. high, T. Tang & W. H. Hsia, August 4, 1927, no. 456 (in Berol., Fan & Sci.); same locality, W. C. Cheng, June 26, 1932 no. 2132 (in Sci.).

KIANGSU:/

KIANGSU: Hsiao-hsien, Huang-tsang-yu, J. Hers, May 28, 1919, no. 1016 (in Paris); Liu-lin-shan, near Hai-chow, J. Hers, May 5, 1921, no. 611 (in Arn., ex Rehder); Hai-chow, Kang-fu-lai, J. Hers, October 8, 1922, no. 2295 (in Arn., ex Rehder); Tien-men-sze, C.T. Ren & Tao, July 6, 1926, no. 5 (in N.B.); Chu-yong-hsien, Pao-hwa-shan, W.C. Cheng, May 27, 1933, no. 4369 (in Sci.); south of Nanking, Ox-head-hill, W. C. Cheng, September 29, 1929, no. 538 (in Sci.).

ANHWEI: Chu-chow, L.T. Zee, May 4, 1920, no. 524 (in N.B.); same locality, L.F.Tsu, June 25, 1920, no. 524A (in N.B.); same locality, Walter T. Swingle, June 1922, no. 1277 (in N.B.); Chu-chow, Lang-yah-sze, A.N. Steward, October 27, 1923, no. 1074 (in Kew & N.B.); same locality, K. Ling, October 1923, nos. 556, 557, & 558 (in N.F.); same locality, tree 8 m. high, fruits green Y.Y.Ho, June 20, 1933, no. 1931 (in Sci.); Chu-hwa-shan, A.N. Steward, April 25, 1924, no. 1162 (in N.B.); Hwang-shan, S.S. Chien, July 1926, no. 1124 (in Sci. & Vind.).

KIANGSI: Lu-shan, N.K. Ip, June 4, 1922, no. 1790 (in N.B.); same locality, Y. Tsiang, September 2, 1932, no. 10782 (in Sci. & Sin.).

HUPEH: "In-fon-ho, circa 700 m.," C. Silvestri, June 18 to July 1, 1906, nos. 1378 & 1378A (in Firen.); "Monti di Nantciang-sien, alt. 600m.," C. Silvestri, August to September, 1906, no. 1379 (in Firen.); "Monti di Ku-tcen, circa 700.," C. Silvestri, September 1906, no. 1380 (in Firen., & Kew & Paris); "Vale Ma-kia-keou, alt. circa 700 m.," C. Silvestri, April 1907, no. 1381 (in Firen., Kew & Paris); "Kao-kien-scian, alt. 800 m.," C. Silvestri, May to June 1907, no. 1382 (in Firen.); "Monte Triora," C. Silvestri, July 3, 1907, no. 1383 (in/

(in Firen.); Fang-hsien, E. H. Wilson, May to September, 1907, Nos. 310, 1889, 1905, 1915, 1919, & 1921 (all in Arn., Berol, Brit., Edinb., Firen., Kew, Paris & Vind.); Hsing-shan-hsien, E. H. Wilson, May 31, 1907, no. 642 (in Arn., Brit., Edinb., & Vind.); Hsing-shan-hsien, Wen-tsaο-shan, E. H. Wilson, May 1907, nos. 1897 & 1922 (in Arn., Berol., Brit., Firen., Kew, Paris & Vind.); Chang-yang-hsien, E. H. Wilson, May to September 1907, nos. 1923, 1926, & 2049 (in Arn., Berol., Brit., Edinb., Kew & Vind.); Nanto, E. H. Wilson, July 1900, Veitch Exped. nos. 234 & 1169 (in Berol., Edinb., Kew & Vind.); Patung-hsien, A. Henry, no. 54010 (in Paris).

SZECHUAN: south-east of Sung-pan-shsien, E. H. Wilson, August 1910, no. 4507 (in Berol. & Kew); Nanchuan-hsien, Mount of the Golden Buddha, H. F. Chang, May 1, 1930, no. 263 (in Sci.); same locality, T.H.Tu, May 1, 1933, no. 2951 (in Sci.)

SIKANG: Ta-pao-shan, north of Ta-chien-lu (Kang-tin-hsien), E.H. Wilson, July 3, 1908, no. 1935 (in Arn., Brit., Edinb., & Kew).

HUNAN: Chu-kei-fon, C.C:Chen, August 1929, no. 844 (in Sci.).

YUNNAN: between Likiang-hsien and Yung-ning-hsien, alt. 2700 m., tree 7-8 m. high, J. F. Rock, May 1928, no. 17231 (in Edinb.).

This species is near Acer cappadocicum Gleditsch and Acer truncatum Bunge. It differs from the former species by its grey or whitish branchlets and from the latter species by its longer winged fruits and shorter lobed leaves. As the name, Acer pictum, had been used for Kalopanax/

Kalopanax by Thunberg before he named this Acer, Acer mono Maxim seems to be the valid name of this species. It is advisable to make the following new combinations of varieties.

Acer mono Maximowicz var. Savatieri (Pax) Fang,
n. comb.

Acer pictum var. 3. Savatieri Pax in Engler,
Bot. Jahrb. VII. (1886) 236.- Nakai in
Journ. Coll. Sci. Imp. Univ. Tokyo,
XXVI. art. 1. (1909) 133 (Fl. Kor. I.);
XXXI. art. 1 (1911) 463 (Fl. Kor. II.);
Fl. Sylv. Kor. I. (1915) 19; in Tokyo
Bot. Mag. XXIX. (1915) 29.- Koidzumi in
Journ. Coll. Sci. Imp. Univ. Tokyo,
XXXII. art. 1. (1912) 63, fig. 7
(Rev. Acer. Jap.).-

Acer truncatum Franchet & Savatier, (non
Bunge) Enum. Pl. Jap. I. (1875) 87;
II. (1879) 320.-

Acer pictum Thunberg var. 8 Maximowicz in
Mel. Biol. X (1880) 599; in Bull. Acad.
Sci. St. Petersburg. XXVI. (1880) 443.-

Acer pictum var. typicum subvar. 3.
Savatieri Pax in Engler, Pflanzenreich,
Heft 8 (IV. 163). (1902) 47.-

Acer pictum var. typicum form. 3. Savatieri
Graf von Schwerin in Gartenfl., XLII.
(1893) 458.-

Acer pictum var. mono Nakai (non Pax) in
Journ. Coll. Sci. Imp. Univ. Tokyo,
XXVI. art. 1 (1909) 133 (Fl. Kor. I.),
in part.-

JAPAN: Jezo, C. Maximowicz, sine no. (in Berol.);
Jezo, Wilford, sine no. (in Berol.); without precise locality,

U. Faurie, no. 3154 (in Berol).

Distributed also in Corea.

It differs from the type by its shortly 5- or 7-lobed leaves and the extrorsely falcate wings of the fruit which are usually widely spreading.

Acer mono Maximowicz var. Paxii (Graf von Scwerin) Fang, n. comb.

Acer pictum var. B. Paxii Graf von scwerin in Gartenfl., XLII. (1893) 458.- Pax in Engler, Pflanzenreich, Heft 8 (IV.163). (1902) 47.- Nakai in Tokyo, Not. Mag. XXIX. (1915) 29; Fl. Sylv. Kor. I. (1915) 17.-

Acer pictum var. Savateri Nakai (non Pax.). in Coll. Sci. Imp. Univ. Tokyo, XXVI. art. 1. (1919) 133 (Fl. Kor. I.).-

This variety was described from cultivated plants in Europe by Schwerin, and it is said that this variety had been found in Corea and Japan, although I have not seen any specimens from these regions. It differs from the type species by the leaves being pilose beneath.

Acer mono Maximowicz var. pubigerum (Fang) Fang, n. comb.

Acer pictum Thunberg var. pubigerum Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VIII. (1932) 163.-

Acer pictum Thunberg var. pariviflorum Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 145.- in part, incl. specimens cited from Chekiang and Ching's 2788 from Anhwei.

CHEKIANG: W. Tien-mu-shan, H.H.Hu, June 22, 1927,

no. 1644 (in Arn. Berol., Fan. & Sci.); same locality, S.S.Chien, August 10, 1929, no. 719 (in Sci.); same locality, K.K. Tsoong, April 18-20, 1931, Nos. 150 & 154 (in Sci.); same locality W. C. Cheng, April 23, 1931, nos. 2416, 2419, & 2426 (all in Sci.); same locality K. Ling, August 15, 1931, no. 3527 (in Sci.); Tien-tai-shan, R. C. Ching, May 6, 1924, no. 1412 (in Sci.); same locality, S. Chen, July 4, 1932, no. 509 (in Sci.).

ANHWEI: Chu-hwa-shan, R. C. Ching, June 28, 1925, no. 2788 (in Arn., Berol., Edinb., & Kew & Sci.)

This variety differs from the type species and other varieties by the yellowish brownish hairs on the nerves of the lower surface of the leaves and the pubescent fruits.

Acer mono Maximowicz var. form tricuspis (Rehder) Fang, n. comb.

Acer pictum form tricuspis Rehder in Mitteil. Deutsch. Dendr. Ges. XXII. (1913) 258.

This form was described from cultivated plants in Arnold Arboretum by Professor Rehder. It is still doubtful whether this form occurs in China or not. It differs from the type species chiefly by its shortly 3-lobed leaves.

Rehder's original description runs:-

Acer mono Maximowicz var. quelpaertense Fang, n. var.

A typo floribus majoribus, ovario villosa, fructu parvo, alis brevioribus differt.

COREA: "in silvis Quelpaert," U. Faurie, June 1907, no. 1601 (in Edinb. & Vind.); "in silvis Quelpaert," T. Taquet

Talquet, September 1907, no. 155 (in Edinb.); "in silvis Yengsil, alt. 1000 m.," T. Taquet, August 17, 1908, no. 661 (in Edinb.); "in silvis Hallaisan," T. Taquet, May to June, 1909, nos. 2747, 2748, 2749, 2750 (type of the variety) & 2751 (all in Edinb.); same locality, T. Taquet, June 1911, no. 5449 (in Edinb.).

It differs from the type by the large flowers with sepals and petals usually 6 mm. in length, by the densely villous ovary with greyish hairs which are persistent even in young fruits, and by the small fruits about 1.5-1.8 cm. long, 6mm. broad, with wings nearly as long as the nutlets. In the villous ovary it may be near Acer mono var. velutinum Nakai (in Tokyo Bot. Mag. XLV. (1931) 125,), but it differs chiefly and easily by the glabrous branchlets. The leaves are 5- or 7- lobed and the lobes are usually triangular-oblong in outline, acuminate or caudate-acuminate on the apex.



4. Acer Okamotoanum Nakai in Tokyo Bot. Mag. XXXI. (1916)
28. -

Acer Okamotoi Nakai in Tokyo, Bot. Mag.

XXVII. (1913) 130 (name only); XXIX
(1915) 28, in part, excl. description of
of leaves; Fl. Sylv. Kor. I. (1915)
p. 13, fig. 7, in part, excl. descrip-
tion and figure of leaves.

Tree usually 20-30 metres high. Dark brownish grey or dark grey, fissured, lenticels oval or rounded. Branchlets glabrous, those of the present year green or purplish green, those of more than one year old greyish yellow or greyish brown. Winter-buds ellipsoid; outer scales ciliate on the margin, accrescent scales obovate or oblong-ovate, densely yellow pubescent outside. Leaves deciduous, chartaceous, roundish in outline, 7-14 cm. long, 8-12 cm. broad, truncate or subcordate at base, 7-lobed or rarely 9-lobed; lobes triangular-ovate, entire, acuminate; Upper surface deep green, glabrous; lower surface pale green, glabrous except slightly whitish barbate on the nerves at first; petioles 8-12 cm. long, glabrous. Flowers greenish yellow, in glabrous terminal corymbs, from leafy branchlets. In staminate flower sepals 5, oblong or oblong-ovate, obtuse, 5 mm. long, 3 mm. broad; petals 5, obovate or oblong-obovate, 6 mm. long, 1.5 mm. broad; stamens 8, glabrous, 3 mm. long, inserted at the inner margin of the glabrous, lobed disk. Ovary rudimentary. In pistillate flower sepals and petals are the same as in staminate flower, stamens wanting, ovary densely pubescent, style 3 mm. /

3 mm. long, stigmas revolute. Young fruit greenish yellow; nutlets flat, 1.5 - 2 cm. long, 1.3 - 1.6 cm. broad; wings with nutlets 4.5 - 5 cm. long, 1.5 - 1.8 cm. broad, spreading at acute angles.

COREA: Dagelet, Okamoto, in 1912, sine no. (in Tokyo); Dagelet, T. Ishidoya, June 8, 1916, no. 89 (in Tokyo); Dagelet, Mt. Rarikolbon, T. Nakai, May 31, 1917, no. 4408 (in Tokyo); Dagelet, Mt. Djoho, T. Nakai, June 2, 1917, nos. 4416 & 4420 (in Tokyo); Dagelet, Island, Ooryong-too, tree 20-30 metres high, bark grey and fissured, flowers yellow, commonest tree on the island and probably the largest on average, E.H. Wilson, May 31, 1917, no. 8559 (in Arn., Berol., Brit. & Edinb.).

This species is easily distinguished from other species by its large fruit with nutlets 1.6 cm. broad and with wings up to 5 cm. long.

Acer cappadocicum Gleditsch in Schrift, Gesell, Natruf. Freunde Berlin. VI. (1785) 116, t. 2.- Rehder in Sargent, Pl. Wilson. I. (1911) 84; Manual Cult. Trees & Shrubs, (1927) 562.- Chun, Chin. Econ. Trees (1921) 227, (in part).-

This species occurs from Causasus to western Himalayas only.

Acer cappadocicum Gleditsch, var. cultratum (Wallich) Fang, n. comb.

Acer cultratum Wallich, Pl. As. Rar. II. (1831) 4.-

Acer sterculiaceum (non Wallich). Griffith Itin. Notes, (1848) 148.-

Acer lobelii Tenore subsp. II laetum (C.A. Meyer) Pax var. 1. indicum Pax in Engler, Bot. Jahrb. VII. (1886) 237; Hooker /

Hooker Icon. Pl. XIX. (1889) under t.
1897, excl.; ex Diels in Engler Bot.
Jahrb. XXIX. (1900) 449 (Fl. Central-
china), excl.

Acer laetum C.A. Meyer, var. a. indicum Graf
von Schwerin, Gartenfl. XLII. (1893)
459.- Schneider, Illustr. Handb. Laubh.
(1907) 226, in part.-

Acer laetum C.A. Meyer, var. indicum Pax form.
cultratum (Wallich) Graf von Schwerin,
Gartenfl. XLII. (1893) 459.-

Acer laetum C.A. Meyer var. B. cultratum
(Wallich) Pax in Engler, Pflanzenreich,
Heft 8 (IV.163). (1902) 48 in part, incl.
Himalayan plants only.- Henry in Gard.
Chron. ser. 3, XXXIII. (1903) 100, excl.-
Veitch in Journ. Roy. Hort. Soc. XXIX .
pt. 3, (1904) 354, 360, fig. 101, excl.-

Acer cappadocicum Gleditsch var. indicum (Pax)
Rehder in Sargent, Pl. Wilson. I. (1911)
86 (in part), Leveille, Cat. Illustr. Pl.
Seutchouen, (1918) 178, MSS., excl.-
Chung in Mem. Sci. Soc. China, I. (1924)
148 (Cat. Trees & Shrubs China), excl.-

INDIA: Himalaya, Wallich no. 1228 (in Kew); same
locality, J.D. Hooker, sine no. (in Kew); same locality,
Falconer, no. 344 (in Kew); N.W. India, J.L. Stewart, in 1871,
sine no. (in Edinb.).

This variety occurs in India Himalayas only. It is
characterized by its usually 7 rarely 5 lobed leaves, 14-16
cm. /

cm. long, 15-17 cm. broad, cordate at base, and by its
 cultrate fruits 4.5 -5 cm. long, 1.5 -1.8 cm. broad,
 slightly outward curved and usually horizontally spreading.

Acer cappadocicum Gleditch var. sinicum Rehder in
 Sargent, Pl. Wilson, I. (1911) 85; in Journ. Arn. Arb. VIII.
 (1927) 162 (excl.); Manual Cult. Trees & Shrubs, (1927) 562.-
 Leveille, Cat. Illustr. Pl. Seutchouen, (1918) 178 (MSS.)-
 Chung in Mem. Sci. Soc. China, I. (1924) 148 (Cat. Trees &
 Shrubs China).- W.W. Smith & etc. in Notes Roy. Bot. Gard.
 Edinb. XIV. (1924) 272, 282, 356, XVII. (1930) 198.- Chien
 in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. III. (1927)
 61 (Fl. Hwangshan). Fang in Contrib. Biol. Lab. Sci. Soc.
 China, Bot. Ser. VII. (1932) 147; VIII. (1932) 163.- Handel-
 Mazzetti, Symb. Sin. VII. (1933) 640.-

Acer lobelii Franchet (non Tenore) in Nouv.
 Arch. Mus. Paris, ser. 2 V. (1883) 229
 (Pl. David. I. 77) (?).- Forbes &
 Hemsley in Journ. Linn. Soc. XXIII.
 (1886) 140 (Ind. Fl. Sin.) (?),- Léveillé
 Cat. Pl. Yunnan, (1917) 252; Cat. Illustr
 Pl. Seutchouen, (1918) 179, MSS. -

Acer lobelii Tenore var. colchicum Franchet
 (non Pax) in Bull. Soc. Bot. France,
 XXXIII. (1886) 463; Pl. Delavay. (1889)
 140. - Léveillé, Cat. Pl. Yunnan, (1917)
 252.-

Acer lobelii Tenore, subsp. laetum (C.A. Meyer)
 Pax var. indicum Pax in Engler, Jahrb.
 VII. (1886) 237 excl.; in Hooker, Icon.
 Pl. /

Pl. XIX. (1889) under t. 1897; ex Diels in Engler, Bot. Jahrb. XXIX. (1900) 449 (Fl. Centralchina), in part, incl. specimen cited Rosthorn's 2268 from Szechuan.¹

Acer laetum C.A. Meyer var. B. cultratum (Wallich) Pax in Engler, Pflanzenreich, Heft 8 (IV.163). (1902) 48, in part, incl. specimens cited from Hupeh & Szechuan.- Henry in Gard. Chron. ser. 3, XXXIII. (1903) 100, in part, incl. specimen cited Henry's 5347 from Hupeh.- Veitch in Journ. Roy. Hort. Soc. XXIX. pt. 3, (1904) 354, 360, fig. 101.- Rehder in Sargent, Trees & Shrubs, I. (1905) 178, in part, incl. specimen cited Wilson's 287 & 605 from Hupeh.- Léveillé, Cat. Pl. Yunnan, (1917) 252; Cat. Illustr. Pl. Seutchouen, (1918) 178 MSS.-

Acer lobelii Tenore var. Hemsley in Journ. Linn. Soc. XXXVI. (1905) 452.-

Acer laetum Rehder in Sargent, Trees & Shrubs I. (1905) 177; II (1907) 25.- Schneider, Illustr. Handb. Laubh. II. (1907) 226 in part,- Dunn in Journ. Linn. Soc. XXXIX. (1911) 413.- Léveillé, Cat. Yunnan, (1917) 252; Cat. Illustr. Pl. Seutchouen, (1918) 178 MSS.-

Acer /

(1) Bock's & Rosthorn's 327, a leafy specimen in Herb. Berol., is Alangium chinense Rehder, which was wrongly referred to as Acer laetum var. indicum.

Acer cappadocicum Gleditsch var. indicum (Pax)
 Rehder in Sargent, Pl. Wilson, I. (1911)
 86 in part.- Léveillé, Cat. Illustr. Pl.
 Seutcheouen, (1918) MSS. - Chung in Mem.
 Sci. Soc. China, I. (1924) 148 (Cat.
 Trees & Shrubs China).-

Acer laetum C.A. Meyer, var. colchicum Léveillé
 (non Pax). Cat. Pl. Yunnan, (1917) 252.-

Acer cappadocicum Léveillé (non Gleditsch) Cat.
 Illustr. Pl. Seutcheouen (1918) 178,
 MSS.- Chun, Chin. Econ. Trees, (1921)
 277, in part. -

CHEKIANG: W. Tien-mu-shan, W.C. Cheng, April 23,
 1931, no. 2418 (in Sci.).

HUPEH: Hsing-shan-hsien, E.H. Wilson, May 11, 1907,
 No. 1884 (in Arn. Brit., Edinb., & Kew); Chang-lo-hsien,
E.H. Wilson, May 1907, no. 1925 (in Arn., Brit., Edinb.,
 & Vind.); Chien-shih-hsien, A. N. Henry, nos. 5347 (in Arn.
 Berol., Bres., Brit., Edinb., Kew & Paris) & 5480 (in Arn.,
 Berol. Brit. & Kew); same locality, tree 7 metres high, E.H.
Wilson, May 1900, Veitch exped. nos. 551 & 605 (in Berol.
 & Vind.); Nanto, E.H. Wilson, July 1900, no. 1169 (in Paris);
 without precise locality, E.H. Wilson, April to May 1900,
 Veitch Exped. nos. 287 (in Vind.) 885 (in Kew) 2706 (in
 Edinb.).

SZETCHUAN: Wen-chuan-hsien, Wassu country, E.H.
Wilson, October 1908, no. 1009 (in Arn., Berol., Brit.,
 Edinb., Firen. & Kew); same locality, W. Limpricht, May 8,
 1914, 1393 (in Berol. & Bres.); same locality, W.C. Cheng,
 September /

September 28, 1931, no. 3425 (in Sci.); Nan-chuan-hsien, C. Bock & A. v. Rosthorn, in 1891, nos. 250, 2264, 2265, 2267, & 2268 (all in Berol.); Mt. Wa, tree 17 metres high, E.H. Wilson, June 1904, nos. 3352 (in Brit.) & 3357 (in Kew); "Bakuwe bei Kwapi und unter Betiaohon von Yenyuen ober Sili Muli Wahrscheninlich dieser bei Hwayi sw von hier," H. Handel-Mazzetti, May 22, 1914, no. 2503 (in Edinb., Firen., Vind. & Wien); "inter Kalapa et Liuku," C. Schneider, May 17, 1914, no. 1279 (in Berol. & Edinb.); "inter Kalapa et Liuku, in silvis apertis," C. Schneider, May 17, 1914, no. 1283 (in Berol. Edinb., & Kew); "inter Woloho et Hunati," C. Schneider, June 16, 1914, no. 3486 (in Berol. & Edinb.).

SIKANG: Tapao-shan, northeast of Tachien-lu (Kang-tin-hsien), E.H. Wilson, July 5, ^{1908, no.} 1903 (in Arn., Berol., Brit., Edinb., Firen., Kew & Vind.); southwest of Kang-tin-hsien, Tong-ku, W.C. Cheng, May 17, 1930, no. 893 (in Edinb., Fan. Sci. & Sin.); Between Batang and Tachien-lu, Hosie, September to October 1904, sine no. (in Kew); Tchon-palong, Bon Valot & Prince D'Orleans, no. 83 (in Paris); Chiu-lung, east of Yalung River, J.F. Rock, May 1929 no. 17434 (in Arn., Berol. & Edinb.); same locality, W.C. Cheng, May 1930, no. 940 (in Brit., Fan. Sci. & Sin.); same locality, Sun, Ching & Tu, nos. 115 and 292 (in Sci.); mountains between the Litang and Shou-chu rivers, between Wa-erh-dje and Garu, J.F. Rock, July to August 1928, no. 16903 (in Arn., Berol. & Edinb.).

YUNNAN: Yung-ning Lake, alt. 3,000 m., in thin woods by the lake, tree of 12 metres high, J.F. Kingdon Ward, May 30, 1921, no. 4113 (in Edinb.); Yungning, alt. 3200 m., by the lake side, tree of 10-14 metres high, flowers greenish yellow, F. Kingdon Ward, April 20, 1922, no. 5062 (in Edinb. ✓)

Edinb.); Yungning, Mt. Wuaha, alt. 3400 m., tree 12-14 metres high, flowers greenish yellow, J.F. Rock, August 1932, no. 24260 (in Arn. Brit., & Edinb.); between Lichiang & Yungning, alt. 2700 m., tree 20-25 metres high, J.F. Rock , May 1928, no. 17231 (in Arn., Berol. & Kew); "im nw am Stauweiher bei Nguluko nacht Lidjiang, " H. Handel-Mazzetti, June 7, 1915, no. 821 (in Vind. & Wien); mixed forests in side valley on the eastern flank of the Lichiang range, lat. 27° 10' N., alt. 3300 m., spreading tree of 8-12 metres high, G. Forrest, June 1906, no. 2273 (in Edinb.); "im nw am Stauweiher bei Nguluke nacht Lidjiang, " H. Handel-Mazzetti, June 7, 1915, no. 821 (in Vind. & Wien); eastern slopes of Lichiang snow range, R. Yangtze watershed, J.F. Rock, September 1923, no. 10660 (in Arn., ex Rehder); Yu-lung-shan, Mt. Satseto, J.F. Rock, June to August 1932, no. 24869 (in Arn., Brit., & Edinb.); Beyendjing (Yen-fong-hsien), Pater Simeon Ten, September 10, 1916, no. 131 (in Edinb.); "Io-chow (Yao-an-hsien), brousse du plateau de Ta-hai-tse, alt. 3200 m E.E. Maire, May 1913, no. 317 (in Berol., Edinb. & Kew); "Ouei-cha (inter Yungpe et Hoa-pin-hsien), " Pater Simeon Ten, April 23, 1920, no. 376 (in Edinb.); "Io-chow (Yao-an-hsien), brousse du plateau de ta-hai-tse, alt. 3200 m., E.E. Maire, May 1913, no. 317 (in Berol., Edinb. & Kew); "Io-chow (Yao-an-hsien), plateau de Lou-ke-suin, alt. 3000 m. E.E. Maire, June 1914, no. 908 (in Edinb.); Io-chow, E.E. Maire, no. 5343 (in Berol.); "am Yangtze von Bolo bis Ronscha an seinem Zuflusse, 27° 46' N., H. Handel-Mazzetti, no. 8814 (in Paris, Vind. & Wien);

"inter fluvios Djinscha-Djiang et Landsang-Djiang ad viam Djitsung-Kalsatang, in regionis temperatae. silva juzialsalo, alt. 3150 m., " H. Handel-Mazzetti, August 30, 1915, no. 7914 (in Berol.); Langkong-Hocking divide, lat. 26° /

$26^{\circ} 16'$ N., alt. 3000 m., in open situations, tree of 10-20
 Metres high, fruits red, G. Forrest, May 1913, no. 10004
 (in Brit. & Edinb.); Langkong-Hocking divide, lat. 26°
 $20'$ N., open thickets, shrub of 7-14 metres high, G.
Forrest, May 1913, no. 10021 (in Edinb.); Mekong-Salween
 divide, northwest of Tsekou, G. Forrest in 1902, no. 485
 (in Edinb.); Mekong and side valleys generally below the
 pine belt, tree 10-17 metres high, G. Forrest, September
 1902, no. 95 (in Edinb.); Mekong-Salween divide, lat. 28°
 $12'$ N., alt. 3300 m., in thickets and mixed forests, shrub
 of 7-9, metres high, flowers green, G. Forrest, April 1918,
 no. 16419 (in Edinb. & Vind.); mountains northeast of Adong,
 lat. $28^{\circ} 40'$ N., long. 99° E., alt. 4000 m., in mixed
 forests, shrub or tree of 8-17 metres high, G. Forrest,
 September 1921, no. 20797 (in Edinb.); Salween-Kiu Chiang
 divide, Tsarong, Salween-Kiu Chiang divide, northwest of Si-
 chi-to, lat. $28^{\circ} 24'$ N., long. $99^{\circ} 30'$ E., alt. 3300-3700 m.,
 in mixed thickets in side valleys, shrub of 7-9 metres high,
 flowers pale yellowish green, G. Forrest, May and October,
 1922, nos. 21599 & 22765 (in Edinb.); Tsarong, Salween-
 Mekong divide, Londre-la, lat. $28^{\circ} 14'$ N., long. $98^{\circ} 40'$ E.,
 in open thickets and forests, shrub of 8-12 metres high,
 flowers yellowish green, G. Forrest, May and October 1922,
 nos. 21672, 22631, & 22753 (in Edinb.); A-tun-tsu, F. Kingdon
Ward, June 1913, nos. 341 and 411 (in Edinb.); Tali,
Delavay, July 26, 1883, sine no. (in Paris); "Tali, supra-
 Ta-pin-tze," Delavay, April 14 to July 22, 1884, no. 836
 (in Paris); Tali, Delavay, July 22, 1884, no. 838 (in Kew);
 Tali, Ta-long-tan, Delavay, November 10, 1887, sine no.
 (in /

(in Paris); "Tali, les bois de Ta-long-tan, pres de Tapintze," Delavay, April 26, 1888, sine no. (in Paris); "Tali, Bois de Tsin-choin, pres du colde Hee-chan-mem," Delavay, May 21, 1889, no. 4367 (in Paris); "les bois de Tsin-choni-ho, pres du col de Hee-chan-men," Delavay, May 21, 1889, no. 4387 (in Paris); without precise locality, pere MoXmbeig, in 1907, no. 61 (in Edinb.).

TIBET: Ato, Zayul, F. Kingdon Ward, June 1933, nos. 10450 & 10473 (in Brit.).

This variety differs from the type and from var. cultratum by its smaller 5-lobed leaves which have longer and narrower lobes and which are less bearded in the axils of the primary veins beneath and by its smaller flowers and fruits (usually about 3-3.5 cm. long.).

Acer cappadocicum Gleditsch, form tricaudatum Rehder in Sargent, Trees & Shrubs, I. (1911) 86; Manual Cult. Trees & Shrubs, (1927) 562.- Léveillé, Cat. Illustr. Pl. Seutchouen, (1918) 178, MSS.- Chung in Mem. Sci. Soc. China I. (1924) 148 (Cat. Trees & Shrubs China).- Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII.(1932) 147; VIII (1932) 164.-

Acer laetum C.A. Meyer, var. B. cultratum (Wallich) Pax in Engler, Pflanzenreich, Heft 8 (IV.163). (1902) 48, in part, incl. specimen cited Henry's 10872 from Yunnan.- Henry in Gard. Chron. ser. 3, XXXIII. (1903) 100, in part, incl. specimen cited Henry's 10872 from Yunnan.- Rehder in Sargent, Trees /

Trees & Shrubs I. (1905) 178, in part,
incl. specimen cited Henry's 10872 from
Yunnan.

Acer laetum C.A. Meyer, var. tricaudatum
Rehder ex Veitch in Journ. Roy. Hort.
Soc. XXIX. pt. 3, (1904) 354, 360, figs.
100, 102, in English.- Rehder in Sar-
gent, Trees & Shrubs, I. (April 1905)
178, in English; in Fedde Repert, Nov.
Spec. Reg. Veg. I. (July 1905) 5, in
Latin.- Schneider, Illustr. Handb.
Laubh. II. (1907) 226, fig. 150 a h .-

HUPEH: Fang-hsien, E.H. Wilson, May 14, 1907,
no. 1892 (in Arn., Berol., Brit., Edinb., Firen., Kew &
Vind.); same locality, tree 8 metres high, E.H. Wilson,
May 1907, no. 2706 (in Arn., Berol. & Paris); Nanto,
E.H. Wilson, April 1900, no. 234A (type of Acer laetum
var. tricaudatum in Arn.; cotype in Kew & Vind.); Tze-kwei-
hsien, shrub 2 metres high, fruits greenish red, H.C. Chow,
May 29, 1934, no. 365 (in Edinb. & Wuhan); Patung-Hsien,
E.H. Wilson, April 24, 1900, sine no. (in Kew); Chien-
shih-hsien, tree 7 metres high, E.H. Wilson, May 1900,
no. 551 (in Arn., & Kew).

SZECHUAN: Sung-pan-hsien, W.P. Fang, August 17,
1928, no. 4256 (in Arn., Berol., Edinb., Fan, Kew & Paris);
without precise locality, F. T. Wang, in 1931, no. 23039
(in Sin.).

SIKANG: /

SIKANG: West of Tachien-lu (Kang-tin-hsien), side of stream, alt. 2700-3000 m., E.H. Wilson, October 1908, no. 1358 (in Arn., Berol., Brit., Edinb., Firen., Kew & Vind.).

YUNNAN: Mengtze-hsien, northern mountain forests, alt. 3000 m., tree 7 metres high, A. Henry, nos. 10218 (in Kew) & 10872 (in Arn., Berol. Edinb., & Kew); Tsekou, T. Monberg, sine no. (in Kew); mountains north east of Atuntze, lat. $28^{\circ} 40'$ N., long. $99^{\circ} 10'$ E., alt. 3700 m., in mixed forests, tree of 17-24 metres high, foliage only, G. Forrest, July 1921, no., 19856 (in Edinb. & Kew); north-west of Y Tsekou, Mekong-Salween divide, G. Forrest, in 1902, no. 485 (in Edinb.); Tsekou, T. Monberg sine no. (in Kew); without precise locality, G. Forrest, no. 29011 (in Edinb.).

It is a form of var. sinicum Rehder, and is characterized by its small leaves with three acuminate lobes and small fruits with shorter and slender wings.

5. Acer Bodinieri Léveillé in Fedde Repert. Nov. Spec. X. (1911) 433; Fl. Kouy-Tcheou, (1915) 383. -

Acer amplum Rehder var. W.W. Smith & etc.
in Notes Roy. Bot. Gard. Edinb. XVII.
(1929) 9; XVII. (1930) 296.

Acer pictum f. tricuspis Rehder in Journ.
Arn., Arb. XV. (1934) 5.- Non Rehder
in 1913.

Tree usually 10 to 15 metres high, rarely up to

20 metres high. Bark brown or greyish brown, rarely dark brown, with conspicuous rounded lenticels. Branchlets stout, glabrous, those of the present year purple or greenish purple, smooth, those of the more than one year old brown or yellowish brown rarely deep brown. Winter-buds subglobose, glabrous outside, slightly ciliate on the margin. Leaves deciduous, chartaceous, rounded at base, usually longer than broad, 10-16 cm. long, 8-13 cm. broad, 3-lobed, occasionally small entire leaves found in the same tree; middle lobe triangular-ovate, acuminate; lateral lobes obtuse or triangular-ovate, acuminate, forwardly directed; sinuses obtuse, reaching one-third to the middle of blade; upper surface deep green, glabrous; lower surface pale green, reticulate, primary nerves 5, glabrous or sparingly whitish pubescent along the nerves while young; petioles 7-12 cm. long, slender, glabrous. Flowers unknown. Fruits purple while young, then greenish yellow, 3-5 in glabrous terminal corymbose fruiting inflorescence, about 5 cm. long, on peduncles 1-2 cm. long; nutlets oblong, compressed, flat, 1-1.5 cm. long, 6 mm. broad; wings sub-parallel or slightly broader near the apex, included nutlets 3-3.5 cm. long, 7-9 mm. broad, spreading at acute angles; pedicels 2 -2.5 cm. long.

SZECHUAN: "inter Kalapa et Liuku, in silvis apertis, alt. 3500 m., arbor circa 10 m. alt. trunco circa 0.6 m., crass." C. Schneider, May 17, 1914, no. 1283 (in Edinb.).

KWEICHOW: /

KWEICHOW: Tsin-gai (Tsin-an-hsien), Kao-po, J. Cavalerie, July 1903, no. 1162 (type in Edinburgh ; Photo. in Arn.).

YUNNAN: Shweli-Salween divide, lat. $25^{\circ} 6'$ N., alt. 2400-2700 m., tree of 20 metres high, foliage only, G. Forrest, April 1917, no. 13655 (in Edinb.); Shweli-Salween divide, lat. 25° N., alt. 3000 m., in mixed thickets and forests, shrub or tree of 7-14 metres high, G. Forrest, June 1919, no. 17908 (in Edinb.); Shweli-Salween divide, lat. $25^{\circ} 10'$ N., long. $98^{\circ} 45'$ E., alt. 3400-3700 m., in mixed thickets and forests, tree of 14-17 metres high, G. Forrest, April 1921, no. 19345 (in Edinb.); Shweli-Salween divide, lat. $25^{\circ} 45'$ N., long. $98^{\circ} 40'$ E., alt. 3000 m., in open mixed forests, tree of 10-17 metres high, G. Forrest, June 1914, no. 24394 (in Edinb.); Shweli-Salween divide, lat. $25^{\circ} 6'$ N., long. $98^{\circ} 55'$ E., alt. 3000-3300 m., in heavy forests, tree of 14-20 metres high, G. Forrest, April 1931, no. 29579 (in Edinb.).

This species is near Acer amplum Rehder, but it differs in its 3-lobed leaves with rounded base, its narrow fruits with wings spreading at acute angles, and its longer peduncles usually about 2 cm. in length.

By Professor Rehder this species had been referred to Acer pictum f. tricuspis, but it is easily distinguished from that form in its brown branchlets, large and longer fruits, and large leaves usually 3-lobed and rounded at base.

6. Acer fulvescens Rehder in Sargent, Pl. Wilson. I. (1911) 84; Manual Cult. Trees & Shrubs, (1927) 562. - Schneider, Illustr. Handb. Laubh. II. (1912) 1028. - Leveille, Cat. Illustr. Pl. Seutchouou, (1918) 178. - MSS. - Chung in Mem. Sci. Soc. China, I. (1924) 149 (Cat. Trees & Shrubs China). - Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VIII. (1932) 162. - Handel-Mazzetti, Symb. Sin. VII. (1933) 640, excl. -

Acer pictum Thunberg Var. parviflorum Fang
(non (Regel) Schneider), in Contrib.
Biol. Lab. Sci. Soc. China, Bot. Ser. VII.
(1932) 145, in part, cited specimen
Cheng's 3068 only. -

Tree usually about 10 metres high, rarely up to 20 metres high. Bark grey or yellowish grey, slightly fissured; lenticels small, yellow, very few, scattered on the bark of old branches only. Branchlets slender, those of the present year reddish green, glabrous or slightly puberulous; those of more than one year old brownish grey or greyish white. Buds brownish, ovate; scales glabrescent. Leaves chartaceous, deciduous, round or subcordate at base, suborbicular in outline, 7 - 10 cm. long, 5 - 11 cm. broad, usually 3-lobed, rarely undivided or with one or two small additional basal lobes; lobes shortly and triangular ovate; aristate or long acuminate, 2 - 3 cm. long, 1 - 3 cm. broad; sinuses open, broadly obtuse, reaching one-fourth or one-fifth to the middle of the blade; upper surface deep green, glabrous or glabrescent; lower surface pale green, reticulate, with 5 prominent primary nerves, fulvous or brown pubescent especially on the nerves; petioles slender, 3 - 9 cm. long, glabrous/

glabrous rarely puberulous near the apex. Flowers unknown.. Fruits purple while young, purplish yellow when matured, in slender, glabrous or slightly puberulous corymbose fruiting inflorescences; nutlets compressed, 1.3 - 1.5 cm. long, 8 - 10 mm. broad; wings slender, 3 - 3.5 cm. long, 1.5 cm. broad, obtuse, widest at the middle, spreading nearly horizontally.

SZECHUAN: Northwest of Sung-pan-hsien, tree 8 m. high, W. C. Cheng, August 24, 1931, No. 3068 (in Edinb., Kew, Sci.); west of Kuan-hsien, Pan-lan-shan, E. H. Wilson, September 1908, No. 1004 (type of the species in Arn., co-type Berol., Brit., Edinb., Kew, Firen., & Vind.); Mupin (Pao-hsing-hsien); E. H. Wilson, July 1908, No. 1907 (in Arn., Berol. Brit., Edinb., Firen., Kew & Vind.); Wanshan, E. H. Wilson, October 1908, No. 1162 (in Arn., Brit. & Kew). -

NORTHERN YUNNAN: "in dumetis prope Lanticho, unter Yungning et Yungpeh, alt 2800 m., arbor circa 8 m. alta," C. Schneider, June 25, 1914, No. 1666 (in Berol., Edinb. & Kew).

Acer fulvescens is closely allied to Acer longipes Franchet, from which it differs by its 3-lobed leaves, fulvous pubescent beneath, and by its large samara with wings horizontally spreading.

7. Acer tibetense Fang. Sp. Nov.

Arbor mediocris. Ramuli graciles glabri, hornotini purpurei vel purpureo-virides, annotini brunnei vel atrobrunnei. Gemmae ellipsoideae, perulis exterioribus binis valvatis apice pubescentibus. Folia decidua, chartacea, 6 - 9 cm. longa, 5 - 8 cm. lata, basi rotundata, 5-lobata, lobis triangulariovatis acuminatis vel caudato-acuminatis, aristatis sinibus acutis vel obtusis ad quadrantem vel trientem laminae pertinentibus, supra atroviridia glabra, subtus pallidiora, dense flavido-cinereo-tomentosa, petioli 5 - 7 cm. longi, purpurei, apice tomentosi. Flores viridi-flavi, in corymbos 5 - 6 cm. longos 6 cm. latos sessiles glabros vel ad nodos pilosos dispositi. Sepala 5, oblonga, obtusa, 3 mm. longa, extra sparse pilosa. Petala 5, obovata vel obovato-oblonga, 4 - 5 mm. longa, extra sparse pilosa, Stamina 8, in floribus masculinis sepalis subaequilongis, in floribus femineis rudimentaria vel nulla, filamentis glabris, antheris globosis flavis. Discus extrastaminalis, lobatus, glaber. Ovarium purpureo-viride, glabrum vel sparse pilosum, in floribus masculinis obsoletum; stylus 1.5 mm. longus, glaber, stigmatibus revolutis. Fructus juveniles purpureo-virides, loculis complanatis 1.2 cm. longis 1 cm. latis, alis oblongis parallelis una cum loculis 4.5 cm. longis 1.2 cm. latis horizontaliter patentibus.

TIBET: Zayul, Rangto Valley, alt. 2000-2700 m., a medium shady tree of the mixed forest zone, leaves and /

and flowers appearing together, young leaves often red, common, F. Kingdon Ward, April 28, 1933, No. 10368 (type in Edinb.: co-type in Brit.); same locality, F. Kingdon Ward, November 13, 1933, No. 10979 (in Brit.).

This new species is near Acer fulvescens Rehder, but differs in its large fruits and its leaves round at base and densely yellowish grey tomentose on the lower surface.

8. Acer tenellum Pax in Hooker, Icon. Pl. XIX (1889) t. 1897; in Engler & Prantl, Pflanzenfamilien, III. pt. 5, (1896) 272; ex Diels in Engler, Bot. Jahrb. XXIX. (1900) 449 (Fl. Centralchina); in Engler, Pflanzenreich, Heft 8 (IV. 163). (1902) 53, fig. 9. - Graf von Schwerin in Gartenfl. XLII. (1893) 460. - Bretschneider, Hist. Europ. Bot. Discov. China, (1889) 781. - Henry in Gard. Chron. ser. 3, XXXIII. (1903) 100. - Veitch in Journ. Roy. Hort. Soc. XXIX. pt. 3, (1904) 347 & 360. - Hemsley in Journ. Linn. Soc. XXXVI. (1905) 452. - Rehder, in Sargent, Trees & Shrubs, I. (1905) 178. - Schneider, Illustr. Handb. Laubh. II. (1907) 229, figs. 152 d, 153 m-n, - Chung in Mem. Sci. Soc. China, I. (1927) 150 (Cat. Trees & Shrubs China). -

Tree usually 7 metres high. Bark grey or darkish grey, smooth. Branchlets slender, those of the present year /

year purplish, glabrous or glabrescent, those of the more than one year old greyish or greyish green. Lenticles small, round or oval. Leaves deciduous, membranaceous, subcordate or cordate at base, 4 - 6 cm. long, 3 - 6 cm. broad, usually 3-lobed, rarely undivided; middle lobe obtuse, acute or rarely acuminate, entire or slightly sinuate; lateral lobes obtuse, acute or obsolete, entire; sinuses usually broadly obtuse; upper surface deep green, glabrous; lower surface pale green, with 5 slightly elevated primary nerves, glabrous except slightly pubescent at the axils of nerves; petioles 3 - 6 cm. long, slender, glabrous. Flowers yellowish green, andromonoecious, in glabrous, terminal corymbs, on slender, glabrous peduncles 1.5 - 2 cm. long, from leafy branchlets, appearing while developing of leaves; sepals 5, oblong, glabrous on both sides, slightly ciliate on the margin, 2 - 3 mm. long; petals 5, oblong-obovate, glabrous, 2 - 3 mm. long; stamens 8 - 10, in staminate flowers as long as or slightly shorter than petals, obsolete in pistillate flower, filaments glabrous, anthers yellow; disk lobed, glabrous, extrastaminal; ovary glabrous, compressed, style glabrous, very short, connate at the base, stigmas recurved. Fruits glabrous, purple while young; nutlets compressed, with wings spreading nearly horizontally.

SZECHUAN: south of Wu-shan-hsien, tree 4 - 7 metres high, A. Henry, Nos. 5410 (in Kew) & 5612 (type /

(type in Berol.; co-type in Edinb., Kew & Paris); same locality, tree 4 m. high, E. H. Wilson, May 1900, No. 591 (in Arn., Berol., Kew, Paris & Vind.).

This very distinct species is characterized by its three obtuse-lobed or undivided leaves. It comes near Acer cappadocicum Gled. form. tricaudatum Rehder but the leaves of the latter form have acuminate and forwardly directed lobes.

9. Acer longipes. Franchet apud Veitch in Journ. Roy. Hort. Soc. XXIX. pt. 3, (1904) 360, name only. - Rehder in Sargent, Trees & Shrubs, I. (April 1905) 178, in English; II. (1907) 25; in Fedde Repert. Nov. Spec. Reg. Veg. I. (July 1905) 6, in Latin; in Sargent, Pl. Wilson. I. (1911) 88; in Journ. Arn. Arb. VII. (1926) 218; VIII. (1927) 162; Manual Cult. Trees & Shrubs, (1927) 563. - Schneider, Illustr. Handb. Laubh. II. (1907) 223, figs. 152 c & 153 a-c.- Dunn in Journ. Linn. Soc. XXXIX (1911) 413. - Chung in Mem. Sci. Soc. China, I. (1924), 149 (Cat. Trees & Shrubs China). - Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 147. -

Acer longipes Franchet in Herb.

Acer laetum var. tomentosulum Rehder in

Sargent, Trees & Shrubs, I. (1905) 178;

II. (1907) 25; in Fedde Repert. Nov.

Spec. Reg. Veg. I, (1905) 6. - Schneider,

Illustr./

Illustr. Handb. Laubh. II. (1907) 226. -
Acer cappadocicum Hers (Non Gleditsch) in
 Journ. N.China Branch. Roy. As. Soc. LIII.
 (1922) 106; Liste Ess. Lign. Honan Sept.
 (1922) 1. - Chung in Mem. Sci. Soc.
 China, I. (1924) 148 (Cat. Trees & Shrubs
 China). -

Acer longipes var. typicum Schneider, Illustr.
 Handb. Laubh. II. (1907) 224, figs.
 153 a-c. -

Acer hypotrichum Franchet MSS. in Herb.
 Paris. -

Tree usually 4 metres high. Bark purplish or
 purplish grey. Branchlets slender, those of the
 present year purplish green, glabrous, those of
 more than one year old purplish. Lenticels round
 or oval. Winter-buds small; scales 6, outer ones
 slightly ciliate on the margin, accrescent ones oblong-
 oblanceolate, densely pilose outside. Leaves
 deciduous, chartaceous, subcordate at base, 8 - 12 cm.
 long, 7 - 13 cm. broad, usually 3-lobed, rarely 5-
 lobed or undivided; lobes triangular-ovate, acuminate
 or aristate, 3-5 cm. long, 2-4 cm. broad; upper
 surface deep green, glabrous; lower surface pale
 green, greyish soft pubescent especially on the nerves;
 petioles slender, 5 - 9 cm. long, glabrous or slightly
 pubescent near the apex. Flowers andro-monoecius,
 numerous in glabrous terminal corymbs on peduncles
 1 - 1.5 cm. long, from leafy branchlets, appearing
 after developing of leaves; sepals 5, elliptic-oblong,
 obtuse /

obtuse, 4 mm. long, greenish yellow; petals 5, yellow, oblong-obovate, as long as the sepals; stamens 8, glabrous, in staminate flower longer than petals, undeveloped in pistillate flower, anthers yellow and globose; disk lobed, extrastaminal; ovary glabrous with short style and revolute stigmas. Fruits purplish green while young, yellow or yellowish brown when matured; nutlets compressed, 10 - 13 mm. long 7 mm. broad; wings with nutlets 3 - 3.5 cm. long, 1 cm. broad, spreading at acute angles.

HONAN: Yung-ning, Tsi-li-ping, J. Hers, September 30, 1919, No. 1339 (in Arn.).

SHENSI: near Kwang-yin-tang, F. N. Meyer, September 15, 1914, No. 1918 (in Arn.); Lung-chow, Sien-fo-shan, J. Hers, July 2, 1922, No. 2323 (in Arn.); Lung-chow, Kuan-shan, J. Hers, July 3, 1922, No. 2338 (in Arn.).

ANHWEI: Siu-nin-hsien, R. C. Ching, August 21, 1925, No. 3262 (in Arn., Berol., Cent., Edinb. & Sci.). -

HUPEH: Fang-hsien, E. H. Wilson, May 21, 1907, Nos. 434 (in part) (in Berol., Brit., Edinb., Kew, Paris & Vind.) & 2706 (in Vind.); Hsing-shan-hsien, E. H. Wilson, May 10, 1907, No. 1909 (in Arn.); Pa-tung-hsien, tree 4 m. high, E. H. Wilson, April 1900, Nos. 326 & 327 (in Arn., Berol., Kew & Vind.); Chang-yang-/
/

yang-hsien, E. H. Wilson, October 1907, No. 434 (in part) (in Edinb.); Chien-shi-hsien, tree 10 m. high, E. H. Wilson, May 1900, No. 550 (type of Acer laetum var. tomentosulum in Arn.; cotype in Berol. Kew & Vind.). -

SZECHUAN: "District de Tchen-keou-tin" (Chengkou-hsien), R. P. Farges, sine no. 2 bundles of specimens (type of Acer longipes in Arn., Berol., Brit., Kew & Paris, and Acer hypotrichum Franchet Mss. in Paris); south of Wu-shan-hsien, E. H. Wilson, October 1907, Nos. 434 (in Part) (in Arn.) & 1808 (in Kew); south of Wu-shan-hsien, tree 8 m. high, E. H. Wilson, October 1900, No. 1808 (in Kew). -

This species is closely allied to Acer fulvescens Rehder, from which it differs by the greyish pubescence on the under surface of the leaves and by the larger fruits with longer wings spreading at acute angles.

10. Acer catalpifolium Rehder in Sargent, Pl. Wilson, I. (1911) 87; Manual Cult. Trees & Shrubs, (1927) 563. - Schneider, Illustr. Handb. Laubh. II. (1912) 1029. - Léveillé, Cat. Illustr. Pl. Seutchouen, (1918) 178, MSS. - Chung in Mem. Sci. Soc. China, I. (1924) 148 (Cat. Trees & Shrubs China). - Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 149; VIII. (1932) 165. -

Tree /

Tree usually 10 to 25 metres high. Bark dark grey or brownish grey. Branchlets slender, those of the present year green or purplish green, glabrous; those of more than two years old grey or dark grey; Lenticels oval or nearly round. Winter-buds ovoid; scales 6, glabrescent outside, ciliate on the margin. Leaves deciduous, chartaceous, round or sub-round at base, usually ovate or ovate-oblong, acuminate, 9 - 20 cm. long 5 - 13 cm. broad, entire occasionally with undeveloped laterla lobes below the middle; upper surface deep green, glabrous; lower surface pale green, glabrous except with tufts of hairs at the bases of nerves; petioles slender, glabrous, 5 - 14 cm. long. Flowers unknown. Matured fruits yellowish in loose, slender, glabrous, terminal corymbose fruiting inflorescences, on peduncles 2 - 3 mm. long; nutlets ovate, compressed, 1 - 1.5 cm. long, 6 - 8 mm. broad; wings 4.5 - 5 cm. long, 1 - 1.5 cm. broad, spreading at right angles, seeds dark brown, nearly orbicular, 6 mm. in diameter, pedicels slender, glabrous, 2 - 4 cm. long.

SZECHUAN: north of Kuan-hsien, W.C. Cheng, October 27, 1930, No. 2047 (in Edinb. & Sc.); west of Kuan-hsien, E. H. Wilson, June 17, 1908, No. 1359 (in Arn. & Berol. & Kew); Omei-hsien, Mount Omei, W. C. Cheng, November 23, 1930, No. 2226 (in Sci.); near Ya-an-hsien, E. H. Wilson, October 1908, No. 1359 (in part) (in Arn., Brit., Edinb., Kew, Firen, Vind.); same locality, E. H. Wilson, October 1910, No. 4208 (in/

(in Arn. & Kew); Yung-king-hsien, Wa-wu-shan, W. P. Fang, August 16, 1930, No. 8281 (in Arn., Edinb., Fan, Kew & Sci.); without precise locality, tree 12 m. high, E. H. Wilson, May 1904, Veitch. Exped. No. 3350 (in Arn., Brit. & Kew); without precise locality, T.T.Yu, T. H. Tu & S.P. Sun, No. 400 (in Sci.). -

This species is easily recognized by its undivided ovate leaves and larger samaras up to 4 or 5 cm. long with wings spreading at an right angle.

11. Acer Chunianum Fang, Spec. Nov.

Arbor circiter 7-metralis alta, cortice viridulo-brunneo vel nigro-brunneo, lenticellis rotundatis vel ovatis. Ramuli graciles, glabri, virides. Folia decidua, membranacea, ovata, basi rotundata, longe caudate-acuminata, aristata, integra vel interdum lobis laterali-bus 1 vel 2 obsoletis munita, 6 - 9 cm. longa, 2.5 - 5.5 lata, supra laete viridia, glabra, subtus pallidiora, reticulata, glabra, nervis primariis 3; petioli 3 - 4 cm. longi, graciles, glabri, Flores ignoti. Fructus juveniles rubro-purpurei, in corymbum glabrum circiter 4 - 5 cm. longum dispositi, pedunculis fere nullis vel circiter 3 mm. longis, loculis compressis planis ovato-oblongis 8 - 10 mm. longis, 6 mm. latis, alis oblongis parallelis obtusis 2.8 - 3.2 cm. longis loculis inclusis, 5 - 7 mm. latis, angulo obtuso divergentibus; pedicelli 2 - 3 cm. longi, graciles, glabri.

KWANGTUNG: Yu-yuen-hsien, in light woods by hill, small tree 7 metres high, S. P. Ko, April 23, 1934, No. 54172 (type in Suny.).

This species is near Acer tenellum Pax, Acer catalpifolium Rehder and Acer cappadocicum f. tricaudatum Rehder. From them it is easily distinguished by its small entire leaves, long caudate-acuminate at the apex and rounded at base, its sessile small corymbose inflorescence, and its slender fruits with parallel wings two^{ice} as long as the nutlets and spreading at obtuse angles.

This new species is named in honour of Professor W. Y. Chun, Botanical Institute, Sun Yatsen University, Canton, I am indebted to him for advice and material supplied.

12. Acer acutum Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VIII. (1932) 164 fig. 7. -

Tree usually up to 10 metres high. Bark brown or brownish grey, smooth or slightly fissured. Branchlets smooth, glabrous, those of the present year red or reddish green, those of the more than one year old brown or dark brown, lenticels oval or round. Winter-buds brown, ovate, outer 6 scales ciliate on the margin, inner 4 - 6 accrescent scales villous outside. Leaves deciduous, chartaceous, cordate or subcordate at the base, ovate /

ovate or ovate-oblong, 9 - 12 cm. long, 6 - 20 cm. broad, 5 - 7 lobed; lobes broadly ovate or triangular; middle lobe and lateral lobes usually acuminate; basal lobes acute or obsolete; sinuses open, broadly obtuse; upper surface deep green, glabrous; lower surface yellowish green or pale green, reticulate, pubescent, especially densely greyish pubescent on the nerves while young, then glabrescent; petioles 4 - 12 cm. long, puberulous near the apex while young, then glabrous. Flowers andro-monoecious, yellowish green, in puberulous terminal corymbs, on peduncles 3 - 5 mm. long, from leafy branchlets, appearing while developing of leaves; sepals 5, oblong, obtuse, ciliate, slightly pilose outside, 2.8 - 3.2 mm. long, 1.8 - 2 mm. broad; petals 5, linear-oblongate or obovate, obtuse, glabrous, 3 - 3.5 mm. long, 0.5 - 1 mm. broad; stamens 8, in staminate flower as long as the sepals, in pistillate flower about 1.5 mm. long, filaments glabrous, anthers yellow; disk glabrous, extrastaminal; ovary glabrous, style glabrous, stigmas incurved. Fruits glabrous, pale brown; nutlets compressed, 9 - 11 mm. long, 7 mm. broad; wings oblong, parallel-margined, with nutlets 3 - 3.5 cm. long, 9 - 10 mm. broad, spreading at acute angles.

CHEKIANG: W. Tien-mu-shan, S.S. Chien, August 11, 1929, No. 718 (fruiting specimen, type in Sci.; co-type in Fan & Suny.); same locality, W. C. Cheng, April 23, 1931, No. 2418 (flowering specimen, type in /

in Sci.); same locality, W. C. Cheng, July 3, 1932, No. 3705 (in Sci.).

13. Acer amplum Rehder in Sargent, Pl. Wilson. I. (1911) 86. - Schneider, Illustr. Handb. Laubh. II. (1912) 1029.- Chung in Mem. Sci. Soc. China, I (1924) 148 (Cat. Trees & Shrubs China). - Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 148. - Handel-Mazzetti, Symb. Sin. VII. (1933) 640. -

Tree usually 5 to 10 metres high, rarely up to 20 metres high. Bark brownish or dark brown, smooth. Branchlets slender, glabrous, those of the present year green or purplish green, those of the more than one year old greenish yellow or brown, lenticels rounded or oval. Winter-buds subglobose, purplish brown; outer scales obtuse, glabrous outside, ciliate on the margin; inner accrescent scales obovate, densely yellowish pubescent outside. Leaves deciduous, chartaceous, subcordate or truncate at base, usually broader than long, 9 - 20 cm. long, 10 - 18 cm. broad, usually 5-lobed, occasionally 3-lobed or undivided; lobes usually shortly ovate, obtuse, acuminate; sinuses open, usually broadly obtuse, occasionally obtuse; upper surface deep green or yellowish green, slightly glandular at first, then glabrous; lower surface pale green, reticulate, primary nerves prominent, glabrous except tufts of yellow hairs at the axils of nerves; petioles 7 - 10 cm. long, slender, glabrous/

glabrous or slightly puberulous near the apex while young. Flowers numerous, andro-monoecious, in glabrous, large, loose terminal corymbs, sessile or on peduncles about 4 mm. long; sepals 5, greenish white, glabrous, oblong, obtuse, about 5 mm. long; petals 5, whitish, obovate or oblong-obovate, slightly longer than sepals; stamens 8, glabrous, about 5 mm. long in staminate flower, shorter in pistillate flower, anthers yellow and glabrous; ovary glandular, style glabrous, stigmas recurved; pedicels 1 - 2 mm. long, glabrous, very slender. Fruits purple while young, then yellowish brown; nutlets compressed, flat, 1 - 1.5 cm. long, 8 - 10 mm. broad; wings slender, included nutlets 3.5 - 4.5 cm. long, 1.2 - 1.5 cm. broad, spreading at obtuse angles.

CHEKIANG: Tien-tai-shan, R.C. Ching, May 8, 1924, No. 1464 (in Arn., Edinb., Paris & Vind.); King-yuan-hsien, Sweh-chang, R.C. Ching, September 1924, No. 2557 (in Arn., Edinb., Kew, Paris & Vind.).

ANHWEI: Wu-yuan-hsien, Chang-gon-shan, alt. 800 m., tree 27 m. high, R.C. Ching, August 16, 1925, No. 3228 (in Berol. & Edinb.).

HUPEH: Patung-hsien, E. H. Wilson, June and July 1907, Nos. 1906 & 1938 (in Arn., Brit., Edinb., Berol., Kew & Vind.) & 1938 (in Arn.); same locality, E.H. Wilson, April 24, 1900, Veitch Exped. No. 287 (in Arn., Berol., Edinb., & Paris).

Szechuan/

SZECHUAN: south of Wu-shan-hsien, tree 7 metres high, E. H. Wilson, May 1900, No. 605 (in Arn., Berol. Edinb., Kew & Paris).

HUNAN: "Im wtp. Laubhochwalde des Yunschan bei Wukang, Tonschiefer, 1100 - 1350 m., "tree 15 m. high, H. Handel-Mazzetti, May 11, 1918, No. 12075 (in Berol., Bres., Edinb., Paris, Vind. & Wien).

KWEICHOW: Sihfneq-hsien, Y. Tsiang, August 19, 1930, No. 8733 (in Arn., Berol., Brit., Edinb., Fan, Kew, Sci. & Vind.): - Fan-ching-shan, tree 10 - 14 metres high, K.K.Ho, July 14, 1931, No. 51137 (in Sci.).

The typical specimens of this species have ample inflorescences, large fruits with broader wings, and usually 5-lobed leaves with obtuse lobes. There are some specimens temporarily referred here but having leaves variable in shape and size. It is very difficult to draw a definite line separating them as varieties or distinct species at present. More material will prove their validity.

Acer amplum Rehder var. tientaiense (Schneider) Rehder in Sargent, Pl. Wilson, I. (1911) 87. - Schneider, Illustr. Handb. Laubh. II. (1912) 1029. - Hu in Science, Sci. Soc. China, VI. (1921) 1165. - Chung in Mem. Sci. Soc. China, I. (1924) 148 (Cat. Trees & Shrubs China). - Fang in Contrib. Biol. Lab. /

Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 148;
VIII. (1932) 165. -

Acer longipes var. tientaiense Schneider,
Illustr. Handb. Laubh. II. (1907) 224, figs.
153 d-f.-

CHEKIANG: Tien-tai-shan, E. Faber, in 1889
No. 202B (in Arn., Kew & Vind.); same locality,
R. C. Ching, May 8, 1924, No. 1466 (in Arn., Berol.,
Brit., Edinb., Paris); same locality, Y. L. Keng,
August 1927, No. 1050 (in Berol. & Sci.); same
locality, S. Chen, July 1, 1932, No. 458 (in Sci.).

KIANGSI: Lu-shan, Kuling, E.H. Wilson, July
29, 1907, No. 1502 (in Arn., Berol., Brit. & Edinb.);
same locality, tree 17 metres high. H.H. Hu, August
29, 1921, No. 1428 (in Berol.); same locality, N.K Ip,
June 30, 1922, No. 560 (in N. B. & Sci.); same
locality, Y. Tsiang, August 30, 1932, No. 10710
(in Sci. & Sin.); Kiu-kiang, Maires, sine no. (in
Kew).

This variety differs from the type species in
its 3-lobed leaves which are usually smaller with
longer and narrower lobes and in the smaller
fruits with narrower wings.

SECTION II PALMATA PAX.

KEY TO SPECIES.

- A. Petioles and peduncles glabrous or nearly so; ovary glabrous.
- B. Fruit with nutlets and wings 1-2.5 cm. long, spreading at obtuse angles.....14. A. palmatum.
- BB. Fruit with nutlets and wings 3.5-4 cm. long, spreading horizontally.....15. A. robustum.
- AA. Petioles and peduncles pubescent, at least while young; ovary villous..
- B. Leaves 9-13 lobed.
- C. Leaves 9-11 lobed.
- D. Wings of fruits oblong or obovate, not widest at the middle.
- E. Flowers large, 14 mm. in diameter; ovary and nutlets densely villous.....16. A. japonicum.
- EE. Flowers small, 8-10 mm. in diameter; ovary and nutlets slightly pubescent.
- F. Wings of fruit inward curved...17. A. nudicarpum.
- FF. Wings of fruit straight, not inward curved.....18. A. pseudosieboldianum.
- DD. Wings of fruit elliptic-oblong, widest at the middle.....19. A. Ishidoyanum.
- CC. Leaves 13-lobed.....20, A. takesimense.
- BB. Leaves 5-7 lobed.
- C. Leaves truncate or subcordate, 7-lobed; lobes ovate-oblong, acuminate.
- D. Wings of fruit oblong, not contracted at base, spreading at obtuse angles; leaves doubly serrate.....21. A. microsieboldianum.
- DD. Wings of fruit obovate, contracted at base, spreading horizontally; leaves simply serrulate.....22. A. ceriferum.
- CC. Leaves cordate, 5-lobed; lobes obovate, acuminate or acute.
- D. Petioles 2.5-3.5 cm. long; leaves deeply lobed, argute serrate; sinuses reaching $\frac{4}{5}$ of the blade.....23. A. pubupalmatum.
- DD. Petioles about 1 cm. long; leaves shallowly lobed, doubly serrate; sinuses reaching to $\frac{2}{3}$ of the blade.....24. A. pauciflorum.

14. Acer palmatum Thunberg, Fl. Jap. (1784) 162. - Maximowicz in Bull. Acad. Sci. St. Petersb. XXVI. (1880) 448; in Mel. Biol. X. (1880) 607. - Nicholson in Gard. Chron. n. ser. XVI. (1881) 136. - Forbes & Hemsley in Journ. Linn. Soc. XXIII. (1886) 141 (Ind. Fl. Sin.). - Pax in Engler, Bot. Jahrb. VII. (1886) 201; in Engler & Prantl, Pflanzenfamilien, III. pt.5 (1896) 271; in Engler, Bot. Jahrb. XXIX. (1900) 448 (Fl. Centralchina), excl.; in Engler, Pflanzenreich, Heft 8 (IV. 163). (1902) 25. - Dippell, Laubholz II. (1892) 463 fig. 222. - Graf von Schwerin in Gartenfl. XLII. (1893) 652. - Koehne, Deutsch, Dendr. (1893) 378. - Bretschneider, Hist. Europ. Bot. Discov. China, (1898) 604. - Henry in Gard. Chron. ser. 3. XXXIII. (1903) 100 (Chin. Maples), excl. - Rehder in Sargent, Trees & Shrubs, I. (1905) 178, excl.; in Sargent, Pl. Wilson. I. (1911) 88; in Journ. Arn. Arb., VIII. (1927) 162; Manual Cult. Trees & Shrubs, (1927) 570. - Takeda and Hahai in Tokyo Bot. Mag. XXIII (1909) 51. - Koidzumi in Journ. Coll. Sci. Imp. Univ. Tokyo, XXXII. art. 1, (1911) 43 (Rev. Acer. Jap.). - Nakai in Journ. Coll. Sci. Imp. Univ. Tokyo, XXXI, art. 1 (1911) 462 (Fl. Kor. II.); - Matsuda in Tokyo Bot. Mag. XXVI. (1912) 236. - Leveille, Cat. Illustr. Pl. Seutchouen, (1918) 179, MSS, excl. - Bailey, Gent. Herb. (1920) 35, in part. - Chun, Chin, Econ. Trees, (1921) 230. - Gee in Science, Sci. Soc. China, VI. (1921) 213. - Hu in Science, Sci. Soc. China, VI. (1921) 1165; IX. (1924) 840. - Hers in Journ. N. China Branch. Roy. As. Soc. LIII. (1922) 106, excl.; Liste Ess. Lign. Honan Sept. (1922) 1, excl. - Chung in /

in Mem. Sci. Soc. China, I. (1924) 150 (Cat. Trees & Shrubs China). - Liu in Bull. Pek. Soc. Nat. Hist. III. (1928) 128. - Bean, Trees & Shrubs hardy Brit. Isles, I. (1929) 152. - Fang, in Contrib. Biol. Lab. Sci. Soc. China, Bp. Ser. VII. (1932) 163; VIII (1932) 168. -

Acer dissectum Thunberg, Fl. Jap. (1784) 160. -

Acer polymorphum Siebold & Zuccarini in Abh. Akad. Muenchen IV. 2. (1845) 158. -

Acer sessilifolium Siebold & Zuccarini in Abh. Akad. Muenchen IV. 2. (1845) 158. -

Small tree, bark blackish grey, branchlets slender, those of the present year purple or purplish green, those of more than one year old greyish purple or blackish purple. Leaves deciduous, chartaceous, round in outline, 7-10 cm. in diameter, cordate or subcordate, rarely truncate at base, usually 7-lobed; lobes ovate-oblong or lanceolate, acuminate or long acuminate, serrate with adpressed argute teeth; sinuses acute or acuminate, reaching half or one-third to the middle of blade; upper surface deep green, glabrous; lower surface pale green, with tufts of white hairs at the axils of nerves; main nerves slightly raised above, prominent below; petioles 4-6 cm. long, slender, glabrous. Flowers purple, andro-monoecious, in glabrous terminal corymbs, on peduncles 2-3 cm. long, appearing after the developing of leaves; sepals 5, ovate-lanceolate, acute, 3 mm. long; petals 5, elliptic or obovate, obtuse, about 2 mm. long; stamens 8, glabrous, shorter than petals and included; disk extrastaminal, slightly lobed, ovary glabrous, style elongated, stigmas very short, pedicels about 1 cm. long /

long, slender, glabrous. Fruits brownish yellow; nutlets 7 mm. in diameter, globose, strongly veined; wings with the nutlets 2-2.5 cm. long, 1 cm. broad, spreading at an obtuse angle.

SHANTUNG: Tsingtao, Bureau of Agriculture and Forestry, without name of collector, August 18, 1930, No. 194 (in N.F.); same locality, C. Y. Chiao, June to July 1930, Nos. 2426 & 2846 (in Edinb. & Kew).

CHEKIANG: Chapoo, Oldham, sine No. (in Kew); Mo-kan-shan, Y. Chen, August 20, 1927, No. 5993 (in N.F.); W. Tien-mu-shan, S.S. Chien, August 16, 1929, No. 871 (in Sci.); W. Tien-mu-shan, Ton-mou-pon, K. K. Tsoong, July 17, 1929, No. D244 (in Sci.); Tien-tai-shan, R.C. Ching, May 9-15, 1924, Nos. 1417 & 1515 (in Arn., Berol., Edinb., Firen., Paris & Vind.); Tien-tai-hsien, Yen-tong-shan, tree 5 metres high, C. Y. Chiao, July 20, 1927, No. 1018, (Herb. N.B. No. 14317 (in Edinb., & N.B.)); same locality, S. Chen, July 4, 1932, No. 514 (in N.F.).

KIANGSU: Chengkiang. Y.H. Wan, August and October 1926, Nos. 1 & 23 (in N.F.); Nanking, Ginling Garden, Cowdry, November 1921, No. 2043 (in N.B.); Waki-tung, shrub 7 metres high, T. Tang, & W. Y. Hsia, October 18, 1927, No. 186 (in Berol., Fan & Sci.).

ANHWEI: Chu-hwa-shan, Tien-tai-shan, tree 7 metres high, R.C. Ching, June 28, 1925, No. 2828 (in Arn., Berol., Edinb., Kew & Sci.); Wu-yuan-hsien, Chang /

Chang-gon-shan, tree 10 metres high, R.C. Ching, August 17, 1925, No. 3243 (in Arn., Berol., Edinb. & Sci.).

KIANGSI: Kuling, E.H. Wilson, July 28, 31, 1907, Nos. 1504 (in Arn., Berol., Brit. & Edinb.) & 1505 (in Arn., ex Rehder); Same locality, N.K. Ip, July 4, 1922, No. 1784 (in N.B.); same locality, C. Y. Chiao, July 22, 1928, No. 1658 (in N.B.); same locality, Y. Tsiang, August 30, 1932, No. 10726 (in Sci. & Sin.).

Distributed also in Japan.

This species is characterized by its deeply 7-lobed leaves, sub-cordate at base, with acuminate, ovate-oblong, doubly serrate lobes, and by its fruit with wings spreading at an obtuse angle.

Acer Palmatum Thunberg var. Thunbergii Pax in Engler, Bot. Jahrb. VII. (1886) 202; in Engler, Pflanzenreich, Heft 8 (IV.163). (1902) 25. - Fang in contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 162.-

CHEKIANG: Hang-chow, West-lake, Y. L. Keng, September 7, 1927, No. 1194 (in Sci.); Tien-tai-shan, C. Y. Chiao, July 21, 1927, No. 1080 (in N.B.).

KIANGSU: Soochow, S. W. Kang, October 26, 1929, No. 98 (in N.B.); Wushi, Central Park, S.S. Wu, September 6, 1930, No. 5 (in N.B.); Chengkiang, Y.H. Wan, August 1922, No. 22 (in N.B.); Nanking, cultivated in the garden /

garden of the First Agriculture School, L. F. Tsu, April to May 1920, Nos. 523 (in Edinb. & N.B.) & 523A (in N.B.); Nanking, C. T. Chow, in 1928, No. 45 (in Cent. & Sci.); same locality, M. Chen, November, 27, 1932, No. 81 (in Sci.).

KIANGSI: Kuling, without name of collector, May 5, 1922, No. 566 (in N.F.).

FUKIEN: Foochow, cultivated, Tang Chung Chang, August 9, 1922, No. 4581 (in Sci.).

Distributed also in Japan.

This variety differs from the type in its smaller leaves, usually 4 cm. long and wide, deeply 7-lobed, cordate rarely truncate at the base, with ovate, acuminate lobes incisively serrate or bi-serrate on the margin, and in its small fruits with ovoid nutlets and short wings spreading at an obtuse angle.

Acer septemlobum Thunberg was considered synonymous with this variety. Mr. Koidzumi found Thunberg's species really Kalopanax and called it Kalopanax septemlobus (Thunberg) Koizumi (in Tokyo Bot. Mag. XXXIX. (1925) 306).

15. Acer robustum Pax in Engler, Pflanzenreich, Heft 8 (IV. 163). (1902) 79; Bot. Jahrb. XXXVI. beibl. LXXXII. (1905) 73. - Hemsley in Journ. Linn. Soc. XXXVI. (1905) 452. - Rehder in Sargent, Trees & Shrubs, I. (1905) 179; II. (1907) 26, excl.; in Sargent, Pl. Wilson. I. (1911) 88; III. (1917) 426; in Journ. Arn. Arb., VII. (1926) 218; Manual Cult. Trees & Shrubs, (1927) 570. - Schneider, Illustr. Handb. Laubh. II. (1907) 206, figs. 133 v-y, in part, incl. syn. Acer flabellatum Rehder. - Matsumura, Icon. Pl. Koisikav. I. (1911) t.12, in part, incl. syn. Acer flabellatum Rehder. - Hers in Journ. N. China Branch. Roy. As. Soc. LIII. (1922) 106; Liste Ess. Lign. Honan Sept. (1922) 1. - Chung in Mem. Sci. Soc. China, I. (1924) 150 (Cat. Trees & Shrubs China). - W. W. Smith & etc. in Notes Roy. Bot. Gard. Edinb., XIV. (1924) 197. - Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 165; VIII. (1932) 170. - Handel-Mazzetti, Symb. Sin. VII. (1933) 640, in part. -

Acer palmatum Pax (non Thunberg) ex Diels in Engler, Bot. Jahrb. XXIX. (1900) 448 (Fl. Centralchina). - Henry in Gard. Chron. ser. 3, XXXIII. (1903) 100 (Chin. Maples). - Rehder in Sargent, Trees & Shrubs, I. (1905) 178. - Léveillé, Cat. Illustr. Seutchouen. (1918) 179, MSS. - Bailey, Gent. Herb. I. (1920) 35, in part, Hers in Journ. N. China Branch. Roy. As. Soc. LIII. (1922) 106; Liste Ess. Lign. Honan Sept. (1922) 1. -

Tree /

Tree usually 5 to 10 metres high. Branchlets slender, glabrous, those of the present year purplish brown, those of the more than one year old olive-brown or greenish brown. Leaves deciduous, chartaceous or membranaceous, truncate or sub-cordate at the base, 6-8 cm. long, 7-12 cm. broad, 7 to 9-lobed; lobes ovate or ovate-oblong, 4-5 cm. long, caudate-acuminate, remotely and irregularly serrate with sharp teeth; sinuses acuminate, reaching nearly the middle of the blade; slightly villous on both surfaces while young, densely so on the nerves below, then glabrous above and with tufts of hairs on the nerves below; petioles 4-5 cm. long, slender, glabrous or slightly villous toward the apex. Flowers andro-monoecious, 4-8 in terminal corymbs 3-4 cm. in length, on peduncles 3-4 cm. long; sepals 5, purple, ovate-oblong, obtuse or sometimes acute at apex, 4-5 mm. long, 1.5-2 mm. broad, sparsely villous or glabrescent on both surfaces, ciliate on the margin; petals 5, greenish-white, oblong or obovate-oblong, 3.5 mm. long, 2.5-3 mm. broad; stamens 8, glabrous, about 4 mm. long, rudimentary in pistillate flower; disk glabrous, extrastaminal; ovary glabrous or slightly villous, rudimentary in staminate flower, style 3 mm. long, stigmas 1 mm. long; pedicels 1 - 1.5 cm. long, slender, glabrous. Fruits greenish yellow; nutlets ellipsoid, 5 - 7 mm. long, 4 - 5 mm. broad; wings included nutlets 3.5 - 4 cm. long, 1 cm. broad, spreading horizontally.

HONAN: Lushih, Hiung-eul-shan, J. Hers, October 10, /

10, 1919, No. 908 (in Arn., ex Rehder); Sung-hsien, Shih-tze-miao, J. Hers, September 25, 1919, No. 1255 (in Arn., Kew & Paris).

SHENSI: "Monte Huan-tou-san", G. Giralddi, July 24-25, 1894, No. 2116 (6) (type in Berol.; co-type in Bres., & Firen.); "monte kian-san (Lao-y-san)", G. Giralddi, August 4, 1897, sine no. (in Firen.); Wei-tze-ping, E. Licent, August 20, 1916, No. 2717 (in Paris); Lung-chow, Kuan-shan, J. Hers, July 3, 1922, No. 2349 (in Arn., ex Rehder); "in conf. prov. Schensi et Kansu, in Silva montis Kwan-schan pr. Lung, ad 2000 m., "G. Fenzel, May 27-29, 1935, No. 1855 (in Vind.).

HUPEH: Fang-hsien, E. H. Wilson, May and July, 1907, Nos. 1892B (in Berol.), 1893 (in Berol., Brit., Edinb., Kew & Vind.) 1899 (in Berol., Edinb. & Vind.), 1900 (in Berol., Edinb., Firen., Kew & Vind.), 1913 (in Berol., Brit., Edinb., Firen. & Vind.), and 1920 (in Berol., Edinb., Firen. & Vind.); Hsing-shan-hsien, E. H. Wilson, May to October 1907, Nos. 339 (in Berol., Brit., Edinb., & Kew), 1890 (in Kew) & 1932 (in Berol., Brit., Edinb., Firen. & Kew); Chang-lo-hsien, E.H. Wilson, September 1907, No. 2050 (in Berol. & Brit.); Tsu-kwei-hsien, shrub 6 metres high, H.C. Chow, May 31, 1934, No. 396 (in Edinb. & Wuhan). Hunan Tsao, W.Y. Chun, August 31, 1922, No. 4158 (in Kew).

SZECHUAN: South of Wu-shan-hsien, E. H. Wilson, May 1900, Veitch Exped. Nos. 528 (in Kew), 538 (in Arn. & Vind.) & 590 (in Berol., Kew & Vind.);

"District /

"District de Tchen-keou-tin" (Cheng-kou-hsien), R.P. Farges, sine no. (in Paris); same locality, W. P. Fang, May 28, 1932, Nos. 9982 (in Sci.) & 10362 (in Edin. & Sci.); Nanchuan-hsien, C. Bock & A.V. Rosthorn, in 1891, Nos. 55, 431 & 435 (all in Berol.); same locality, Mount of the Buddha, S. F. Chang, April 26, 1930, No. 218 (in Sci.).

YUNNAN: "In der wtp. st. in der Schucht unter Lutien e von Weihsi, Tonschiefer, 2600 m., "H. Handel-Mazzetti, October 12, 1915, No. 8502 (in Vind. & Wien); Lutien Valley, Yangtze-Mekong divide, lat. 27° 15' N., long. 99° 36' E., in mixed thickets by stream, tree of 10 - 17 metres high, foliage only, G. Forrest, October 1921, No. 20701 (in Edinb., Kew, Paris & Vind.); Li-ti-ping, Mekong-Yangtze divide, east of Weihsi, J. E. Rock, in 1928, No. 9406, (in Arn. & N.B.).

This species is characterized by its large flowers with broad sepals and petals, its large fruits with wings up to 4 cm. long, and its 7 - 9 lobed leaves cordate at base with acuminate sharply serrate lobes.

16. Acer japonicum Thunberg, Fl. Jap. (1784)
 161. - Siebold & Zuccarini, Fl. Jap. Famil. Natur. (1854) /

(1854) 156. - Maximowicz in Mel. Biol. X. (1880)
 605. - Nicholson in Gard., Chron. n. ser. XVI. (1881)
 375. - Forbes & Hemsley in Journ. Linn. Soc. XXIII.
 (1886) 140 (Ind. Fl. Sin.), excl. - Pax in Engler,
 Bot. Jahrb. VII. (1886) 199; in Engler & Prantl,
 Pflanzenfamilien, III. pt 5. (1896) 271; in Engler,
 Pflanzenreich, Heft 8 (IV.163). (1902) 24. - Wesmael
 in Bull. Soc. Roy. Bot. Belg. XXIX. (1890) 39. -
 Koehne, Deutsch. Dendro (1893) 378. - Bretschneider,
 Hist. Europ. Bot. Discov. China (1898) 604. - Takeda
 & Nakai in Tokyo Bot. Mag. XXIII. (1909) 51. -
 Nakai in Journ. Coll. Sci. Imp. Univ. Tokyo, XXVI.
 art 1 (1909) 135 (Fl. Kor. I.); XXXI. art 1
 (1911) 462 (Fl. Kor. II.); Koidzumi in Journ.
 Coll. Sci. Imp. Univ. Tokyo, XXXII. art 1 (1912)
 39 t. 24 - 25 (Rev. Acer. Jap.). - Bailey, Gent.
 Herb. (1920) 35. - Rehder, Manual Cult. Trees
 & Shrubs, (1927) 571. -

Small tree; bark smooth, greyish or greyish brown,
 branchlets slender, glabrous, those of the present year
 purple or greenish purple, those of more than one year
 old purplish grey or blackish grey. Winter-buds elli-
 psoid; scales nearly round, glabrous; accrescent
 scales obovate or oblanceolate, densely villous out-
 side. Leaves deciduous, chartaceous or membranaceous,
 nearly round, from 9 to 12 cm. in diameter, deeply
 cordate, usually 9-lobed, rarely 7 or 11 lobed; lobes
 ovate, acuminate, incisively serrate with acutish or
 sharp /

sharp teeth; sinuses acuminate, reaching one-third of the blade, white sericeous while young, then glabrous except tufts of white hairs at the bases of main nerves; upper surface deep green or yellowish green; lower surface pale green; main nerves slightly depressed above, prominent below, secondary nerves usually inconspicuously, rarely slightly raised below; petioles 3 - 5 cm. long, pubescent while young, then glabrous. Flowers purple, andro-monoecious, in terminal pubescent corymbs, on peduncles 3 - 5 cm. in length; sepals 5, purple, ovate or obovate, obtuse, slightly pubescent outside, 6 mm. long, 4 mm. broad; petals 5, white, elliptical, obtuse, emarginate, 5 mm. long; stamens 8, glabrous, 7 mm. long, exerted, rudimentary in pistillate flower, anthers greenish yellow, ellipsoid; disk glabrous, slightly lobed, extrastimal; ovary purplish, densely villous, rudimentary in staminate flower, style glabrous about 4 mm. long, stigmas short, widely spreading; pedicels 1 - 2 cm. long, slender, pubescent. Fruits yellowish green; nutlets convex, veined, densely villous; wings incurved, falcate, with nutlets 2.5 - 2.8 cm. long, 1 cm. broad, spreading at obtuse angles.

MANCHURIA: Mukden, Changdien, Ross (in Kew).

KIANHGSU: Shanghai, commonly cultivated.

COREA: "In monte des diamontes", U. Faurie, June 23, 1906, No. 474 (in Berol.); in Momasa, U. Faurie, May 20, 1906, No. 515 (in Berol. & Edinb.).

JAPAN: Hakodate, C. Maximowicz, in 1861, sine no.
(in /

(in Berol.); without precise locality, R. Rein, October 1874, and May 1875, sine no. (in Berol.); without precise locality, E. Kochne, May 4, 1878, No. 2265 (in Berol.); Tagakushi, Shinano, Brehmer, June 9, 1894, sine no. (in Berol.); Onikobe, U. Faurie, July 13, 1897, No. 510 (in Berol.); Daisen, U. Faurie, May 1902, No. 5021 (in Berol.); in Sizogatake, U. Faurie, July 1903, No. 5464 (in Berol.); "Yezo, in sylvis Morosan", U. Faurie, September 1904, No. 6091 (in Berol.); "in sylvis Aomori", U. Faurie, May to June 1904, Nos. 6092 (in Berol.); "in sylvis Ubaya", U. Faurie, July 1, 1904, No. 6742 (in Berol. & Edinb.) Tokyo, J. Higuchi, sine no. (in Berol.).

This species is easily distinguished from other species by its large flowers with purple sepals and densely villous ovary.

17. Acer nudicarpum (Nakai) in Tokyo Bot. Mag. XXIX. (1915) 28; Fl. Sylv. Kor. 1. (1915) 14, t. 8. -

Acer japonicum Thunberg var. nudicarpum
Nakai in Journ. Coll. Sci. Imp. Univ.
Tokyo, XXVI. (1909) 135 (Fl. Kor. I.). -

Tree/

Tree; Branchlets slender, those of the present year purplish, usually glaucous, those of more than one year old purplish brown or purplish yellow, glabrous or slightly glaucous. Winter-buds never seen. Leaves chartaceous, deciduous, roundish in outline, 9 - 11 cm. in diameter, subcordate or subtruncate at base, usually 9 lobed, rarely 11 lobed; lobes lanceolate, acuminate or caudate-acuminate, doubly serrate with sharp teeth, except the base of the lobes entire; sinuses acuminate, reaching $\frac{2}{3}$ to the middle of blade; upper surface deep green, glabrous; lower surface pale green, barbate on the nerves; petioles 4 - 6 cm. long, barbate. Flowers unknown. Fruits brownish yellow, on slender pedicels 1.5 - 2 cm. long, and on slightly barbate peduncles 4 - 5 cm. long; nutlets convex, strongly veined, sparingly pubescent, 8 mm. long, 6 mm. broad; wings oblong, parallel, incurved, nutlets included 2.8 - 3 cm. long, 8 mm. broad, spreading at obtuse angles.

COREA: Keiki, Mt. Nanzhan, T. Uchiyama, August 2, 1902, sine no. (type in Tokyo).

This species is closely related to Acer japonicum Thunberg. From that species it differs in its less pubescent nutlets and deeply lobed leaves with narrow lobes.

18. Acer pseudosieboldianum (Pax) Komarov in Act. Hort. Petrop. XXII. (1904) 725, No.1049. - Nakai in Tokyo Bot. Mag. XXII. (1908) 104; XXIX. (1915) 27; in Journ. Coll. Sci. Imp. Univ. Tokyo, XXVI. art. 1 (1909) 136, t. 10 fig. 2 (Fl. Kor. I.); XXXI. art. 1 (1911) 462 (Fl. Kor. II.); Fl. Sylv. Kor. I. (1915) 12, t. 4. - Dunn in Journ. Linn. Soc. XXXIX. (1911) 414. - Yabe Enum. Manchur. (1912) 88. - Fedchenko (or Fedtschenko) in Act. Hort. Petrop. XXXI. (1912) 158 (Mat. Fl. Far East). - Chung in Mem. Sci. Soc. China, I. (1924) 150 (Cat. Trees & Shrubs China). - Rehder, Manual Cult. Trees & Shrubs, I. (1927) 571. -

Acer circumlobatum Maximowicz var. pseudo-sieboldianum Pax in Engler, Bot. Jahrb. VII. (1886) 200; in Engler, Pflanzenreich, Heft 8 (IV.163). (1902) 25. -

Acer sieboldianum Miquel var.? Baker & Moore in Journ. Linn. XVII. (1879) 380. -

Acer sieboldianum Miquel var. mandshuricum Maximowicz in Bull. Acad. Sci. St. Petersburg. XXXI. (1886) 25; in Mel. Biol. XII. (1892) 433. - Palibin in Act. Hort. Petrop. XVII. (1898) 58 (Consp. Fl. Kor.). - Rehder in Sargent, Trees & Shrubs, I. (1905) 178. - Chung in Mem. Sci. Soc. China, I. (1924) 150 (Cat. Trees & Shrubs China). -

Acer japonicum Forbes & Hemsley (non Thunberg) in Journ. Linn. Soc. XXIII. (1886) 140. - (Ind. Fl. Sin.).

Shrub or small tree. Branchlets slender, those of the present year greenish or greenish purple, those of more than one year old grey or greyish brown. Buds large; scales 6, ovate, densely outside. Leaves deciduous, chartaceous, nearly round; , about 6 to 8 cm. in diameter, deeply cordate or cordate at the base, usually 9 - 11-lobed; lobes triangular-ovate or ovate-lanceolate, acuminate, doubly serrate with incisive teeth; sinuses acuminate, reaching to one half or two-thirds to the middle of the blade; upper surface deep green, lower surface light green, densely white pubescent and especially on the nerves of both surfaces while young, then glabrescent above and less pubescent on the nerves below; petioles slender, 3.5 - 4 cm. long, densely pubescent while young, then slightly pubescent or glabrescent when matured. Flowers andromonoecious, in terminal pubescent corymbs 3 - 4 cm. broad, on peduncles 2 - 3 cm. long; sepals 5, purplish green, pubescent on the margin, lanceolate, acuminate, 4 - 5 mm. long, 1.5 mm. broad; petals 5, white, or yellowish white, obovate, 4 mm. long, 3 mm. broad; stamens 8, about 4 mm. long, rudimentary in pistillate flower, filaments purple and glabrous, anthers yellow and ovoid; disk glabrous, slightly lobed, extrastaminal; ovary slightly pilose and sometimes nearly glabrous, rudimentary or none with only tufts of hairs in staminate flower, style about 5 mm. long, and usually turbinate, stigmas 2, about 1 mm. long; pedicels purple, slender, 8 - 10 mm. long, slightly pubescent. Fruits purplish yellow; nutlets convex, glabrous, strongly /

strongly veined, 5 - 7 mm. long, 4 - 5 mm. broad; wings narrow, obovate, contracted at base, with nutlets 2 - 2.5 cm. long, 5 - 6 mm. broad, widely spreading; peduncles about 1.5 cm. long.

MANCHURIA: Port Bruce, C. Maximowicz, in 1860, sine no. (in Vind.); Amurland, Vladivostock, C. S. Sargent, August 1903, sine no. (in Arn., ex Rehder); "in silvis frondosis Prov. austrocissuriensis circa Vladivostock," N. Palezeuski, sine no. (Fl. Mansh. no. 1049) (in Berol.); "Fluvium Sui-fun, Vallis U-schagon, provincia austro-Ussuriensis", V. Komarov, May 31, 1896, sine no. Fl. Mansh. No.1049) (in Berol.); Southeast of Manchuria, G. Fenzel, June 2, 1930, No. 66 (in Vind.).

COREA: "Fluvium Tumingan Districtus Cherieng, Vallis Orong-czen", V. Komarov, May 17, 1897, sine no. (Fl. Mansh. No. 1049) (in Berol.); "Fluvium Jalu supra, Vallis Czan-dichin-zan", V. Komarov, August 10, 1897, sine no. (Fl. Mansh. No. 1049); "Fluvium Jalu supra, Vallis, Tadin-pen, " V. Komarov, June 22, 1897, sine no. (Fl. Mansh. No. 1049) (in Berol. & Vind.); "in silvis Quelpaert", U. Faurie, May 1907, No. 1602 (in Edinb.); "in Hallaisan 1600 m.", U. Faurie, August 1907, No. 1603 (in Edinb.); "Quelpaert in sylvis Mokotze," T. Taquet, May 8, 1908, No. 663 (in Edinb.); "Quelpaert in sylvis Hallaisan", T. Taquet, May 1911, No. 5448 (in Edinb.); Quelpaert Island, in forests, mushroom house, tree 12 metres high /

high, abundant, E. H. Wilson, November 5, 1917, No. 9578 (in Arn., Berol. & Brit.); Southern Kankyo, E.H. Wilson, September 18, 1917, No. 9183 (in Arn. & Brit.); Kogen, Kongo-san, E.H. Wilson, July 1, 1918, No. 10407, (in Brit.); Kogen, Kongo-san, woods, common, E.H. Wilson, July 2, 1918, No. 10419 (in Arn., Berol. & Brit.); Kang-von, Kum-gang-san, P. Klantke, No. 39 (in Berol.); Kum-gang-san, P. Klantke, July to August 1927, Nos. 43, 44, 193 & 201 (in Berol.).

This species is near Acer circumlobatum Maximowicz and Acer Sieboldianum Miquel. It is distinguished from the first species by its round, and doubly incisively serrate leaves and from the latter species by its purple flowers.

Four varieties have been described from Korean plants, two of which I have not found the specimens in the various herbaria. The following key has been taken from the original descriptions and figures:-

- A. Fruits white lanuginosevar. lanuginosum.
- AA. Fruits not white lanuginose.
- B. Wings of fruit with nutlets 2.8 cm. long.....
.....var. macrocarpum.
- BB. Wings of fruits with nutlets usually 2 cm.
long.
- C. Wings oblong, parallelly.....var. koreanum.
- CC. Wings obovate, contracted at base.....
.....var. ambigum.

Acer /

Acer pseudosieboldianum (Pax) Komarov var. lanuginosum
Nakai in Tokyo Bot. Mag. XLV. (1931) 127.

This variety differs from the type by its petioles being white lanuginose at first then glabrescent, its leaves being white lanuginose on both surfaces when young, then glabrous and pubescent below, and by its white lanuginose fruits.

Acer pseudosieboldianum (Pax) Komarov var. macrocarpum
Nakai in Tokyo Bot. Mag. XXVII. (1913) 130, name only;
XXIX. (1915) 27; Fl. Sylv. Kor. I. (1915) 13, t. 6. -

This variety differs from the type by its large fruits with wings up to 2.8 cm. long and spreading nearly horizontally.

Acer pseudosieboldianum (Pax) Komarov var. koreanum
Nakai in Journ. Coll. Sci. Imp. Univ. Tokyo, XXVI. art. 1 (1909) 136 t. 10, fig. 1 (Fl. Kor. I.); in Tokyo Bot. Mag. XXIX. (1915) 27; Fl. Sylv. Kor. I. (1915) 13, t. 5. -

COREA: "Quelpaert in sylvis Hallaisan", T. Taquet, June to September 1909, Nos. 2752, 2753 & 2754 (in Edinb.); same locality, T. Taquet, July 26, 1910, No. 4167 (in Edinb.).

This variety differs from the type in its fruits, which have wings oblong and parallel and usually 2 cm. in length.

Acer pseudosieboldianum (Pax) Komarov var. ambiguum
Nakai in Tokyo Bot. Mag. XXVII. (1913) 130, name only; Fl. Sylv. Kor. I. (1915) 12. -

COREA: "Quelpaert N. in sylvis 1500 m.", T. Taquet, October 1, 1910, No. 4169 (in Edinb.).

This variety differs from the type by its leaves being truncate or slightly cordate at the base.

19. Acer Ishidoyanum Nakai in Tokyo Bot. Mag. XXVII. (1913) 130, name only; XXIX. (1915) 28; Fl. Sylv. Kor. I. (1915) 15, t. 9. -

Tree. Branchlets slender, those of one year old pale green or purplish green, barbate, those of more than one year old brownish yellow or brownish green, glabrous. Winter-buds never seen. Leaves deciduous, chartaceous, roundish in outline, 11 - 13 cm. in diameter, deeply cordate at base, usually 11-lobed; lobes oblong-oblongeolate, acuminate, lower part of the lobe entire, upper part doubly serrate with acute or obtusish teeth; Basal lobes small, bending downward or even imbricate; sinuses acuminate or very narrow, reaching one-third or half-way to the middle of blade; upper surface deep green, glabrous; lower surface pale green, slightly barbate while young, then glabrous or glabrescent; petioles 3.5 - 5 cm. long, caniculate above, whitish barbate while young, then glabrescent. Flowers unknown. Fruits purplish, usually 6 in short corymbose inflorescence, on pedicels 1.5 - 2 cm. long, and on slightly barbate peduncles 4 cm. in length; nutlets 7 mm. long, 5 - 6 mm. broad, slightly convex; wings elliptic-oblong, widest at the middle, nutlets included 2.3 - 2.5 cm. long, 1 - 1.2 cm. broad, spreading at acute angles.

COREA: Heihoku, Mt. Hakuhekizan, T. Ishidoya, June 10, 1912, sine no. (type in Tokyo).

This species is characterized by the elliptic-oblong wings of the fruit and the broader oblong-oblongeolate lobes of the leaves, the serrations of which are usually coarser than those of the allied species.

20. Acer takesimense Nakai in Tokyo Bot. Mag.
 XXXII. (1918) 107, -
Acer okamotoi Nakai in Tokyo Bot. Mag.
 XXVII. (1913) 13, name only; XXIX. (1915)
 28, in part, excl. description of fruits;
 Fl. Sylv. Kor. I. (1915) p. 13, fig. 7,
 in part, excl. description and figure
 of fruits.

Shrub or small tree, usually 2 to 3 metres high.
 Bark smooth, greyish or greyish yellow, fissured.
 Branchlets slender, glabrous, those of the present year
 green or purplish green, those of more than one year
 old greyish yellow or greyish brown. Winter-buds
 ellipsoid; outer scales ciliate on the margin; Accres-
 cent scales oblong-oblongate, densely tomentose
 outside. Leaves deciduous, chartaceous, round in
 outline, 8 - 10 cm. in diameter, cordate or deeply
 cordate at base, usually 13 lobed; lobes oblong-ovate,
 shortly acuminate or acute, incisively serrate near
 the apex, entire near the lower part of the lobes;
 sinuses acuminate usually reaching one-third to the
 middle of the blades; upper surface deep green,
 glabrous; lower surface pale green, white barbate
 and densely so on the nerves; petioles 2 - 3 cm. long
 pubescent especially near the apex. Flowers andro-
 monoecious, in corymbs; sepals 5, purple, oblong-
 lanceolate, acute, 4 mm. long, 2 mm. broad; petals
 5, yellowish white, oblong or obovate-oblong, obtuse,
 4 mm. long, about 2 mm. broad; stamens 8, glabrous,
 as long as the petals; disk glabrous, extrastaminal;
 ovary /

ovary rudimentary in staminate flower, a tuft of hairs in the centre of disk instead of ovary, pistillate flower has sepals and petals the same as in staminate flower, stamens shorter than petals, ovary villous; pedicels slender, glabrous, 6 mm. long. Fruits yellowish brown; nutlets flat, 5 mm. in diameter; wings with nutlets 2 cm. long, 8 mm. broad, spreading at obtuse angles.

COREA: Dagelet, T. Nakai, June 1917, Nos. 4406 & 4417 (in Tokyo); Dagelet Island (Ooryong-too), alt. 500 - 920 m., bush or small tree 2 - 3 m. high, bark smooth, grey, shallowly fissured, flowers dark red, abundant, E. H. Wilson, May 31, 1917, No. 8500 (in Berol. & Brit.):

This species is closely related to Acer japonicum Thunberg and Acer pseudosieboldianum (Pax) Komarov. It differs from the first species by its small flowers and from the latter species by its shallowly 13-lobed leaves.

21. Acer /

21. Acer microsieberdianum Nakai in Tokyo Bot. Mag. XIV. (1931) 124. -

Small tree about 5 metres high. Bark grey, longitudinally fissured. Branchlets slender, those of the present year purple or greenish purple, slightly pilose while young, then glabrous; those of more than one year old purplish brown, glabrous. Leaves chartaceous, deciduous, roundish in outline, 3 - 6.5 cm. long and broad, truncate at base, usually 7-lobed; lobes oblanceolate or oblong-lanceolate, acuminate or caudate-acuminate, above the middle of the lobe doubly serrate with sharp teeth, below the middle of lobe usually entire; sinuses acuminate, reaching two-third to the middle of the blade; upper surface deep green and glabrous; lower surface lighter green, pilose on the nerves; petioles 2.5 - 3 cm. long, purplish, pilose. Flowers unknown. Fruits greenish yellow, usually 1 to 3 in pilose corymbose inflorescence, on pedicels 1 - 1.5 cm. long, peduncles 2 - 2.5 cm. long; nutlets convex, strongly veined, 6 mm. long, 4 mm. broad; wings oblong, nutlets included 2 cm. long, 6 mm. broad, spreading at obtuse angles.

COREA: Kogen, Heiko, Mt. Choshimonzan, T. Nakai, August 14, 1930, No. 13974 (type in Tokyo).

This species is closely related to Acer pseudosieberdianum (Pax) Komarov. From that species it differs in the small fruits and in the small leaves which are usually 7-lobed and truncate at base.

22. Acer ceriferum Rehder in Sargent, Pl. Wilson. I. (1911) 89. - Chung in Mem. Sci. Soc. China, I. (1924) 148 (Cat. Trees & Shrubs China):-

Tree about 12 metres high. Bark grey or blackish grey, smooth. Branchlets slender, those of the present year purplish or purplish green, densely greyish pubescent, those of more than one year old brown or greyish brown, slightly pubescent. Leaves deciduous, chartaceous, roundish in outline, 4 - 7 cm. in diameter, usually truncate, rarely sub-cordate at base, usually 7-lobed, rarely 5-lobed; lobes ovate-oblong or rarely lanceolate, acuminate, serrulate with argute teeth; sinuses acuminate, reaching half-way to the middle of blade; upper surface deep green, smooth; lower surface pale green, slightly reticulate, with tufts of hairs at the bases of nerves; main nerves slightly depressed above, distinctly raised below; Petioles 2.5 - 4 cm. long, slender, pubescent. Flowers unknown. Fruits purplish yellow, in small corymbose fruiting inflorescences; nutlets convex, villous, 6 mm. long, 4 mm. broad; wings falcate, including nutlets 2 - 2.4 cm. long, 8 mm. broad, nearly horizontally spreading; persistent sepals oblong or oblong-lanceolate, villous on both surfaces; pedicels 8 mm. long, slender, villous, peduncles 4 cm. long, villous.

HUPEH: Fang-hsien, alt. 1500 m., tree 12 m. high, E.H. Wilson, June 10, 1907, No. 1934 (type in Arn.; co-type in Berol., Bres., Brit., Edinb., Firen Kew & Vind.).

This species is characterized by its small, 7-11 lobed leaves which have bearded axils on the under surface and by the pubescent petioles.

23. Acer pubipalmatum. Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VIII (1932) 169 fig. 8. -

Tree usually 10 to 13 metres high. Bark grey or Blackish grey, slightly longitudinally fissured. Branchlets slender; those of the present year green or purplish green, densely white tomentoes, those of more than one year old greenish grey or brownish grey, glabrescent, rough, buds purple; scales acutish, ciliate, on the margin. Leaves deciduous, membranaceous, 4 - 5.5 cm. long, 5 - 7.5 cm. broad, truncate or sub-cordate, deeply 5-lobed, rarely 7-lobed; lobes lanceolate, acuminate, doubly serrate with argute teeth; sinuses acute or acuminate, reaching to four-fifths to the middle of the blade; upper surface deep green, with primary nerves slightly depressed and more or less pubescent while young, soon glabrescent; lower surface pale green with primary nerves raised and densely white villous; petioles 2 - 4 cm. long, densely villous while young, soon less villous, slender. Flowers purple, andro-monoecious, usually 5 to 8 in terminal corymbs, on villous peduncles 2 - 3 cm. long, appearing after the developing of leaves; sepals 5, purple, ovate or ovate-oblong, acute or obtuse, ciliate on the margin, about 2 mm. long; petals 5, yellowish white, broadly ovate, 2 mm. long; stamens 8, glabrous, about 2 mm. long, anthers yellow; disk glabrous, extrastimal; ovary densely villous, style glabrous, about 3 mm. long, stigmas very short and slightly revolute; /

revolute; pedicels about 5 mm. long, very slender, villous. Fruits purplish brown; nutlets globose, 4 mm. in diameter, pubescent or glabrous; wings included nutlets 1.6 - 2 cm. long, 6 - 7 mm. broad, more or less pubescent, spreading at obtuse angles.

CHEKIANG: W. Tien-mu-shan, K. K. Tsong, May 10, 1929, No. 392 (flowering specimen, type in Sci.); Tien-tai-shan, on slopes, at side of thickets, tree 30 metres high, S. Chien, July 3, 1932, No. 493 (fruiting specimen, type in Sci.); W. Tien-mu-shan, alt. 900 m., in woods, small tree 10 metres high, W. C. Cheng, April 24, 1931, No. 2439 (in Sci.); same locality, alt. 600 - 1000 m., in forests, tree 10 metres high, W. C. Cheng, June 27, 1932, No. 2143 (in Sci.); Tien-tai-shan, alt. 840 m., in woods, tree 13 metres high, R. C. Ching, May 5, 1924, No. 1406 (in Arn., Berol., Edinb., Fan, Kew, Sci. & Vind.).

This species is near Acer palmatum Thunberg, var. Thunbergii Pax, but its pubescent inflorescences, petioles, and nerves on the lower surface of leaves are quite distinct from that variety.

24. Acer pauciflorum. Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 166, fig. 1. -

Shrubs usually about 3 metres high. Bark brownish yellow, smooth. Branchlets very slender, those of the present year greenish yellow or purplish yellow, slightly pubescent or glabrescent, those of more than one year old greyish brown or yellowish brown, glabrous, with white waxy coating. Leaves deciduous, membranaceous, nearly round in outline, 3 - 5 cm. in diameter, cordate or open cordate at base, 5-lobed; lobes obovate-oblong or elliptical-oblong, acuminate, sharply and mostly doubly serrulate, sinuses acute, reaching two-thirds to the middle of the blade; upper surface deep green or yellowish green; lower surface pale green; primary nerves raised on both surfaces, secondary veins usually inconspicuous, glabrescent on both surfaces, occasionally with barbate hairs at the base of nerves below; petioles about 1 cm. long, slender, floccose-villous. Flowers unknown, apparently in few flowered corymbs. Fruits purplish yellow, in the specimens seen by the writer one on each pedicel, on sparingly villous peduncles 5 - 10 mm. long; nutlets convex, ellipsoid, 6 mm. long; 4 mm. broad, sparsely villous; wings oblong, with nutlets, 1.5 - 1.8 cm. long, 5 mm. broad, spreading at right angles; pedicels about 1 cm. long, glabrescent.

CHEKIANG: Chen-chion, 40 miles south of Siachu, R. C. Ching, June 4, 1924, No. 1790 (type in Sci.; co-type in Arn., Berol., Edinb., Kew, Paris & Vind.).

SECTION III SPICATA PAX.KEY TO SPECIES.

- A. Leaves 5- or 7-lobed.
- B. Inflorescences corymbiform; leaves 5-lobed.
- C. Leaves deeply lobed, lobed nearly entire; fruits slender, small 1.8 cm. long, with wings spreading at acute angles.....25. A. Chingii
- CC. Leaves shallowly lobed, lobes crenate-serrate with obtuse teeth; fruits stout, large, up to 5.5 cm. long, spreading usually erectly or at acute angles.....26. Acer Giraldii
- CCC. Leaves deeply lobed, lobes serrulate with acuminate teeth, fruits slender, medium-sized, 2-2.5 cm. long, spreading nearly horizontally.....27. A. Oliverianum
- BB. Inflorescences elongated paniculate; leaves usually 7-lobed, rarely 5-lobed.
- C. Panicles loose.
- D. Ovary and disk hairy.
- E. Ovary and disk white pilose; leaves glabrescent.
- F. Leaves coriaceous or subcoriaceous.....28. A. sinense
- FF. Leaves membranaceous ...29. A. Schneiderianum
- EE. Ovary and disk densely yellowish pubescent, leaves puberulous below...30. A. heptolobum
- DD. Ovary and disk glabrous.....31 A. flabellatum
- CC. Panicles compact, cylindric.
- D. Leaves glabrescent or more or less whitish or yellowish pubescent below, sharply serrate with acute or acuminate teeth.
- E. Sepals broadly ovate, glabrous outside, densely villous inside, petals obovate; ovary densely villous; fruits with strongly veined, globose and ridges nutlets and with wings spreading horizontally.....32. A. erianthum
- EE. Sepals ovate-lanceolate, slightly pubescent outside, glabrous inside, petals linear-oblong or linear oblanceolate; ovary densely pubescent; fruits with slightly veined and subglobose nutlets and with wings spreading usually erectly or at acute angles..... A. caudatum

- DD. Leaves densely yellow tomentose below, coarsely serrate, with broadly acute or obtusish teeth; fruits with smooth, flat nutlets and slender wings spreading usually erectly.....33. A. ukurunduense
- AA. Leaves usually 3-lobed (rarely with basal lobes or undivided).
- B. Inflorescences distinctly elongated paniculate or racemose.
- C. Inflorescences racemose; lobes of leaves elongated caudate-acuminate, argute-serrulate; stamens inserted at the middle of the disk(A. Wardii).
- CC. Inflorescences paniculate; lobes of leaves not elongated caudate-acuminate, entire or rarely serrulate; stamens inserted at the inner side of the disk.
- D. Inflorescences 5-6 cm. long, lobes of leaves acuminate; flowers 5-merous; wings of fruits nearly horizontally spreading.....34. A. Wilsonii
- DD. Inflorescences 3-4 cm. long, lobes of leaves acute or shortly acuminate, flowers 4-merous; wings of fruits spreading at obtuse angles.....35 A. Tutcheri
- BB. Inflorescences corymbiform.
- C. Leaves membranaceous, with incised-serrate lobes.....36 A. ginnala.
- CC. Leaves coriaceous or subcoriaceous, rarely membranaceous, with entire or sparingly serrate lobes.
- D. Lower surface of leaves green or yellowish, but not glaucous.
- E. Branchlets and inflorescences densely tomentose; petioles stout, densely tomentose; leaves shallowly 3-lobed, with lateral lobes forwardly directed.....37. A. Fenzelianum
- EE. Branchlets and inflorescences glabrous; petioles slender, glabrous except puberulous near the apex; leaves deeply 3-lobed, with lateral lobes sideward directed.....38. A. Yuii
- DD. Lower surface of leaves white or whitish glaucous.
- E. Leaves membranaceous; sepals and petals within 2 mm. long; fruits with slender wings usually erectly spreading.....39 A. Buergerianum
- EE. Leaves coriaceous; sepals and petals about 4 and 8 mm. long respectively; fruits with stouter wings spreading usually at right or obtuse angles.....40 A. Paxii

25. Acer Chingii Hu in Journ. Arn. Arb. XI. (1930) 224; in Hu & Chun, Icon. Pl. Sin. III. (1933) 146 t. 146. - Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932). 149

Tree up to 11 metres high. Bark whitish. Branchlets slender, greenish, glabrous. Leaves deciduous, membranaceous, rounded in outline, 10 cm. in diameter, cordate or deeply cordate at the base, 5-lobed; lobes lanceolate, acuminate, entire or sparingly appressed serrate toward the apex, middle lobe 5.5 cm. long, 2 cm. broad, lateral lobes 4.5 cm. long, about 2 cm. broad, basal lobes usually bending downward; sinuses acute, upper surface deep green, glabrous; lower surface light green, glabrous except the midribs pubescent; petioles about 3 cm. long, pubescent. Flowers unknown. Fruits purplish green, on corymbose-paniculate fruiting inflorescences; nutlets slightly convex, 4 mm. in diameter; wings narrowed at the base, 18 mm. long, 5 - 7 mm. broad, spreading at acute angles.

KWANGSI: Bin-long, Miu-shan, north of Luchenhsien, on border of Kweichow, R.C. Ching, June 14, 1928, No. 5980 (type in Fan; co-type in Sin. & Suny.).

This species is characterized by its deeply lobed leaves with lobes entire or slightly serrulate near the apex and the pubescent samaras arranged in a corymbos-paniculate inflorescence with wings spreading at right angles.

26. Acer Giraldii Pax in Engler, Pflanzenreich, Heft 8 (IV. 163). (1902) 79; Engler, Bot. Jahrb. XXVI. beibl. LXXXII. (1905) 73. - Hemsley in Journ. Linn. Soc. XXXVI. (1905) 452. - Rehder in Sargent, Trees & Shrubs, I. (1905) 179; in Sargent, Pl. Wilson. I. (1911) 90; in Journ. Arn. Arb. VII. (1926) 219. - Schneider, Illustr. Handb. Laubh. II. (1907) 206. - Léveillé, Cat. Illustr. Pl. Seutchouen, (1918) 178, MSS. - Chung in Mem. Sci. Soc. China, I. (1924) 149 (Cat. Trees & Shrubs, China). -

Acer caesium Rehder (non Wallich) in Sargent, Trees & Shrubs, I. (1905) 179; . - Dunn in Journ. Linn. Soc. XXXIX. (1911) 413. - Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 150. -

Acer caesium Wallich var. W.W. Smith et Etc. in Notes Roy. Bot. Gard. Edinb., XIV. (1924) 137; XVII. (1929) 131; XVII. (1930) s68. -

Tree usually 15 to 20 metres high, rarely up to 25 metres high. Bark brown or blackish brown. Branchlets slender, glabrous, usually with a waxy coating; those of the present year purple or purplish green; those of more than one year old greyish brown or deep brown; lenticels rounded or ovate. Winter buds large, brown, ellipsoid; scales obtuse, outer ones glabrous outside, ciliate on the margin, inner ones densely grey tomentose outside; accrescent scales oblanceolate or obovate, densely tomentose outside. Leaves deciduous, sub-coriaceous or chartaceous, 9 - 11 cm. long, 12 - 15 cm. broad, cordate or deeply cordate at base, 5-lobed; lobes /

lobes broadly obtuse, apex acute or shortly acuminate, shallowly and remotely serrate with obtuse crenate; basal lobes usually obsolete; sinuses obtuse or broadly obtuse, reaching one-fourth to the middle of the blade; upper surface deep green, glabrous; lower surface pale green, reticulate, whitish glaucous, densely whitish tomentose while young, then glabrescent, except barbate hairs on the axils of the nerves; primary nerves depressed above, prominent below, secondary nerves raised below; petioles 8 to 13 cm. long, purplish green, glabrous. Flowers greenish yellow, andro-monoecious, numerous in glabrous terminal corymbs, about 6 cm. long, 7 cm. broad, on peduncles 2 - 3 cm. long; sepals 5, oblong or ovate-oblong, broadly obtuse or nearly rounded at the apex, about 5 mm. long, 3 mm. broad; petals 5, oblanceolate, 5 mm. long, 1.5 mm. broad; stamens 8, slender, glabrous, 5 - 7 mm. long, rudimentary in pistillate flower, anthers yellow and subglobose; disk glabrous, slightly lobed, extrastaminal; ovary purple, glabrous, style and stigmas deciduous, never seen; pedicels slender, glabrous, 1 - 1.5 cm. long. Fruits purple while young, brownish yellow when matured; nutlets strongly convex and ridged, 8 mm. in diameter, horizontally spreading; wings falcate, 4 - 5.5 cm. long, 1.2 - 2 cm. broad, contracted and incurved at the base, spreading nearly erectly or at acute angles.

SHENSI: "Prima zona ed alb Falde de Thai-peisan", /

san", G. Giraldi, August 10 - 20, 1894, No. 2115
 (9) (type in Berol.; co-type in Feren.); "in monte
 Thai-pei-san, G. Giraldi, August 1899, No. 2136
 (in Berol. & Firen.); "Monte Thai-pei-san", Hugh
Scallan, August 1899, sine no. (in Arn. & Brit.);
 "Tai-pei-schan", ^{G. Fenzl,} August 22 to September 5, 1934, No.
735 (in Vind.).

HUPEH: Fang-hsien, Fang-shan, tree 4 m. high,
E. H. Wilson, October 1901, No. 2707 (in Arn. & Kew).

SZECHUAN: Ping-wu-hsien, W.P. Fang, & S.F. Chang,
 August 24, 1928, No. 4427 (in Arn., Edinb., Fan, Kew
 and Paris); Southeast of Sung-pan-hsien, E. H. Wilson,
 August 1910, No. 4506 (in Arn., Berol., Brit., & Kew);
 Sung-pan-hsien, W.P. Fang & S.F. Chang, August 11,
 1928, No. 4156 (in Berol. Edinb., Fan, Kew, Paris and
 Sci.); "inter Kalapa et Liuku, alt. 3000 - 3500 m.,
 "tree about 10 metres high, C. Schneider, May 17, 1914,
 Nos. 1252 and 1288 (in Berol., Edinb., & Vind.); "an
 feuchteren Stellen in der tp. St. des Liukuliangdse,
 27° 48', zwischen Yengyuen und Kwapi, kalk, 3450-3550m."
Handel-Mazzetti, May 17, 1914, No. 2276 (in Berol.,
 Bres., Edinb., Kew, Vind. & Wien); Yen-pien-hsien,
 alt. 3200 m., on mountain valley, tree 10 m. high,
 bark dark brown, smooth, leaves yellowish green above,
 lighter beneath, fruits brown, T.T. Yu, October 16,
 1932, No. 1719 (in Fan. Sci.).

SIKANG: Muli, western slopes of Mt. Mitzuga,
 alt. 3500 m., in mixed forests, tree 5 - 8 metres
 high /

high, J. F. Rock, June 1932, No. 24534 (in Edinb.). -

YUNAN: Eastern flank of the Lichiang Range, lat. 27° 30' N., alt. 3000 - 3300 m., in mixed forests, tree of 20 - 27 metres high, G. Forrest, June 1910, No. 5992 (in Edinb. & Kew); Lichiang Range, lat. 27° 30' N., alt. 3300 m., in mixed forests, tree 14 - 20 metres high, flowers green, G. Forrest, May 1913, No. 10047 (in Brit., Edinb., & Kew); Lichiang Range, lat 27° 30' N., in open forests, tree of 14 - 20 metres high, G. Forrest, June 1913, No. 10274 (in Brit., Edinb. & Kew); Yangtze Valley, east of the Lichiang Range, lat. 27° 15' N., alt. 3000 m., in thickets, tree of 10 - 14 metres high, G. Forrest, June 1913, No. 10402 (in Brit., Edinb. & Kew); Chungtien plateau, lat. 27° 55' N., alt. 3000 - 3300 m., in deciduous forests, tree of 14 metres high, G. Forrest, July 1913, No. 10661 (in Edinb.); on the Tong-shan in the Yangtze bend, lat. 27° 20' N., alt. 3300 m., in open thickets, shrub of 10 - 14 metres high, G. Forrest, August 1913, No. 10863 (in Edinb. & Kew); Tsarong, Salween-Kiu Chiang divide, lat. 28° 40' N., long. 98° 15' E., open situations in mixed forests, tree of 10 - 17 metres high, G. Forrest, October 1919, No. 19126 (in Edinb. & Kew); Tsarong, Salween-Kiu Chiang divide, lat. 28° 24' N., long. 98° 24'E., in mixed forests, tree of 14 - 17 metres high, G. Forrest, August 1921, No. 20042 (in Brit., Edinb. & Kew); Lei-lung-shan, lat. 28° 10' N., alt. 3700 m., in mixed forests, tree of 10 - 17 metres high, G. Forrest, September 1917, No. 15324 (in Edinb. & Kew); the second peak of the Yu-lung-shan, slopes of Mt. Gyi-na-lo-ko, alt./

alt. 3400 m., in fir forests, tree of 14 - 17 metres high, flowers yellow, J. F. Rock, April - May 1932, No. 25007 (in Brit. & Edinb.); without precise locality, G. Forrest, No. 30042 (in Edinb.).

TIBET: Without name of locality, lat 28° 25' N., long. 97° 55' E., F. Kingdon Ward, September 31, 1931, No. 10091 (in Brit.); Putsang River, F. Kingdon Ward, November 6, 1933, No. 10961 (in Brit.).

This species differs from Acer caesium Wallich chiefly by its shallowly lobed leaves with comparatively broader and shorter lobes and remote serrations with obtuse teeth.

27. Acer Oliverianum Pax in Hooker Icon. Pl. XIX. (1889) under t. 1897; in Engler, & Prantl, Pflanzenfamilien, III. pt. 5, (1896) 271; ex Diels in Engler, Jahrb. XXIX. (1900) 448 (Fl. Centralchina); in Engler, Pflanzenreich, Heft 8 (IV. 163). (1902) 21. - Graf von Schwerin in Gartenfl. XLII. (1893) 269. - Bretschneider, Hist. Europ. Bot. Discov. China, (1898) 781. - Henry in Gard. Chron. ser. 3. XXXIII. (1903) 100 (Chin. Maples). - Veitch in Journ. Roy. Hort. Soc. XXIX. pt. 3, (1904) 360. - Hemsley in Journ. Linn. Soc. XXXVI. (1905) 452. - Rehder in Sargent, Trees & Shrubs, I. (1905) 153, t. 77; II. (1907) 26; in Sargent, /

Sargent, Pl. Wilson. I. (1911) 90; in Journ. Arn. Arb. VII. (1926) 219; VIII. (1927) 162; Manual Cult. Trees & Shrubs, (1927) 569. - Schneider, Illustr. Handb. Laubh. II. (1907) fig. 135 r-u.- Léveillé, Cat. Illustr. Pl. Seutchouen, (1918) 179, MSS. - Chung in Mem. Sci. Soc. China, I. (1924) 149 (Cat. Trees & Shrubs China). - W. W. Smith & etc. in Notes Roy. Bot. Edinb., XIV. (1924) 196. - Chien in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. III. (1927) 61 (Fl. Hwangshan). - Bean, Trees & Shrubs, Hardy Brit. Isl. I. (1929) 151. - Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 151; VIII. (1932) 165. - Handel-Mazzetti, Symb. Sin. VII. (1933) 64. -

Tree usually 4 to 7 metres high. Bark smooth, greenish or greenish brown, usually covered with waxy coating. Branchlets slender, glabrous or slightly puberulous, those of the present year purplish green, those of more than one year old greenish brown. Winter-buds ovate, small, nearly glabrous. Leaves deciduous, chartaceous, 4 - 8 cm. long, 5 - 9 cm. broad, subcordate or nearly truncate at base, 5-lobed; lobes triangular-ovate or oblong-ovate, acuminate, appressed sharply serrulate; sinuses acute, reaching half way to one-third to the middle of the blade; upper surface dark yellowish green, glabrous; lower surface pale green, glabrous except the axillary tufts of densely whitish hairs; petioles 2.5 - 5 cm. long, slender, glabrous or slightly pubescent near the apex. Flowers andromonoecious, /

monoecious, in glabrous terminal corymbs, appearing while the developing of leaves; sepals 5, purplish green, ovate or elliptic-ovate, obtuse, 3 - 4 mm. long; petals 5, whitish, ovate, obtuse, 3 - 4 mm. long; stamens 8 in staminate flower slightly longer than petals, filaments glabrous, anthers yellow, in pistillate flower the stamens much shorter, disk slightly lobed, extrastaminal; ovary slightly villous, style glabrous, 2 mm. long, stigmas revolute. Fruits in pendulous corymbose fruiting inflorescences; nutlets strongly convex, about 6 mm. long, 4 mm. broad, distinctly veined; wings purplish while young and brownish yellow when matured, with nutlets 3 - 3.5 cm. long, 1 cm. broad, spreading nearly horizontally.

KANSU: Near Cheng-hsien, "Chi-shan", F.N. Meyer, October 1, 1914, No. 1757 (in Arn., & Sci.).

CHEKIANG: W. Tien-mu-shan, W.C. Cheng, April 24, 1931, No. 2441 (in Sci.); Tien-tai-shan, Y. L. Keng, August 24, 1927, No. 1144 (in Arn. Berol., Fan., & Sci.); Lung-chuan-hsien, R.C. Ching, August 31, 1924, No. 2539 (in Arn., Berol., Edinb., & Kew); same locality, in forests, on slopes, tree 5 m. high, young fruits purple, S. Chen, May 15, 1933, No. 1410 (in Sci.).

ANHWEI: Hwang-shan, N.K. Ip, August 28, 1923, No. 4794 (in N.B.); same locality, S.S. Chien, July, 27, 1926, No. 1125 (in Sci.); Chu-hwa-shan, R.C. Ching, April 25 and June 28, 1925, Nos. 2625B & 2799 (in Arn., Berol.,/

Berol., Edinb., Kew & Sci.). -

HUPEH: Fang-hsien, A. Henry, Nos. 6187 (in Bres. & Kew) & 6512 (type in Berol.; co-type in Arn., Brit., Edinb. Kew & Paris); same locality, in woods alt. 1500 m., E. H. Wilson, July 1907, No. 1936 (in Arn., Berol., Brit., Edinb., Firen., Kew & Vind.); Hsing-shan-hsien, Y. Ch'ien, October 2, 1926, No. 1010 (in N.F.); Chu-chi-hsien, S.F. Chang, October 16, 1930, No. 1014 (in Suny.); Chang-yang-hsien, tree 7 m. high, E. H. Wilson, May 1900, No. 716 (in Arn., Berol., Edinb., Kew, Paris & Vind.).

SZECHUAN: Wu-shan-hsien, E. H. Wilson, May to September, 1900, Nos. 234B, 590 & 3553A (in Edinb. & Kew); "district de Tchen-keou-tin", (Cheng-kou-hsien), R.P. Farges, 988bis (in Paris); Cheng-kou-hsien, W.P. Fang, May 21, 1932, No. 9965 (in Sci.); Nan-chuan-hsien, C. Bock & A.V. Rosthorn, in 1891, No. 2266 (in Berol.); Mount Omei, E. Faber, No. 454 (in Paris); same locality, E. H. Wilson, October 1903 and June 1904, Nos. 3352A & 4821 (all in Kew); same locality, W. P. Fang, July 20, 1930, No. 7785 (in Edinb. Kew & Sci.); same locality, T. T. Yu, April 20 - 24, 1932, Nos. 465 & 532 (in Fan. & Sci.); "Gebusche der Wtp. St. am Schao-schan se von Ningyuen, Sandstein, 2200 - 2700 m.", "Handel-Mazzetti, April 15, 1914, No. 1349 (in Edinb., Vind. & Wien).

KWEICHOW: Fan-ching-shan, alt. 2000 - 2800 m., tree 5 - 7 m. high, K. K. Ho, May to June 1931, Nos. 51079 /

51079, 51442 & 51513 (in Sci.); Fan-ching-shan, Huang-chia-wan, tree 10. m. high, A.N. Steward, C. Y. Chiao and H. C. Cheo, November 11, 1931, No. 431 (in Brit.)

YUNNAN: Lutien Valley, Yangtze-Mekong divide, lat. $27^{\circ} 15'$ N., long. $99^{\circ} 36'$ E., alt. 3000 m., in mixed thickets by stream, tree of 10 - 15 metres high, G. Forrest, October, 1921, No. 20700 (in Edinb.) Litiping Range, Mekong-Yangtze divide, east of Weihsi, J. F. Rock, May 1923, No. 8693 (in Edinb.).

KWANGSI: Linyen, R.C. Ching, August 31, 1928, No. 7273 (in Sin. & Sci.); Yao-shan, S.S. Sin, in 1928, No. 8945 (in Berol.); same locality, S.S. Sin, May 1931, Nos. 21179 & 21399 (in Berol.).

This species differs from its allies in the corymbose inflorescence and closely serrulated 5-lobed leaves.

Acer Oliverianum Pax, var. serrulatum (Dunn) Rehder Sargent, Pl. Wilson. I. (1911) 90. - Chung-in Mem. Sci. Soc. China, I. (1924) 150 (Cat. Trees & Shrubs China). - Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 151. -

Acer Wilsoni Rehder. var. serrulata Dunn in Journ. Linn. Soc. XXXVIII. (1908) 358. -

FUKIEN: Yaling-fu, Warburg, December 1897, No. 7979 (in Berol.); Foochow (Min-hok-hsien), Tang-quang-yen, /

yen, H. H. Chung, April 22, 1924, No. 2636 (in Berol. & Sci.); without precise locality, S.T. Dunn, April to June 1905, Herb. Hongkong, No. 2545 (in Arn. & Kew).

This variety differs from the type in its glabrous, 3-lobed leaves which are round at base and reticulate beneath, and which have ovate-oblong, appressed serrulate lobes and in the small samaras arranged in a slender corymbose inflorescence.

Two varieties, two sub-varieties and one form (var. microcarpum Hayata, var. Nakaharae Hayata, sub-var. formosanum Koidzumi, sub-var. trilobatum Koidzumi, and form longistaminum Hayata) had been described from Formosan plants, but I have not seen any specimens in the various herbaria. I am still doubtful as to their rank.

28. Acer sinense Pax in Hooker, Icon. Pl. XIX. (1889) under t. 1897; in Engler & Prantl, Pflanzenfamilien, III. pt. 5, (1896) 271; ex Diels in Engler, Bot. Jahrb. XXIX. (1900) 448 (Fl. Central-china); in Engler, Pflanzenreich, Heft 8 (IV.163). (1902) 22. Graf von Schwerin in Gartenfl. XLII. (1893) 268. - Bretschneider, Hist. Europ. Bot. Discov. China, (1898) 781. - Henry in Gard. Chron. ser. 3, XXXIII. (1903) 100 (Chin. Maples). - Hemsley in Journ. Linn. /

Linn. Soc. XXXVI. (1905) 452. - Rehder in Sargent, Trees & Shrubs, I. (1905) 155, t. 78; II. (1907) 26; in Sargent, Pl. Wilson. I. (1911) 90, excl.; in Journ. Arn. Arb. VIII. (1927) 162; Manual Cult. Trees & Shrubs (1927) 569. - Schneider, Illustr. Handb. Laubh. II. (1907) 205, figs. 133 e-l. - Matsumura in Icon. Pl. Koisik. I. (1911) 17, t. 9. - Léveillé, Cat. Illustr. Pl. Seutchouen, (1918) 179 (MSS). - Chung in Mem. Sci. Soc. China, I. (1924) 150 (Cat. Trees & Shrubs China). - Hu in Science, Sci. Soc. China, IX. (1924) 840. - Chien in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. III. (1927) 61 (Fl. Hwangshan). - Bean, Trees & Shrubs, hardy Brit. Isl. I. (1929) 159. - Fang. in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 151, in part, excl. specimen cited Fang's 6639 from Szechuan. - Handel-Mazzetti, Symb. Sin. VII. (1933) 640. -

Liquidambar Rosthornii Diels in Engler, Bot. Jahrb. XXIX. (1900) 380 (Fl. Centralchina). -
Acer sinense Pax var. typicum Pax in Engler, Pflanzenreich, Heft 8 (IV.163). (1902) 22. -
Acer sinense Pax var. B. concolor Pax in Engler, Pflanzenreich, Heft 8 (IV.163). (1902) 22. - Veitch in Journ. Roy. Hort. Soc. XXIX. pt. 3 (1904) 348, 360, fig. 92. - Rehder, Manual Cult. Trees & Shrubs, (1927) 569. - Bean, Trees & Shrubs, hardy Brit. Isl. I. (1929) 159. - Handel-Mazzetti, Symb. sin. VII. (1933) 640. -

Tree /

Tree usually 3 to 5 metres high, rarely up to 20 metres high. Bark yellowish brown or dark brown, smooth. Branchlets slender, glabrous, those of the present year greenish or greenish purple, glabrous, those of more than one year old brownish green or dark brown, smooth. Winter buds small, covered by the enlarged bases of the petioles before the leaves falling away; scales 6, villous on the margin. Leaves deciduous, subcoriaceous, cordate or sub-cordate, rarely truncate, 10 - 14 cm. long, 12 - 15 cm. broad, 5-lobed; lobes oblong-ovate or triangular-ovate, acuminate, appressed serrate except near the base; sinuses acute, reaching more or less half to the middle of blade; upper surface deep green, glabrous; lower surface pale green, glabrous or glabrescent except tufts of yellowish hairs on axils of nerves; petioles stout, glabrous, 3 - 5 cm. long. Flowers andro-monoecious in pendulous many-flowered terminal panicles, from 5 - 7 cm. long, on peduncles 3 - 5 cm. long; sepals 5, greenish, ovate-oblong, or triangular-oblong, acutish, slightly ciliate, about 3 mm. long; petals 5, white, oblong or oval; stamens 5 - 8, longer than sepals, very short in pistillate flower, anthers yellow; disk thick, extra-staminal, slightly pubescent; ovary white pilose, rudimentary in staminate flower, style glabrous, 3 - 4 mm. long, stigmas spreading or recurved; pedicels slender, glabrous, about 5 mm. long. Fruits yellowish, usually glabrous, in pendulous panicles; nutlets ellipsoid, strongly convex, 5 - 7 mm. long, 3 - 4 mm. broad; wings 1 cm. broad, 2.5 - 3.5 cm. long, spreading /

spreading at acute angles or horizontally.

CHEKIANG: Tien-tung, K. K. Tsoong, May 19, 1927 No. 149 (in Sci.); Yu-chien-hsien, Tien-mu-shan, tree 7 metres high, H. H. Hu, October 31, 1920, No. 533 (in Kew).

ANHWEI: Hwang-shan, R. C. Ching, July 12-15, 1925, Nos. 2963 & 3028 (all in Arn., Berol., Edinb., Kew, & Sci.); same locality, M. Chen, September 1933, No. 1178 (in Sci. & Suny.); same locality, W. C. Cheng, October 18, 1933, No. 4082 (in Sci.); Siu-nin-hsien, R. C. Ching, August 21, 1925, No. 3263 (in Arn., Berol., Brit., Edinb., Kew, & Sci.). -

HUPEH: Hsing-shan-hsien, E. H. Wilson, No. 1885 (in Brit., Kew & Vind.); Chien-shih-hsien, tree about 10 metres high, A. Henry, Nos. 5641 (in Berol., Brit. & Kew) & 5831 (type of Acer sinense in Berol.; co-type in Bres., Brit., Edinb., Kew, Paris, & Vind.); -

SZETCHUAN: Wu-shan-hsien, A. Henry, No. 7081 (type of var. concolor in Berol.; co-type in Brit.); North of Wu-shan-hsien, tree 4 metres high, E. H. Wilson, No. 7081 (in Kew); South of Wu-shan-hsien, side of stream, tree 4 metres high, E. H. Wilson, May 1900, Veitch Exped. No. 616 (in Berol., Edinb. & Kew); "District de Tchenkeou-tin" (Chengkou-hsien) R. P. Farges, May 18, 1892, No. 935 (in Paris); Mount Omei, Y. Chen, October 1928, No. 7099 (in Suny.); Nanchuan-/

Nanchuan-hsien, C. Bock and A.V. Roshorn, in 1891, Nos. 763 (type Liquidambar Roshornii Diels) 793 and 943 (all in Berol.); - Mt. Wa, tree 10 metres high, E. H. Wilson, July 1903, Veitch Exped. No. 3345 (in Brit. & Paris). -

HUNAN: "Im atp. Laubhochwald des Yun-schan bei Wukang, Tonschiefer, 1100 m!", H. Handel-Mazzetti, July 7, 1917, No. 11170 (in Vind. & Wien); "Ebendort, im Graben ne des Tempels Gwanyin-go, 1150 m.", H. Handel-Mazzetti, July 18, 1918, No. 12323 (Berol., Bres., Edinb., Paris, Vind. & Wien); Supu, Tseching-shan, alt. 800 m., tree 5 metres high, S. S. Sin, September 8, 1929, No. SH591 (in Berol.).

KWEICHOW: Fan-ching-shan, Huang-chia-wan, A. N. Steward, C.Y. Chiao & H. C. Cheo, September 11, 1931, No. 431 (in Paris); Cheng-feng-hsien, Nankan, Y. Tsiang, October 18, 1930, No. 4719 (in Brit., Edinb., Fan, Kew, Sci., Sin., Suny., & Vind.); Tuyun-hsien, Yun-fou-shan, Y. Tsiang, July 21, 1930, No. 6008 (in Sci. & Sin.).

KWANGTUNG: Lok-chang, tree 8 metres high, N.K. Chun, November 28, 1930, No. 28365 (in Suny.); Yu-yuen-hsien, alt. 1500 m., in woods by mountains, tree 6 - 12 metres high, S. P. Ko, April 10 to May 9, Nos. 45073, 54206 & 54285 (all in Suny.).

KWANGSI: Bin-long, Miu-shan, R. C. Ching, June 17, 1928, No. 6056 (in Fan, Sci. & Sin.); Tsin-lung-shan, /

shan, north of Lin-yen, R. C. Ching, August 20, 1928, No. 7041 (in Fan, Sci. & Sin.); Yeo-mar-shan, North of Lin-yen, R. C. Ching, August 21, 1928, No. 7170 (in Fan, Sci. & Sin.); Kuchen, S. S. Sin, May 7, 1927, No. 8945 (in Berol.).

This species is characterized by its paniculate inflorescence, longer style, villous disk, densely white pilose ovary and 5-lobed subcoriaceous leaves, which are usually glaucescent beneath, with shorter and broader lobes. This plant occurs commonly in Western Hupeh and Szechuan, and it has been recently reported also from Southern China.

Var. concolor Pax differs from the type by the green lower surface of the leaves and the horizontally spreading wings of the fruit. These characters are usually found in the typical specimens. It seems advisable to merge var. concolor to the type species.

Acer sinense Pax var. pubinerve (Rehder) Fang in Contrib. Biol. Lab. Sci. Soc. China Bot. Ser. VIII. (1932) 166.

Acer pubinerve Rehder in Sargent, Trees & Shrubs, II. (1907) 26. - Chung in Mem. Sci. Soc. China, I. (1924) 150 (Cat. Trees & Shrubs China). -

Acer Wilsonii Rehder var. chekiangense Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 154.

CHEKIANG: /

CHEKIANG: Tien-tai-shan, E. Faber, in 1889 to 1891, No. 203 (type of Acer pubinerve in Kew; co-type in Berol., Paris & Vind.; photo. in Fan & Sci.); same locality, alt. 600 m., tree 7 metres high, H. H. Hu, August 1920, No. 340 (in Berol.); same locality R. C. Ching, May 5 - 8, 1924, Nos. 1411 & 1444 (in Arn., Berol., Brit., Edinb., Kew, Paris, Sci. & Vind.); same locality, S. Chen, June -July 1932, Nos. 1300, 1302, 1308 & 1310 (all in Sci.); Ching-hsien, Y. Y. Ho, April 25-27, 1932, Nos. 1017 & 1056 (in Sci.); Feng-hwa-hsien, Y. Y. Ho, June 13, 1932, Nos. 1462 & 1464 (in Sci.); Lung-chuan-hsien, Mou-shan, Y. Y. Ho, October 4, 1932, No. 1595 (in Sci.); King-yuan-hsien, R. C. Ching, August 24, 1924, No. 2476 (in Kew).

This variety differs from the type in having the leaves sparingly pubescent on the lower surface, the margin serrate almost to the base of the lobes, the base truncate or slightly cordate, and the petioles with densely yellow-pubescent.

Acer sinense Pax var. iatrophifolium Diels in Notizbl. Bot. Gart. Mus. Berlin-Dahlem, XI. (1913) 211. -

KWANGSI: Yao-shan, S. S. Sin, May 9, 1929, No. 8958 (type of the variety in Berol.); same locality, S. S. Sin, No. 21399 (in Berol.).

This variety differs from the type in its leaves having a purple under surface, a deeply cordate base, and lobes slightly serrulate or nearly entire.

Acer /

Acer sinense Pax var. brevilobum Fang, n. var.

Acer Campbellii Fang (non Hooker f. et Thomson)
in Contrib. Biol. Lab. Sci. Soc. China, Bot.
Ser. VII. (1932) 153. -

Foliis breviter 5-lobatis, loculis fructus parvis
oblongis alis basi multo angustatis a typo recedit.

SZECHUAN: Ma-pien-hsien, "the Castle of the large
Bamboo", alt. 1600-200 m., in forests, small tree 5
metres high, W. P. Fang, May 22, 1930, No. 361 (in
Arn., Edinb., Fan, Kew & Sci.); same locality, tree
15 metres high, W. P. Fang, May 29, 1930, No. 1608
(in Arn., Edinb., Fan, Kew, Sci. & Sin.); same
locality, Lei-se-kon, alt. 2300 m., in forests, tree
12 metres high, W. P. Fang, June 21, 1930, No. 4588
(in Arn., Edinb., Fan, Kew, Sci. & Sin.).

These three specimens were wrongly referred to
Acer Campbellii by me. They are closely related to
Acer sinense Pax, but differ in the broad leaves
being truncate or nearly rounded at base, shallowly
5-lobed, and remotely and shallowly serrulate. The
oblong-ellipsoid nutlets are 8 mm. long and 3 mm.
broad, with falcate wings 3 - 3.5 cm. long, and 1.4
cm. broad, widest near the apex and very contracted
at the base.

Acer sinense Pax var. longilobum Fang, n. var.

Acer sp. Veitch in Journ. Roy. Hort. Soc.
XXIX. pt. 3, (1904) 354, fig. 99, 103. -

Acer /

Acer sinense Rehder (non Pax) in Sargent,
Pl. Wilson. I. (1911) 90. - Fang in
Contrib. Biol. Lab. Sci. Soc. China,
Bot. Ser. VII. (1932) 151, in part, incl.
specimen cited Fang's 6639 from Szechuan. -

Varietas haec foliis profunde 5 - 7 lobatis, lobis
elongatis angustatis caudat-acuminatis grosse et remote
serratis, loculis fructus globosis a typo differt.

HUPEH: Hsing-shan-hsien, E. H. Wilson, May 1907,
No. 1885 (in Arn., Brit., Edinb., Kew & Vind); without
precise locality, E. H. Wilson, No. 831 (ex Veitch).

SZECHUAN: Mount Omei, alt. 2100 m., in thickets,
small tree 8 metres high, W. P. Fang, July 18, 1930,
No. 6639 (in Edinb., Fan, Sci., Sin. & Suny.).

This variety differs from the type in the deeply
5 - 7 lobed leaves, with much longer and narrower
lanceolate, caudate-acuminate middle and lateral lobes
which are 6 - 8 cm. long, 3 cm. broad, coarsely and
remotely serrate with appressed teeth, and small
basal lobes usually bending downward, as well as in
the slender fruits which have globose nutlets with
their wings spreading horizontally.

29. Acer Schneiderianum Pax et Hoffman ex Limpricht
in Fedde Repert. beih. XII. (1922) 435 (Bot. Reis.
Hochgebirg./

Hochgebirg. Chinas u. Oesttibets).

Tree about 6 metres high. Bark smooth, grey or brownish grey. Branchlets slender, glabrous, those of the present year purple or greenish purple, those of more than one year old greenish yellow or greenish brown. Winter buds never seen. Leaves membranaceous, roundish, 7 - 8 cm. long and broad, sub-cordate or truncate at the base, 5 or 7 lobed; lobes oblong-ovate or triangular-ovate, acuminate, argute serrulate; sinuses usually acute, reaching to the middle of the blade; upper surface deep green; glabrous; lower surface pale green, glabrous or sparingly pubescent on the axils of the nerves; petioles 3 - 5.5 cm. long, glabrous or slightly pubescent near the apex. Flowers numerous, andro-polygamous in subglabrous corymbose-thysoid 3 - 4 cm. long, on peduncles 2 - 3 cm. long; sepals 5, greenish, oblong, 3 mm. long, 1.5 mm. broad, ciliate; petals 5, whitish-yellow, ovate-oblong, shorter than sepals; stamens 8, glabrous, 3 - 5 mm. long, rudimentary in pistillate flowers; disk extrastaminal, sparingly white pilose; styles glabrous, about 1.5 mm. long, stigmas about 1 mm. long, recurved, rudimentary in staminate flowers; pedicels slender, glabrous. Fruits unknown.

SZECHUAN: "inter Kalapa et Linku, ad Mang Silvarum, arbor circ. 6 m. alt., trunco 0.3 m. cross." C. Schneider, May 17, 1914, No. 1281 (type in Berol.; co-type in Bres., Edinb., Kew & Vind.). -

This /

This species is closely related to Acer sinense Pax and Acer heptalobum Diels, but it differs from the first species by the membranaceous leaves and from the latter species by the glabrous leaves as well as by the pilose disk and ovary.

30. Acer heptalobum Diels in Notizbl. Bot.

Gart. Mus. Berlin-Dahlem, XI. (1931) 211. -

Tree usually from 10 to 13 metres high. Bark black or blackish green, smooth; lenticels ovate or nearly rounded. Branchlets slender, glabrous, those of the present season greenish or purplish green, those of more than one year old green or brownish green. Winter buds unknown. Leaves deciduous, membranaceous or chartaceous, slightly broader than long, 9 - 14 cm. long, 13 - 17 cm. broad, cordate or sub-cordate at the base, 7-lobed; lobes oblong-ovate or broadly ovate, acuminate appressed serrate; sinuses acute, reaching one-third of the blade; upper surface deep green, glabrous; lower surface pale green, puberulous, with tufts of white hairs on the axils of nerves; petioles 5 - 8 cm. long, slender, glabrous or slightly pubescent near the apex. Flowers andro-polygamous, in erect corymbose panicles; sepals 5, purplish, ovate-lanceolate, about 3 mm. long, ciliate; petals 5, oblong-obovate, 3.5 mm. long, 3 mm. broad; stamens 8, in staminate flowers longer than petals, rudimentary in pistillate flowers; disk extrastaminal; ovary yellowish /

pubescent, style 1.8 - 2 cm. long, stigmas 1.2 mm. long; pedicels slender, glabrous. Fruits unknown.

YUNNAN: west of Mekang and north of Wei-hsi-hsien, Mount of Chi-cha or Gitsa Ngula, alt. 3850m. J.F. Rock, June 1928, No. 17071 (type in Berol. ; co-type in Edinb.)

It is closely related to Acer Schneiderianum Pax et Hoffman but is distinguished by the puberulous lower surface of the leaves and the yellowish pubescent ovary.

30. Acer flabellatum Rehder ex Veitch in Journ. Roy. Hort. Soc. XXIX pt. 3 (1904) 360, name only; Rehder in Sargent, Trees and Shrubs, I. (April 1905) 7, in Latin; in Sargent, Pl. Wilson. I. (1911) 91; Manual Cult. Trees and Shrubs, (1927) 569 - Dunn in Journ. Linn. Soc. XXXIX (1911) 413.- Léveillé, Cat. Pl. Seutchouen, (1918) 178, MSS. Chung in Mem. Sci. Soc. China, I. (1924) 149 (Cat. Trees & Shrubs China). - Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 255; VIII (1932) 167.-

Acer Sieboldianum var. ? Baker & Moore in Journ. Linn. Soc. XVII. (1880) 380.

Acer japonicum, Forbes & Hemsley (non Thunberg) in Journ. Linn. Soc. XXIII. (1886) 140 - in part.

Acer robustum Rehder (non Pax) in Sargent, Trees and Shrubs, II. (1907) 26 - Schneider, Illustr. Handb. Laubn. II. (1907) 206.- Matsumura in Icon. Keisikavenses, I. (1911) t. 12, - in part, incl. syn. Acer flabellatum.

Tree usually about 10 metres high. Bark smooth, brown or deep brown. Branchlets slender, glabrous, those of the more than one year old olive brown or reddish brown. Winter-buds ellipsoid; outer scales brown, ciliate on the margin, inner scales densely villous on their outer surface. Leaves deciduous, chartaceous or membranaceous, deeply cordate at base, roundish in outline, 8 -12 cm. in diameter, usually 7-lobed; lobes usually ovate-oblong rarely ovate or triangular ovate, acuminate or rarely long acuminate, sharply and irregularly serrate with appressed acute teeth; sinuses acuminate or acute, reaching to the middle of the blade; upper surface deep green, glabrous; lower surface pale green, glabrescent except villous on the nerves and tufts of hairs at the axils of nerves; primary and secondary nerves elevated on both surfaces; petioles slender, up to 7 cm. long, villous while young, then glabrous. Flowers andro-monoecious, in glabrous panicles about 3 to 5 cm. long, on glabrous peduncles about 3 cm. long; sepals 5, greenish, ciliate on the margin, ovate-lanceolate, acute, about 3 mm. long; petals 5, yellowish white, obovate, as long as the sepals; stamens 8, glabrous, about 5 mm. long; disk glabrous, slightly lobed, extrastaminal; ovary glabrous; pedicels about 1 mm. long, slender, glabrous. Fruits yellowish brown, in pendulous paniculate fruiting inflorescences; nutlets convex; subglobose, 6 mm. long, 5 mm. broad; wings with nutlets usually 3 - 3.5 cm. long, rarely up to 4 cm. long, 1 -1.2 cm. broad, spreading horizontally.

HUPEH: Fang-hsien, tree 4 to 8 metres high, A. Henry No. 6900 (type in Arn.; cotype in Edinb. Kew, Paris &

Vind); Fang-hsien, Sheng-tung-chin, woods, alt. 2100m.
E.H. Wilson, May 19, 1907, No. 683 (in Berol. & Kew);
 Hsing-shan-hsien, woods, alt. 1800 m. E.H. Wilson
 May 19 and June 4, 1907, Nos. 1902 & 1911 (in Arn. Berol.
 Brit. Edinb. Lew, Paris & Vind.); Tsu-kuei-hsien, Nanto,
E.H. Wilson No. 1232 (in Arn.); Patung-hsien, E.H. Wilson
 July 1900, No. 708 (in Arn. Berol. Kew & Vind.); same
 locality, woods, alt. 1500 m. E.H. Wilson September,
 1900, Nos. 706 & 708A (in Vind); Chang-yang-hsien, in
 woods, alt. 1200-1800 m. E.H. Wilson June and October
 1907, Nos. 1891 and 1912 (in Arn. Berol, Edinb. Kew
 Firen. & Vind.) Chien-shi-hsien, tree 7 m. high E.H. Wilson
 May 1900, Nos. 509 (in Kew) & 528 (in Berol.).

SZECHUAN: Ping-wu-hsien, W.C. Cheng August 20, 1931,
 No. 3014 (in Kew, Edinb. & Sci.); Wen-chuan-hsien,
 Wa-ssu Country, in woods, alt. 1800-2100 m. E.H. Wilson
 July to September, 1908, No. 1006 (in Brit. Edinb. Kew
 & Vind.); same locality, alt. 2700 m. E.H. Wilson
 October, 1910, No. 4101 (in Arn.); Niu-tou-shan, west
 Kuan-hsien, in thickets, alt. 2100 m., E.H. Wilson, June
 1908, No. 1908 (in Arn.); Kuan-hsien, W.P. Fang July
 14, 1928, No. 2226 (in Arn. Edinb. Fan. Kew, Paris & Sci.)
 Omei-hsien, Mount Omei, W.P. Fang, July 20, 1930, Nos.
7783 & 7784 (in Edinb., Fan, Kew & Sci.); same
 locality, E.T. Liu, July, 1930, No. H3 (in Sci.);
 Wa-wu-shan, between Hung-ya-shien and Yung-king-hsien,
W.P. Fang, August 17 to 19, 1930, Nos. 8319 & 8366
 (in Edinb., Kew & Sci.) ; same locality, T. H. Tu,
 July 18, 1931, No. 309 (in Sci.); Ma-pien-hsien, the
 Spruce /

Spruce Ridge, W. P. Fang, June 17, 1930, No. 490,
 (in Edinb., Kew & Sci.); Ma-pien-hsien, Ta-liang-
 shan, W. P. Fang, June 17, 1930, Nos. 3990 & 3991
 (in Edinb., Fan, Kew & Sci.). -

Acer flabellatum has been considered identical
 with Acer robustum Pax, but these are two distinct
 species. The former species differs from the latter
 in its larger, thicker, usually 7-lobed leaves, which
 are deeply cordate at the base and pubescent on the
 primary veins, and which have acuminate serrate lobes,
 and in larger fruits disposed in a paniculate inflor-
 escence with wings up to 4 cm. long, spreading
 horizontally.

Acer flabellatum Rehder var. yunnanense (Rehder)
 Fang. n. Comb. -

Acer Campbellii Pax (Non Hooker f. et Thomson)
 in Engler, Pflanzenreich, Heft 8 (IV.163)
 (1902) 21, in part, incl. specimen cited
 Henry's 10495 from Yunnan. - Henry in Gard.
 Chron. Ser. 3, XXXIII. (1903) 100 (Chin.
 Maples). - Rehder in Sargent, Trees & Shrubs,
 I. (1905) 179. - Dunn in Journ. Linn. Soc.
 XXXIX (1911) 413. - Chung in Mem. Sci. Soc.
 China, I. (1924) 148 (Cat. Trees & Shrubs
 China). -

Acer Campbellii var. yunnanense Rehder in
 Sargent, Trees & Shrubs, I. (April 1905)
 179, in English; in Fedde Repert. Nov.
 Spec. I. (July 1905) 6, in Latin. - Chung
 in /

in Mem. Sci. Soc. China, I. (1924) 148 (Cat. Trees & Shrubs China). - Notes Roy. Bot. Gard. Edinb., XIV. (1924) 208, 275, 284, 356; XVII. (1930) 155, 269. - Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VIII. (1932) 165. -

YUNNAN: "Tse-tchou-pin region de Kiao-kia", F. Ducloux, May 1909, No. 1306 (in Edinb.); Mengtze, mountains to the north, alt. 2700 m., tree 4 metres high, A. Henry, No. 10495 (type of Acer Campbellii var. yunnanense in Arn.; co-type Berol., Edinb. & Kew); Mingwong Valley, lat. 25° 15' N., alt. 2300 m., open situations in thickets, tree of 8 - 14 metres high, samara greenish crimson, G. Forrest, June 1912, No. 8337 (in Edinb. & Kew); Shweli-Salween divide, lat. 25° 30' N., alt. 3000 m., in open thickets, shrub of 7 - 12 metres high, flowers green, G. Forrest, May 1913, No. 11949 (in Brit., Edinb. & Kew); Mekong-Yangtze divide, lat. 27° 40' N., alt. 3300 m., in mixed forests, shrub or tree of 10 - 17 metres high, G. Forrest, July 1914, No. 12894 (in Edinb.); Mekong-Salween divide, lat. 28° 10' N., alt. 3300 m., open deciduous forests, tree of 10 metres high, G. Forrest, September 1914, No. 13374 (in Edinb. & Kew); Between Chien-chuan plain and the Mekong drainage basin to Lachiming, alt. 2600 m., tree 10 - 14 metres high, fruits red, J. F. Rock, May 1923, No. 8625 & 8638 (all in Arn. & Edinb.); Shweli-Salween divide, lat 25° 30' N., alt. 3000-3700 m., in open thickets and forests, shrub or tree of 10 - 17 metres high, flowers green, G. Forrest, May 1917, Nos. 15727 & 17518 (in Brit. & Edinb.); N'Maikha-Salween divide, lat 25° 30' N., alt. 2700 m./

2700 m., G. Forrest, September 1919, No. 18472 (in Edinb);
 Tsarong, Salween-Kiu Chiang divide, lat. $28^{\circ} 24'$ N.,
 alt. 3000 m., in thickets in side valleys, shrub of 2 -
 3 metres high, G. Forrest, September 1921, No. 20311
 (in Edinb. & Kew); Salween-Kiu Chiang divide, lat. 28°
 $24'$ N., long. $98^{\circ} 24'$ E., alt. 3300-3700 metres high,
 in mixed thickets, shrub or tree of 8 - 15 metres high,
G. Forrest, October 1921, No. 20829 (in Edinb.); Tsarong,
 Salween-Kiu Chiang divide, northwest of Si-chi-to, lat
 $28^{\circ} 30'$ N., long. $98^{\circ} 30'$ E., in mixed forests in side
 valleys, shrub of 8 - 14 metres high, flowers dark
 brownish-green, G. Forrest, May and October 1922, Nos.
21622 & 22745 (in Brit. & Edinb.); Tsarong, Salween-Kiu
 Chiang divide, northwest of Si-chi-to, lat. $28^{\circ} 40'$ N.,
 long. $98^{\circ} 18'$ E., alt. 3300-3700 m., in thickets by
 streams in side valleys, shrub of 8 - 10 metres high,
 flowers dark ruddy olive-green, G. Forrest, June and
 October 1922, Nos. 21797 & 22741 (in Edinb. & Kew);
 Tsarong, northern slopes of Mt. Kenichunpo, North of
 Sikitung, upper Salween River, tree of 8 metres high,
 flowers yellow, J. F. Rock, May to August, 1932, Nos.
22130 & 22556 (in Edinb.); Tsarong, forests and alpine
 regions of the Solo-la, mixed forests, alt. 3500 m.,
 tree 8 - 10 metres high, flowers reddish yellow, J.F.
Rock, May 1932, Nos. 22280 & 22608 (in Edinb.);
 Tsarong, Western range of Mekong on Kaakerpo, Dokerla
 and Tsarong, alt. 3500 m., in forests, tree 4 - 9 metres
 high, J. F. Rock, June 1932, No. 23063 (in Edinb.);
 Tsarong, Yundshi Mountain, alt. 3500 m., in forests,
 tree 4 - 8 metres high, J. F. Rock, October 1932, No.
23473 (in Edinb.); Shweli - Salween divide, lat. 25°
 308 N., long $98^{\circ} 58'$ E. alt. 3300 - 3700 m., in open
 thickets /

in side valleys and on the margin of forests, shrub of 3 - 7 metres high, flowers dull purple, G. Forrest, May 1924 No. 24210 (in Edinb. & Kew); Shweli-Salween divide, lat. $25^{\circ}45'$ N., long. $98^{\circ}40'$ E., alt. 3300 m. in open thickets and open mixed forests, tree of 10 - 17 metres high, fruits purplish red, G. Forrest, June 1924, No. 24366 (in Edinb. & Kew); Shweli-Salween divide, lat. $25^{\circ}35'$ N. long. $98^{\circ}58'$ E., alt. 3300 - 3700 m. in mixed forests, tree of 10 - 14 metres high, G. Forrest, September 1924, No. 25174 (in Edinb.); Shweli-Salween divide, Baw-hua-shan, lat. $25^{\circ}30'$ N., long. $98^{\circ}58'$ E., alt. 300 m in thickets, shrub of 10 metres high, G. Forrest November, 1924, No. 25322 (in Edinb.); Mekong-Yangtze divide, North of Pien-tien-go, lat. $27^{\circ}26'$ N., long $99^{\circ}30'$ E., alt. 3300 - 3700 m., in thickets, shrub of 3 - 5 metres high, flowers dull purplish red, anthers pale yellow, G. Forrest, June 1924, No. 25453 (in Edinb.); same locality, G. Forrest, December, 1924, No. 26124 (in Edinb.); hills around Lung-fan, al lat. $25^{\circ}54'$ N., long. $98^{\circ}33'$ E., alt 3300 m. in thickets, shrub of 4 - 5 metres high, flowers purplish, anthers green, G. Forrest, May 1925, No. 26503 (in Edinb.); hills north of Lung-fan, Mingkwong Valley, lat. $25^{\circ}53'$ N., long. $98^{\circ}33'$ E., in thickets, shrub of 7 - 10 metres high G. Forrest, June 1925, No. 26789 (in Edinb.); hills north of Lung-fan, lat. $25^{\circ}54'$ N., long. $98^{\circ}33'$ E., in thickets, shrub of 3 - 8 metres high, G. Forrest, June 1925, No. 26803 (in Edinb. & Kew); Shweli-Salween divide, lat. $25^{\circ}12'$ N. long $98^{\circ}50'$ E., alt. 2700 m., in thickets, shrub of 7 - 9 metres high, G. Forrest, August, 1925, No. 27155 (in Edinb.); same locality, G. Forrest, November 1925, No. 27760 (in Edinb.); slopes /

slopes of the Salween Valley, lat. $25^{\circ} 6' N.$, long. $98^{\circ} 55' E.$, alt. 3000 - 3300 m., in forests, tree of 10 - 17 metres high, flowers pale green, G. Forrest, April 1931, Nos. 29514 and 29515 (in Edinb.); Shweli-Salween divide, lat. $25^{\circ} 45' N.$, long. $98^{\circ} 45' E.$, alt. 3000 m., in mixed forests, shrub or tree of 7 - 14 metres high, flowers brownish green, G. Forrest, April 1931, No. 29543 (in Edinb.); head waters of the Shweli, lat. $25^{\circ} 45' N.$, alt. 3000 m., in open thickets, tree of 10 metres high, G. Forrest, June 1931, No. 29743 (in Edinb.); without locality, G. Forrest, No. 29823 (in Edinb.).

UPPER BURMA: Western slopes of the Chimili, N'Maikha-Salween, divide, lat. $26^{\circ} 23' N.$, long. $98^{\circ} 48' E.$, alt. 3700 - 4000 m., in open thickets and mixed forests, shrub of 7 - 14 metres high, G. Forrest, June 1924, No. 24482 (in Edinb.); hills around Tzi-tso-ti, lat. $25^{\circ} 58' N.$, long. $98^{\circ} 29' E.$, alt. 3300 m., in thickets and mixed forests, shrub of 10 metres high, flowers greenish yellow, G. Forrest, May 1925, No. 26502 (in Edinb.); same locality, G. Forrest, October 1925, Nos. 27267 and 27338 (in Edinb.); N'Mailha-Salween divide, lat. $26^{\circ} 30' N.$, alt. 3000 m., in thickets in valleys, shrub or tree of 7 - 10 metres high, G. Forrest, June 1931, No. 29718 (in Edinb.).

After carefully studying the ample material from Yunnan this variety is really nearer to Acer flabellatum Rehder than to Acer Campbellii Hooker f. & Thomson because of the ovate-oblong lobes of the leaves as well as the glabrous disk and ovary although some specimens have /

have occasionally slightly pilose ovaries. In typical Acer Campbellii from Sikkim-Himalayas the leaves are shortly triangularly lobed and shallowly serrulate, and the ovary and disk are densely villose. It differs from Acer flabellatum chiefly in the argute ant setose serrulate leaves while Acer flabellatum has leaves irregularly serrate with adpressed acute teeth.

32. Acer erianthum Graf V. Schwerin in Mitteil. Deutsch. Dendr. Ges, X. (1901) erste Auflage p. 59, zweite auflage p. 320, in German; ex Pax in Engler, Pflanzenreich, Heft 8 (IV. 163) (1902) 22, in Latin. - Pax in Engler, Pflanzenreich, Heft 8 (IV.163). (1902) 79; in Engler, Bot. Jahrb. XXXVI. beibl. LXXXII. (1905) 73. - Veitch in Journ. Roy. Hort. Soc. XXIX part 3. (1904) 360 - Hemsley in Journ. Linn. Soc. XXXVI (1905) 452. - Rehder in Sargent, Trees & Shrubs, I. (1905) 159, t. 80; II. (1907) 26; in Sargent, Pl. Wilson, I. (1911) 90; in Journ. Arn. Arb. VII. (1926) 219; Manual, Cult. Trees & Shrubs, (1927) 560. - Schneider, Illustr. Handb. Laubh. II. (1907) 204, figs. 132 m.p.- Thatcher in Garden Chron. LXXII (1922) 119. - Chung in Mem. Sci. Soc. China, I. (1924) 148 (Cat. Trees & Shrubs China). - Fang in Contrib. Biol. Lab. Sci. Soc. China, (Bot. Ser.), VII. (1932) 156; VIII. (1932) 166.

Acer oxyodon Franchet, MSS. in Herb. Paris.

Acer stachyanthum Franchet, MSS. in Herb. Paris.

Shrub /

Shrub or small tree usually 5 to 10 metres high, rarely up to 15 metres high. Bark greenish grey or brownish grey. Branchlets slender, glabrous, those of the present year green or purplish green, those of more than one year old grey or brownish grey and with scattered lenticels. Winter buds small; scales 6, pilose on the margin. Leaves deciduous, chartaceous, rounded or truncate and occasionally sub-cordate at base, 9 - 10 cm. long, 8 - 12 cm. broad, usually 5-lobed rarely 7-lobed; lobes ovate or triangular-ovate, acuminate, sharply and appressed serrate except near the base entire; sinuses acute, reaching from one-third to nearly half way to the middle of the blade; upper surface green and glabrous; lower surface light green and prominent reticulate, usually slightly pubescent rarely glabrous with the exception of the axillary tufts of whitish hairs on the primary and secondary nerves; petioles 5 - 9 cm. long, glabrous. Flowers numerous, androgynous, in erect and pilose or glabrous compound paniculate racemes, 6 - 9 cm. long, 1 - 1.8 cm. in diameter, on peduncles 2 - 3 cm. long; sepals 4, yellowish green, ovate or broadly ovate, obtuse, glabrous outside, villous inside and especially on the margin, about 1.5 - 2 mm. long; petals 4, yellowish white, obovate, slightly shorter than the sepals; stamens 8, about 3 - 4 mm. long in staminate flowers, much shorter in pistillate flowers, filaments glabrous, anthers yellowish brown; disk glabrous, extrastaminal; ovary densely villous with yellowish hairs, rudimentary in staminate flowers and covered with /

with densely long yellowish hairs, style nearly glabrous and about 2 mm. long, stigmas short and spreading or recurved; pedicels slender, pilose or nearly glabrous, about 3 - 4 mm. long. Fruits greenish purple or yellowish purple; nutlets strongly convex and veined, nearly rounded, about 5 mm. in diameter, densely pubescent, ^{white} young; wings included nutlets 2.5 - 3 cm. long, 1 cm. broad, spreading horizontally or slightly backward.

SHENSI: "Piccolo monte Hua-tzo-pin, distante dal monte Tun-u-tse 10 chilometri e da Han-kiun, 29 chilometri, Chen-si-rid" G. Giraldi, June 20, 1894, No. 2111(1) (in Arn., Berol., & Firen.); "Monte Tue-lian-pion", G. Giraldi, June 20 - 27, 1894, No. 2117(3) (in Arn. Berol., Bres. & Firen.); "Monte Kin-tou-san", G. Giraldi, July 1897, No. 2144 (in Arn. Berol. Bresl. & Firen.); "Monte Kian-san(Lao-y-san)", G. Giraldi, August 4, 1897, without number (in Kew); "Monte Kifong-san", Hugh Scallan, in 1899, without number (in Arn. & Brit.); "Tsing-ling-schan, Tsing-feng-schan, inter Santscha et Feng, in silva, 1500 - 1700 m., "G. Fenzel, in 1933, No. 194 (in Vind.); "Tsing-ling-schan centr. inter Mei et Linpa, in silvis summus, 2000 m. at ultra," G. Fenzel, May 1934, No. 694 (in Vind.)

HUPEH: Fang-hsien, E. H. Wilson, July 1907, No. 1931 (in Arn., Berol., Brit., Edinb., Firen., Kew & Vind.); same locality, tree 12 m. high, E. H. Wilson, July /

July 1901, Veitch, Exped. No. 2084 (in Arn., Berol., Edinb., Kew, Paris & Vind.); same locality, E. H. Wilson, October 1910, No. 4428 (in Arn. & Kew).

SZECHUAN: "District de Tchen-keou-tin" (Cheng-kou-hsien). R. P. Farges, without number and date (Acer oxyodon Franchet MSS. and Acer stachyanthum Franchet MSS. in paris); Wu-shan-hsien, A. Henry, February 1890, No. 8989 (type of Acer erianthum in Lenin.; co-type in Kew); Ping-wu-hsien, W. P. Fang, & S. F. Chang, August 16, 1928, No. 4208 (in Arn., Berol. Fan, Edinb., Kew & Paris); Southeast of Sung-pan-hsien, E. H. Wilson, August 1910, No. 4508 (in Arn.); Mt. Omei, W. P. Fang, August 1928, Nos. 2659, 2661 and 2796 (all in Arn. Berol., Edinb., Fan, Kew, Paris, Sci. & Suny.); same locality W. P. Fang, September 2, 1929, No. 6150 (in Kew & Sci.); same locality, W. P. Fang, July 1930; No. 7653 (in Fan, Kew & Sci.); same locality, E. T. Liu, in 1930, No. F195 (in Sci.); same locality, Ching & Shun, June 13, 1931, No. 166 (in Sci.); Ma-pien-hsien, W. P. Fang, May to June 1930, Nos. 429, 1833 & 3946 (all in Arn., Edinb., Fan, Kew, Sci. & Suny); O-pien-hsien, T. T. Yü, May 18, 1932, No. 823 (in Fan & Sci.); Mt. Wa, tree 8 m. high, E. H. Wilson, August 1903, Veitch Exped. No. 3347A (in Arn., Brit., & Paris).

SIKANG: Ta-chien-lu, (Kang-tin-hsien), A. E. Pratt, No. 342 (in Kew).

YUNNAN: Yi-liang-hsien, alt. 1800 m., in thickets, small tree, H. T. Tsai, May 31, 1932, No. 52104 (in Fan & Suny).

This /

This species is characterized by the narrow compact racemose inflorescence, the broadly ovate sepals densely villous on the inner surface, and the glabrous disk. By these characters, it is easily distinguished from Acer Campbellii Hooker et Thom. and other near species.

Acer caudatum Wallich, Pl. As. Rar. II. (1831) 4, 28, t. 1932, in Part, excl. description of staminate flower and syn. Acer pectinatum; Cat. 1225 (1828). Walpers, Repert. Bot. Syst. I. (1842) 409, in part, excl. Acer pectinatum. - Brandis, Forest, Fl. Brit. Ind. I. (1874) 112, in part. - Hiern, in Hooker, f. Fl. Brit. Ind. I. (1875) 695, in part. - Pax in Engler, Bot. Jahrb. VII. (1886) 197, excl. syn. Acer acuminatum Rehder in Sargent, trees & Shrubs, I. (1905) 163. -

Acer acuminatum Dippel (Non Wallich) Handb. Laubh. II. (1892) 424, fig. 198. - Pax in Engler, Pflanzenreich, Heft 8 (IV.163). (1902). 15. -

Acer papilio King in Journ. As. Soc. Beng. LXV. pt. 2 (1896) 115; Ann. Bot. Gard. Calcutta, IX. (1906) 17 t. 24. -

Tree usually about 20 metres high. Branchlets stout, those of the present year purple or purplish green, usually more or less yellowish pubescent, those of more than one year old grey or yellowish grey, glabrescent, with elliptical or oblong lenticels. Winter-buds ovoid; outer scales ovate, yellowish pubescent outside; inner accrescent scales obovate, densely yellow pubescent. Leaves /

Leaves deciduous, membranaceous, cordate or deeply cordate at the base, from 8 to 12 cm. long, and usually as broad or slightly broader than long; usually 5-lobed, rarely 7-lobed; lobes triangular-ovate, caudate, acuminate, doubly and sharply incisevely-serrate, with acuminate teeth; sinuses acute, reaching about one-third to the middle of the blade; upper surface deep green, glabrous, except pubescent at the base of the slightly impressed nerves; lower surface pale green, primary nerves prominent, secondary nerves elevated and reticulate, covered with long yellowish white hairs while young, glabrous when matured except pubescent on the nerves; petioles 5 - 9 cm. long, pubescent near the apex while young, then glabrescent. Flowers andro-monoecious, in rufously villous compact, terminal racemose panicles 8 - 10 cm. long, on peduncles 3 - 5 cm. long, appearing after the developing of leaves; sepals 5, yellowish green, ovate-lanceolate, about 3 mm. long, slightly pubescent outside; petals 5, yellowish white, glabrous, linear-oblong or linear-ob lanceolate, acutish, about 7 mm. long, stamens 8, glabrous, slightly longer than petals, inserted near the middle of the disk, anthers purple, globose or oblong; disk lobed, glabrous; ovary densely covered with yellow tomentum, rudimentary in staminate flowers, style 1.5 mm. long, with spreading stigmas; pedicels 5 - 8 mm. long, slender, slightly pubescent. Fruits yellowish brown, in upright racemes fruiting inflorescences; nutlets oval, sub-globose rarely flat, veined, 8 mm. long, 6 mm. broad; wings with nutlets 2.5 - 2.8 cm. /

cm. long, 7 - 9 mm. broad, spreading at acute angles or erectly.

SIKKIM HIMALAYAS: Chumli, Dungboo, June 30, 1878, sine no. (in Berol.); Sikkim, alt. 4000 m., J. D. Hooker, sine no. (in Berol.); Lachung Valley, alt. 3300 m., W. W. Smith, June 1910, No. 3327 (in Edinb.); Lingmuthang, Rohmoo Lepcha, September 12, 1912, No. 85 (in Edinb.). -

BHUTAN: Passhang, Timpu, alt. 4300 m., tree 8 metres high, R. E. Cooper, July 26, 1914, No. 1880 (in Edinb.); same locality, alt. 3700 m., R. E. Cooper, August 6, 1914, No. 2694 (in Edinb.); same locality, alt. 4000 m., R. E. Cooper, October 1, 1914, No. 2982 (in Edinb.).

This species is confined in Sikkim Himalayas and is characterized by its densely yellow pubescent ovary and by its membranaceous leaves with caudate lobes deeply incised serrate on the margin.

KEY TO VARIETIES.

- A. Branchlets and petioles glabrous; lower surface of leaves glabrous except more or less pubescent on the nerves..... var. multiserratum.
- AA. Branchlets and petioles pubescent; whole lower surface of leaves pubescent.
- B. Middle and lateral lobes of leaves usually ovate, finer and closer serrate.....var. Prattii.
- BB. Middle and lateral lobes of leaves usually caudate-acuminate, comparatively coarser serrate.....
..... var. Georgei.

Acer /

Acer caudatum Wallich var, multiserratum (Maximowicz) Rehder in Sargent, Trees & Shrubs, I. (1905) 163, t. 82, fig. 11; II (1907) 26; in Sargent, Pl. Wilson, I. (1911) 91; in Journ. Arn. Arb. VII. (1926) 219; IX. (1928) 89; Manual Cult. Trees & Shrubs, (1927) 569. - L'éveillé, Cat. Illustr. Pl. Seutchouen, (1918) 178, MSS. - Chung in Mem. Sci. Soc. China, I. (1924) 148 (Cat. Trees & Shrubs China). - Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 157. -

Acer erosum Pax in Hooker Icon. Pl. XIX.

(October 1889) under t. 1897; ex Diels in Engler, Bot. Jahrb. XXIX. (1900) 449 (Fl. Centralchina); in Engler & Prantl. Pflanzenfamilien, III. pt. 5 (1896) 272; in Engler, Pflanzenreich, Heft 8 (IV 163). (1902) 69. - Graf von Schwerin in Gartenfl. XLII (1893) 454. - Bretschneider, Hist. Europ. Bot. Discov. China, (1898) 781 - Henry in Gard. Chron. ser. 3, XXXIII. (1903) 100 (Chin. Maples). - Hemsley in Journ. Linn. Soc. XXXVI. (1905) 452. - Chung in Mem. Sci. Soc. China, I. (1924) 148 (Cat. Trees & Shrubs China). -

Acer multiserratum Maximowicz in Act. Hort.

Petrop. XI. (November 1889) 107 (Pl. Chin.). - Wesmael in Bull. Soc. Roy. Bot. Belg. XXIX (1890) 32. - Graf von Schwerin in Gartenfl. XLII. (1893) 268. - Pax in Engler, Pflanzenfamilien, III. pt. 5 (1896), 270; Engler, Pflanzenreich, Heft 8 (IV. 163). (1902) /

(1902) 21. - Bretschneider, Hist. Europ. Bot. Discov. China, (1898) 1027. - Hemsley in Journ. Linn. Soc. XXXVI. (1905) 452. - Chung in Mem. Sci. Soc. China, I. (1924) 149 (Cat. Trees & Shrubs China). -

Acer caudatum Wallich var. erosum Rehder in Sargent, Trees & Shrubs, I, (1905) 164, Nomen only - syn. nov.

Acer spicatum var. ukurunduense Pax (non Maximowicz) in Engler Bot. Jahrb. XXXVI. beibl. LXXXII. (1905) 73. -

Acer caudatum var. ukurunduense (Non Rehder) Chung in Mem. Sci. Soc. China, I. (1924) 148 (Cat. Trees & Shrubs China), in part, excl. locality cited Shensi & Shensi. -

SHENSI: "Thae-pei-san", G. Giralddi, August and December 1893, Nos. 2142 & 2143 (in Arn., Berol. & Firen.); "Monte Kin-tou-san", G. Giralddi, July 14, 1897, No. 2130 (in Firen.); "monte Kin-tou-san distante circa 100 chili da Huo-kia-zaea", G. Giralddi, July 14 1893, No. 2146 (in Firen.); "in alto monte Huan-tou-san", G. Giralddi, July 1899, No. 2131 (in Berol. & Firen.); "monte di Kian-san(Lao-y-san)", G. Giralddi, August 4, 1897, No. 2133 (in Firen.); "in alto monte Thae-pei-san", G. Giralddi, August 1899, No. 2134 (in Berol. & Firen.); "Lin-sin-san, prope Ngo-san, G. Giralddi, August 1899, No. 2137 (in Berol. & Firen.); "in occidentem monte Ngo-san", G. Giralddi, August 1899, Nos. 2138 & 2139 (in Firen); /

Firen); "in monte Huan-tou-san", G. Giraldi, July 10, 1900, No. 7139 (in Firen.); Mount Huan-tou-san, Hugh Scallan, July 1899, sine no. (in Arn. & Brit.); Mount Miao-wang-san, Hugh Scallan, July 1899, sine no. (in Arn. & Brit.); Mount Thae-pei-san, Hugh Scallan, August 1899, sine no. (in Arn. & Brit.); Mount Ki-fong-san, Hugh Scallan, in 1899, sine no. (in Arn. & Brit.); Mount Ngo-san, Hugh Scallan, in 1899, sine no. (in Arn. & Brit.); Thae-pei-san, G. Fenzel, August 22 to September 5, 1934, No. 775 (in Vind.). -

KANSU: Between Morping, Wuping and Idshu, G. N. Potanin, July 11, 1885, sine no. (type of Acer mutiserratum in Lenin. co-type in Kew & Paris); Tao River, slopes Maerh-ku-Valley, alt. 3050 m., J. F. Rock, July 25, 1925, No. 12957, (in Arn., Edinb., Kew & Paris); Maerh-ku Valley, Minshan Range, alt. 2750 m., tree 7 - 9 m. high, J. F. Rock, September to October, 1925, No. 13607 (in Arn. & N.B.); lower Tebbu Country, upper forest of Wantsang, with Picea and red birches, alt. 2425 m., tree 15 - 18 m. high, trunk 30 - 60 cm. diameter, petioles red, fruit in drooping racemes, J. F. Rock, September 3, 1926, No. 14702 (in Arn. & N.F.); dense forest of Wantsang Bank of stream, alt. 2400 m., tree 12 - 15 m., high, trunk 60 cm. diam., fruit pale green, J. F. Rock, September 3, 1926, No. 14727 (in Arn. & N.B.); dense forest of Abies en route to Dayaya limestone canyon, alt. 3050 m., tree 10 m. high, petioles red, fruit on erect racemes, J. F. Rock, September 8, 1926, No. 14785 (in Arn., Edinb., Kew & Paris); forest of Wantsang-Ku alt. 2750 m., tree 15 - 18 m. high, leaf brilliant carmine, racemes 15 cm. long, densely packed with small fruits /

fruits, J. F. Rock, September to October, 1926, No. 15010 (in Arn.); forest of Wantsang-ku, alt. 2600 - 2750 m., tree 13 - 15 m. high, trunk 60 cm. diam., J. F. Rock, September to October, 1926, No. 15040 (in Arn.).

HUPEH: Fang-hsien, alt. 2000-3000 m., tree 4 m. high, A. Henry, No. 6788 (in Brit. & Kew); Fang-hsien, E. H. Wilson, June to September, 1907, Veitch Exped. Nos. 309, 1928 & 2363 (in Arn., Berol. Brit., Edinb., Firen., Kew & Paris & Vind.); Hsing-shan-hsien, alt. 3000 m., A. Henry, No. 6937 (type of Acer erosum Pax in Berol.; co-type in Arn., Bres., Brit., & Edinb.); without precise locality, A. Henry, No. 8802 (in Kew & Paris). -

SZECHUAN: "District de Tchen-keou-tin", (Chengkou-hsien), R. P. Farges, sine no. (in Paris); Sungpan-hsien, W. P. Fang, & S. F. Chang, August 1928, Nos. 4138 & 4139 (in Arn., Berol., Edinb., Fan, Kew & Paris); Southeast of Sungpan-hsien, woodlands, alt 2400-2700 m., E. H. Wilson, August 1910, No. 4510 (in Arn., Berol., & Kew); Pan-lan-shan, West of Kuan-hsien, woods, alt. 2700 - 2900 m., E. H. Wilson, October 1910, No. 4143 (in Arn.); Mupin (Pao-hsing-hsien), woods, alt. 2100 - 2700 m., E. H. Wilson, June and July, 1908, Nos. 1110 (in part), 1930 (all in Arn., Berol., Brit., Edinb., Firen., Kew, Paris & Vind.); Wa-shan, woods, alt. 2100 - 2700 m., E. H. Wilson, June and October 1908, No. 1161 (in Arn., Brit., Edinb., Kew & Vind.). -

SIKANG/

SIKANG: Ta-chien-lu (Kang-tin-hsien), woods, alt. 2100 - 2700 m., E. H. Wilson, June and October 1908, No. 4335 (in Arn. & Kew). -

This variety differs from the type species by its slightly pubescent ovary, its glabrescent or slightly pubescent petioles, and its shortly triangular lobed leaves with acute teeth.

Acer caudatum Wallich var. Prattii Rehder in Sargent, Trees & Shrubs, I. (1905) 164; II. (1907) 26; in Fedde Repert, Spec. Nov. I. (1905) 7; in Sargent, Pl. Wilson, I. (1911) 91. - Léveillé, Cat. Illustr. Pl. Seutchouen, (1918) 178, MSS. - Chung in Mem. Sci. Soc. China, I. (1924) 148 (Cat. Trees & Shrubs China). - Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 157; VIII. (1932) 165. -

SZECHUAN: Wenchuan-hsien, Wa-ssu Country, alt. 2400 m., E. H. Wilson, November 1910, No. 4103 (in Arn. & Kew); Mount. Omei, E. H. Wilson, October 1904, Nos. 4211 & 4820 (in Arn. & Kew); Mount Omei, W. P. Fang, August 12, 1928, Nos. 2812 & 6701 (in Edinb., Kew, & Paris); Mount Omei, Ching & Shun, June 14, 1931, No. 206, (in Sci.); Wa-wu-shan, W. P. Fang, August 1930, Nos. 8150, 8223 & 8224 (in Arn., Edin, Kew & Sci.); same locality, T. H. Tu, July 1931, Nos. 281, 300 & 319 (in Sci.); Mapien-hsien, W. P. Fang, June 17, 1930, No. 4505 (in Sci.); Opian-hsien, W. P. Fang, July 1930, Nos. 4704, & 7294, (in Kew & Sci.). -

SIKANG/

SIKANG: Ta-chien-lu (Kang-tin-hsien), A. E. Pratt, No. 69 (type of this variety) in Arn., Berol., Brit., Edinb., Paris & Kew); same locality, tree 7 m. high, E. H. Wilson, July 1904, Nos. 3347 & 3347B, (in Arn., Brit., Kew & Paris); - south of Kang-tin-hsien, W. C. Cheng, August 17, 1930, No. 1743 (in Edinb., & Sci.).

This variety differs from the type species and var. multiserratum in the pubescent branchlets and in the pubescent under surface, as well as in the much finer and closer serrations of its chartaceous ovate-lobed leaves. The fruits to me seem to be identical.

Acer caudatum Wallich var. Georgei Diels in Notizbl. Bot. Gard. Mus. Berlin-Dahlem, XI. (1931) 212. - Handel-Mazzetti, Symb. Sin. VII. (1933) 640. -

Acer caudatum Franchet (non Wallich) in Bull. Soc. Bot. France, XXXIII. (1886) 464; Pl. Delavay. (1889) 144. - Hemsley in Journ. Linn. Soc. XXXVI. (1905) 451. -

Acer caudatum Wallich var. W. W. Smith & etc. in Notes Roy. Bot. Gard. Edinb., XIV. (1924) 95, 132, 243; XVII. (1930) 191, 234. -

Acer caudatum Wallich var. ukurunduense Marquand (non Rehder) in Journ. Linn. Soc. XLVIII. (1929) 169. -

SZECHUAN: "in silvis inter Hunka et Woloho, arb. ad 8:0, 6 m." C. Schneider, June 13, 1914, No. 1517 (in Edinb. & Kew).

SIKANG: Muli, Mt. Konka, Risonquemba, Konkaling, alt. 3960 - 5335 m., in fir forests, tree 17 metres high, J. F. Rock, June to August 1928, Nos. 16281 (in Arn. & Berol.) & 16798 (in Arn., Berol. & Edinb.); east of Muli Gomba, mountains of Kulu, alt. 3650 - 4425 m., tree 8 - 10 metres high, J. F. Rock, June 1928, No. 16472 (in Arn., Berol. & Edinb.); Mt. Siga, Northeast of Kulu, alt. 3080 m. tree 8 - 10 metres high, J. F. Rock, June 1929, No. 17933 (in Arn., Berol. & Edinb.); south of Muli, alt. 3300 m., in woods on sheltered slopes, small tree up to 10 metres high, F. Kingdon Ward, August 18, 1921, No. 4807 (in Edinb.); Muli, western slopes of Mt. Mitzuga, alt 3500 m., in mixed forests, tree 5 - 8 metres high, J. F. Rock, May to June 1932, No. 24011 (in Edinb.).

YUNNAN: "Am Hang des Daorlbi halbwegs zwischen Yenyuen und Yungning", H. Handel-Mazzetti, June 13, 1914, No. 2954 (in Vind. & Wein); mountains east of Yungning, lat 27° 48' N., long. 101° E., alt. 3300 - 3700 m., in thickets and on the margin of mixed forests, shrub of tree of 7 - 15 metres high, flowers greenish yellow, G. Forrest, June 1922, No. 21268 (in Edinb.); eastern flank of the Lichiang Range, lat. 27° 20' N., alt. 3300 m., in mixed forests, tree of 14 - 20 metres high, G. Forrest, June 1910, No. 5703 (in Berol. & Edinb.); mountains in the northeast of the Yangtze bend. lat. 27° 45' N., alt. 3300 - 3700 m., in mixed forests, shrub of tree of 10 - 14 metres high, fruits dull crimson, G. Forrest, July and September, 1913, Nos. 10509 & 11189 (in Edinb.); Chungtien Plateau, lat. 27° 30' N., alt. 3300 m./

3300 m., in open thickets, shrub or tree, petals dull yellow, anthers brown, G. Forrest, July 1914, No. 12534 (in Edinb.); Chungtien Plateau, lat. $27^{\circ} 50' N.$ alt. 3700 m., in mixed thickets, shrub or tree of 10 - 14 metres high, G. Forrest, September 1918, No. 16908 (in Edinb. & Kew); Yangtze-Mekong divide on the Li-ti-ping, lat. $27^{\circ} 12' N.$ alt. 3300 - 3700 m., in mixed forests, shrub or tree of 7 - 14 metres high, flowers olive-green, G. Forrest, June 1918, No. 16337 (in Edinb., Kew & Vind.); Northwest of Yunnan and Eastern Tibet, on lower boulder screes, and scattered through mixed forests with Betula, Abies and Bamboo, small tree 4 - 7 metres high, F. Kingdon Ward, July 1 1913, No. 627 (in Edinb.); Tsarong, Salween-Kiu Chiang divide, lat. $28^{\circ} 40' N.$, long. $98^{\circ} 15' E.$, in open thickets in side valleys, shrub of 7 - 12 metres high, flowers purplish-crimson, G. Forrest, June 1919, No. 18966 (in Edinb. & Vind.); Northwestern slopes of the Bei-ma-shan, lat. $28^{\circ} 18' N.$, Long. $99^{\circ} 10' E.$, alt. 3000 m., in mixed forests, shrub or tree of 7 - 14 metres high, flowers dull green, G. Forrest, June 1921, No. 19533 (in Edinb. & Kew); "in regions frigide temperata jungi sila inter fluvios Landsang-djiang (Mekong), et Ludjiang (Salween), 28° , supra viscum Bahan silvam formans", H. Handel-Mazzetti, September 27, 1915, No. 8416 (in Edinb., Kew, Vind. & Wien); "inter fluvios Landsang-djiang (Mekong) et Ludjiang (Salween), ca 28° , in pluviisilis mixtis temperatis in valle a jugo sila ad /

ad vicum Tseku descendente", H. Handel-Mazzetti, June 1916, No. 8919 (in Wien); Doker-la, Mekong-Salween, divide, lat. $28^{\circ} 20'$ N., long. $98^{\circ} 40'$ E., alt. 2700 - 3300 m., in open mixed forests, shrub or tree of 10 - 17 metres high, G. Forrest, August 1921, No. 19973 (in Edinb.); Do-ker-la, Mekong-Salween divide, lat. $28^{\circ} 20'$ N., long $98^{\circ} 40'$ E., alt. 3700 m. in mixed forests, shrub or tree of 8 - 17 metres high, G. Forrest, September 1921, No. 20763 (in Edinb.); Upper Salween River, mountains west of Champutong, Mt. Kenichunpo, alt. 4000 - 5000 m., open alpine regions among rocky spurs, tree 10 metres high, J. F. Rock, October 1932, No. 22485 (in Edinb.); Do-ker-la and Yundshi, mountains west of the Kaakerpo, alt. 4000 m., in mixed forests, tree 10 metres high, J. F. Rock, May - June 1932, No. 23188 (in Edinb.); Yundshi Mountains, alt. 4000 m., in mixed forests, tree 8 - 10 metres high, J. F. Rock, August - October 1932, No. 23668 (in Edinb.); Mt. Fu-chuan, Southwest of Wei-hsi, tree 11 - 16 m. high, J. F. Rock, June 1928, No. 17009 (in Arn. & Berol.); Hokin, Delavay, April 5, 1885, Nos. 1815 & 1819 (in Paris); without precise locality, G. Forrest, Nos. 28597, 28692, 29168 & 30632 (all in Edinb.).

TIBET: Adung Valley, F. Kingdon Ward, June 6, 1931, No. 9595 (in Brit.); same locality, F. Kingdon Ward, September 16, 1931, No. 10085 (in Brit.).

NORTHEASTERN UPPER BURMA: N'Maikha-Salween divide, western flank of the Chimili, lat $26^{\circ} 21'$ N., long. $98^{\circ} 48'$ E./

48' E., alt. 3300 - 3700 m., in thickets and on the margins of mixed forests, shrub or tree of 7 - 15 metres high, flowers dark green, G. Forrest, June 1924, No. 24533 (in Edinb.); western flank of the N'Maikha-salween divide, lat. 26° 24' N., long, 98° 48' E., alt. 3000 - 3300 m., in thickets in side valleys, shrub of 3 - 4 metres high, G. Forrest, June and October 1925, Nos. 26882 & 27268 (in Edinb.); N'Maikha-Salween divide, lat 26° 20' N., alt. 2700 m. in open mixed thickets, tree of 10 - 14 metres high, flowers green, G. Forrest, June 1931, No. 29713 (in Edinb.).

This variety differs easily from the type by its pubescent branchlets, its pubescent petioles, its pubescent under surface of leaves, and its slightly yellowish-white pubescent ovary. With the mentioned characters it is closely related to var. Prattii Rehder, but it differs by its usually caudate-acuminate middle and lateral lobes of the leaves which are usually irregularly serrate with acute or obtusish teeth. Some specimens are yellowish pubescent on the upper surface of the leaves. In the opinion of the writer it is really a geographical form of var. Prattii.

33. Acer ukurunduense Trautvetter & Meyer in Middendorff, Reise Aeuss. Nord. u. Oest. Siberiens, I. pt. 2, (1856) p.24, No.78 (Fl. Ochot. Phaenog.). Komarov /

Komarov in Act. Hort. Petrop. XXII. (1904) p.722,
 No.1048. - Veitch in Journ. Roy. Hort. Soc. XXIX pt.
 3, (1904) 360. - Schneider, Illustr. Handb. Laubh. II.
 (1907) 198. - Nakai in Tokyo Bot. Mag. XXII. (1908)
 104; XXIX. (1915) 26; in Journ. Coll. Sci. Imp.
 Univ. Tokyo, XXVI. (1909) 134 (Fl. Kor. I); Fl. Sylv.
 Kor. I. (1915) 6, fig. 1. - Fedchenko (or Fedtschenko)
 in Act. Hort. Petrop. XXXI. (1912) 158 (Mat. Fl.
 Far East). -

Acer dedyle Maximowicz in Mull. Phys. Math.
 Acad. Sci. St. Petersb. XV. (1857) p. 125,
 No. 4; Mel. Biol. II. (1856) p. 414. -
 Reprucht in Bull. Phy. - Math. Acad. Sci.
 St. Petersb. XV. (1857) p. 262 No. 11;
 Mel. Biol. II. (1857) p.520.

Acer spicatum Regel (Non. Lamark) in Bull.
 Phys.-Math. Acad. Sci. St. Petersb. XV.
 (1857) p. 217, No. ; Mel. Biol. II.
 (1856) p. 483, No.4. - Miquel, Arch. Neerl.
 II. (1867) 470, 477. -

Acer spicatum Lamark var. ukurunduense Maxim-
 owicz in Mem. Pres. Acad. Sci. St. Petersb.
 div. sav. IX. (1859) p.65, No. 159, p.388
 (Prim. Fl. Amur.); in Bull. Acad. Sci. St.
 Petersb. XXVI. (1880) p.439; Mel. Biol X.
 (1880) p. 594, No. 6. - Schmidt in Mem.
 Acad. Sci. St. Petersb. ser. 7, XII. pt. 2,
 (1868) p.36, No. 78, p. 119, No.88, (Reis.
 Amur. Sachalin). - Franchet & Savatier,
 Enum. /

Enum. Pl. Jap. I. (1875) 88. - Nicholson in Gard. Chron. n. ser. XV. (1881) 172, fig. 29. - Pax in Engler Bot. Jahrb. VII. (1886) 189; Engler, Pflanzenreich, Heft 8 (IV. 163). (1902) 16 (in Part). - Wesmael in Bull. Soc. Roy. Bot. Belg. XXIX. (1890) 32. - Korshinsky in Act. Hort. Petrop. XII. (1892) 317 (Pl. Amur.). - Graf von Schwerin in Gartenfl. XLII (1893) 268. - Léveillé in Bull. Soc. Bot. France, LIII (1906) 593. - Koidzumi in Journ. Coll. Sci. Imp. Univ. Tokyo, XXXII, ar. 1. (1911) 31 fig. 19 (Rev. Acer. Jap.). -

Acer caudatum Wallich var. ukurunduense Rehder in Sargent, Trees & Shrubs, I. (1905) 154, t. 82: - Manual Cult. Trees & Shrubs, (1927) 569. - Chung in Mem. Sci., Soc. China, I. (1924) 148 (Cat. Trees & Shrubs, China).

Acer lasiocarpum Léveillé & Vant. in Bull. Soc. Bot. France, LIII. (1906) 591. -

Tree usually from 5 to 10 metres high. Bark rough, yellowish brown or blackish brown. Branchlets stout, those of the present year purple or purplish brown, usually yellow pubescent, those of more than one year old brown or dark brown, slightly pubescent or glabrescent. Winter-buds shortly conical, densely yellow pubescent. Leaves deciduous, membranaceous or chartaceous, truncate or sub-cordate at base, nearly rounded in /

in outline, 10 - 12 cm. long 7 - 9 cm. broad, usually 5-lobed, occasionally 7-lobed; lobes broadly ovate rarely triangular-ovate, acuminate, coarsely serrate, with broadly acute or obtusish teeth, sinuses acute, reaching two-fifths to the middle of blade; upper surface deep green, glabrescent; lower surface pale green or yellowish green, with primary nerves slightly prominent, secondary nerves reticulate, densely yellowish tomentose, especially on the nerves; petioles 5 - 8 cm. long, slightly pubescent or glabrescent. Flowers yellowish green, dioecious, in pubescent compact, erect, terminal racemose panicles, about 8 - 10 cm. long, on peduncles about 3 cm. long, from leafy branchlets; in staminate flower sepals 5, yellowish green, lanceolate, 2 mm. long, slightly pubescent, petals 5, yellowish white, oblanceolate, about 3 mm. long; stamens 8, glabrous, about 5 mm. long, exserted, inserted at the middle of disk, anthers yellow and glabrous; disk glabrous, lobed, ovary rudimentary; pedicels 5 - 8 mm. long, slender, pubescent, pistillate flower never seen. Fruits yellowish brown, in erect racemose fruiting inflorescences; nutlets flat, puberulous, 6 mm. diameter; wings with nutlets 1.5 - 2 cm. long, 6 mm. broad, spreading erectly.

MANCHURIA: Amur. "Fluss Li-fudin" Maximowicz, in 1860, sine No. (in Berol., Mun., Paris & Vind.); Amur, Schrenck No. 1855; Amur, Korshinsky, in 1891; "Fluvium Amur circa stationem Rodde", V. Komarov, June 6, 1895, sine /

sine no. (Fl. Mansh. No. 1048) (in Berol.);
 "Fluvium Jatar circa Kasansky", V. Komarov, June 12,
 1895, sine no. (Fl. Mansh. No. 1048) (in Berol. &
 Firen.); "Districtus Omoso. Vallis J-cze-che", V.
Komarov, August 4, 1896, sine no. (Fl. Mansh. No.1048)
 (in Berol.); mountains east of Harbin, C.S. Sargent,
 August 1903, sine no. (in Arn.); "Amur province in Monte
 Hehzier," S. J. Enander, August 3, 1913, No.6 (in
 Edinb.); Heng-tao-hotze, J. H. Dorsett & P. H. Dorsett,
 June 9, 1925, No.3216 (in Edinb.); Southeast of
 Manchuria, G. Fenzel, June 20 to August 30, 1930,
 Nos. 43 & 350 (in Vind.): -

COREA: Without precise locality V. Komarov, June
 9, 1897, sine no. (in Berol.); "Fluvium Jalu super.
 Vallis Fadin-dan", V. Komarov, June 22, 1897, sine no.
 (Fl. Mansh. No. 1048) (in Berol. & Vind.); "monte des
 Diamants", U. Faurie, June 24, 1906, No.473 (in Berol.,
 Brit. & Edinb.); North of Haian, French mine Taiyudo,
 in woods, bush or bushy tree 3 - 8 m. high, flowers
 yellow, E. H. Wilson, June 16, 1917, No.8606 (in Berol);
 Kogen, Kongo-san, alt. 830 - 1660 m., in forests, bush
 2 - 5 m. high, E. H. Wilson, July 6, 1918, No. 10463
 (in Berol.); Kum-gang-san, tree 7 - 9 m. high, P.
Klantke, July 13, 1927, No.253 (in Berol.).

SACCHALIN: without precise locality, F. Schmidt, sine
 no. (in Berol.)

JAPAN: Without precise locality, Tschonoski,
 sine /

sine no. (in Berol.); without precise locality, U. Faurie, July 17, 1898, No. 2307 (in Berol.); Sagalien, U. Faurie, July 21 and October 1908, Nos. 499 & 500 (in Berol. & Edinb.); "Forests de Takayu", U. Faurie, June 1904, Nos. 6099 & 6102 (in Edinb.); Juzogatake, U. Faurie, July 1903, Nos. 5466 & 5467 (in Edinb.); Hakkoda, U. Faurie, August 1904, No. 6100 (in Edinb.); "Forests de Ochiai", U. Faurie, September 1904, No. 6101 (in Edinb.); "insula Yezo in Sheribeshi ravins". U. Faurie, June 27, 1905, No. 6738 (in Edinb.).

This species is closely related to Acer caudatum Wallich but differs in its leaves being densely yellow tomentose on the under surface and coarsely serrate with broadly acute or obtusish teeth.

Acer ukurunduense Trautvetter & Meyer var. pilosum Nakai in Tokyo Bot. Mag. XXVIII. (1914) 308; XXIX, (1915) 26; Fl. Sylv. Kor. I. (1915) 7.

I have never seen any specimens of this variety. From the description it differs from the type in the leaves being pilose on the nerves of the upper surface and pilose as well as pubescent at the base of the lower surface while young, then glabrescent.

34. Acer Wilsoni Rehder ex Veitch in Journ. Roy. Hort. Soc. XXIX. part 3 (1904) 360, nome only. - Rehder in Sargent, Trees & Shrubs, I. (1905) 157 t. 79, in English; in Fedde Repert. I. (1905) 6, in Latin; in Sargent, Pl. Wilson I. (1911) 90; - Manual, Cult. Trees & Shrubs, (1927) 569. - Schneider, Illustr. Handb. Laubh. II. (1907) 204, figs. 133 a-d.- Dunn in Journ. Linn. Soc. XXXIX. (1911) 414. - Chung in Mem. Sci. Soc. China, I. (1924) 151. - (Cat. Trees & Shrubs, China). - Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 153. - Handel-Mazzetti, Symb. Sin. VII. (1933) 640. -

Acer angustilobum Hu in Journ. Arn. Arb.

XII. (1931) 154; in Hu & Chun, Icon. Pl. Sin. III. (1933) 145, t. 145. - Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 155. -

Tree usually 10 to 15 metres high, Bark dark brown, smooth, Branchlets slender, glabrous, those of the present year green or purplish green, those of more than one year old olive brown or purplish green. Winter buds small, yellowish brown; scales 6, slightly villous outside. Leaves deciduous, membranaceous, usually rounded, rarely truncate or subcordate at base, ovate in outline, 8 - 12 cm. long, 9 - 12 cm. broad, usually 3-lobed occasionally with 2 more basal lobes; lobes ovate-oblong or triangular-ovate, caudate acuminate, entire except occasionally with a few small appressed serrations near the apex; petioles 3 - 5 cm. /

cm. long, slender, glabrous. Flowers andro-monoecious, in glabrous panicles from 5 - 6 cm. long, on slender peduncles 2 - 3 cm. long; sepals 5, yellowish green, glabrous, ovate-oblong, acute, about 1 - 1.5 mm. long; petals 5, white, oblong, acutish or irregular dentate at the base, as long as or slightly longer than the sepals; stamens 8, 4 mm. long, filaments glabrous, anthers brownish yellow; disk glabrous, extrastaminal; ovary pilose, rudimentary in staminate flowers, style nearly glabrous and 2 mm. long, stigmas 2, short, spreading; pedicels 6 - 10 mm. long, slender, glabrous. Fruits brownish yellow, in pendulous panicles; nutlets ovoid or ovoid-oblong, strongly convex and veined, 5 - 6 mm. long, 3 - 4 mm. broad, wings contracted at the base, with the nutlets 2.5 - 3 cm. long, spreading horizontally.

CHEKIANG: King-yuan-hsien, R. C. Ching, August to September 1924, Nos. 1464 (in Brit.) & 2476 (in Vind.); Lung-chuan-hsien, Mou-shan, R. C. Ching, August 24, 1924, No. 2464 (In Arn., Berol., Cent., Edinb., Kew & Vind.); same locality, K. K. Tsoong, June 19, 1928, No. 552 (in Sci.); Yu-chien-hsien, open hill side, tree 7 metres high, H. H. Hu, October 31, 1920, No. 553 (in Berol.).

HUPEH: Patung-hsien, tree 10 metres high, E. H. Wilson, April 1900, no Veitch Exped. No. 303 (type in Arn.; co-type in Berol., Edinb., Kew & Vind.); Changyang-hsien, tree 6 metres high, E. H. Wilson, May 1900, No. 728 (in Berol.).

SZECHUAN/

SZECHUAN: South of Wu-shan-hsien, in woods, alt. 1200 - 1800 m., E. H. Wilson, September 1907, No. 233 (in Arn., Brit., Edinb. & Kew).

HUNAN: Bau-shon-sze C. C. Chen, August 1929, Nos. 720 & 747 (in N.F.); "in monte Yun-schan prope urbem Wukang, in silva elata frondosa umbrosa, alt. 1100 - 1300 m., arbor 15 m.;" H. Handel-Mazzetti, June 11, 1918, No. 12074 (in Berol., Bres., Edinb., Mun., Paris, Vind., & Wien); same locality, flowering specimen, Wang Teh Hui, April 1919, No. 12 (in Berol., Edinb., Firen., Vind. & Wien); Wukang, Yun-shan, alt. 800 m., tree 7 metres high, S. S. Sin, October 9, 1929, No. SH943 (in Berol.).

KWEICHOW: From Tungtze to Chengyi, Y. Tsiang, May 29, 1930, No. 5205 (in Arn., Berol., Brit., Edinb., Fan, Kew, Paris, Sci. Sin., Suny., & Vind.); Tsingji-hsien, Liang-feng-yah, A. N. Steward, C. Y. Chiao, & H. C. Cheo, August 3, 1931, No. 158 (in Brit., Paris & Vind.); "Zwischen Tschaimou und Dayung von Liping", H. Handel-Mazzetti, July 22, 1917, No. 10932 (in Berol., Vind. & Wien); Yun-wu-shan, on ravines, alt. 1400 m., tree 4 - 7 metres high, T. S. Kong, July 2, 1931, No. 50311 (in Sci.).

FUKIEN: Chung-an-hsien, open valleys, alt. 1400 m., tree 10 metres high, H. H. Hu, July 27, 1921, No. 1342 (in Berol.).

YUNNAN/

YUNNAN: Sze-mao-hsien, eastern mountains, alt. 1700 m., tree 7 metres high, A. Henry, No. 12044 (in Arn. & Edinb.).

KWANGTUNG: Lok-chong-hsien, woodside near stream, tree 6 metres high, fruits pinkish green, S. P. Ko, May 21, 1934, No. 54560 (in Suny.); Tsing-yuan-hsien, in forests, C. Hwang, July 12, 1930, No. 30728 (in Suny.); Shong-ping-hsien, in forests, tree 7 metres high, N. K. Chun, April 16, 1931, No. 42669 (in Suny.).

KWANGSI: North of Luchen-hsien, Chu-fen-shan, R. C. Ching, June 8, 1928, No. 5802 (type of Acer angustilobum in Fan; co-type in Sin. & Vind.); Yao-shan, S. S. Sin, and his collectors, Nos. 479 & 20127 (in Berol. & Sci.).

This species is characterized by its three or five lobed leaves with ovate-oblong or triangular-ovate lobes remotely and adpressed serrate near the apex, and by its loose long paniculate inflorescence.

Ching's 5802 from Kwangsi differs from the typical form only in its narrower lobes and narrower and rounded base of the leaves, while five-lobed leaves are not infrequently met with in the typical specimens of the species. Hence the reduction of Acer angustilobum Hu is made.

Acer Wilsonii Rehder var. kwangtungense (Chun)
Fang, n. comb.

Acer sinense Pax var. kwangtungense Chun
in Sunyatsenia, I. (1934) 264.

KWANGTUNG"/

KWANGTUNG: Yu-yuen-hsien, in woods, tree 6 metres high, S. P. Ko, July 17, 1933, No. 53087 (type of Acer sinense var. kwangtungense in Suny.); same locality, in woods by mountains, tree 8 - 15 metres high, S. P. Ko, April 3 - 8, 1934, Nos. 54011, 54033 & 54059 (all in Suny.); same locality, in thickets, tree 9 metres high, S. P. Kwok, May 10, 1934, No. 80433 (in Suny.).

Since Professor Chun published his Acer sinense Pax. var. kwangtungense flowering specimens have been collected in the same locality. The flowers, inflorescence and leaf-shape show its kinship nearer to Acer Wilsonii than to Acer sinense. It seems advisable to make this new combination. Kwok's 80433 differs in its coarser serrations on the margin of the leaves and represents a geographical form of this variety.

35. Acer Tutcheri Duthie in Kew Bull. (1908) 16. - Dunn in Journ. Linn. Soc. XXXIX. (1911) 414; in Kew Bull. add. ser. X. (1912) 67 (Fl. Kwangtung & Hongkong). - Chung in Mem. Sci. Soc. China, I. (1924) 151 (Cat. Trees & Shrubs, China). - Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 155. -

Tree usually from 5 to 10 metres high. Bark brown or dark brown. Branchlets slender, glabrous, those of the present year green or purplish green, those of the more than one year old greyish brown or yellowish brown, /

brown. Winter buds never seen. Leaves deciduous, membranaceous, rounded or rounded-truncate at the base, broadly ovate in outline, 6 - 9 cm. long, 8 - 13 cm. broad, usually 3-lobed, rarely 5-lobed; lobes usually triangular-ovate, rarely ovate-oblong acute or acuminate rarely caudate acuminate, serrulate, with appressed argute teeth, entire near the base, rarely only with a few small serrations near the apex; sinuses acute, reaching two-thirds of the blade; upper surface deep green, glabrous; lower surface pale green, glabrous, rarely with barbate hairs at the axils of the nerves; pedicels about 2 - 3 cm. long, slender, glabrous. Flowers andro-monoecious in short panicles about 2 - 3 cm. long, on peduncles about 3 cm. long, from terminal leafy branchlets, appearing after fully developing of the leaves; sepals 4, yellowish green, ovate-oblong, obtuse, about 2.5 mm. long; petals 4, yellowish-white, obovate, about 2 mm. long; disk slightly villous, slightly lobed, extrastraminal; ovary densely white pilose, style glabrous, stigmas recurved; pedicels 5 - 8 mm. long, slender. Fruits yellowish; nutlets convex, veined, about 6 mm. long in diameter; wings included nutlets, 2 - 2.5 cm. long, 8 - 10 mm. broad, spreading at obtuse angles.

KWANGTUNG: Lantao Island, W. J. Tutcher, April 5, 1894, No. 588 (type in Kew; photo. in Fan. Sci., Sin. & Suny.); Lantao Island, without name of collector, March 16, 1919, Herb. Hongkong n. 71596 (in Paris); In K'i ravines, on right side of the village, tree more /

more than 3 metres high, To & Ts'ang, June 20, 1924, Herb. Lingn. No. 12516 (in Sci.); Shan Sam Ts'uen, among trees by roadside, tree 6 - 8 metres high, fruits light red, F. A. McClure, July 23, 1925, No. 1556 (in Sci.); Yin-teh-hsien, H. Y. Liang, May 15, 1931, No. 60624 (in Suny.); Wat-shui-shan, at slopes in forests, tree $7\frac{1}{2}$ metres high, S. P. Ko, May 6, 1930, No. 50479 (in Suny.); Yu-yuen-hsien, S.P. Ko, June 17, 1933, No. 52929 (in Suny.); Yu-yuen-hsien, in woods by mountains, tree 8 metres high, S. P. Ko, April 20, 1934, No. 54141 (in Suny.); Yu-yuen-hsien, S.P. Kwok, April 27, 1934, No. 80318, (in Suny.); Sunyi-hsien, S. P. Ko, July 14, 1931, No. 51578 (in Suny.); Sunyi-hsien, in thin woods, tree 8 metres high, C. Wang, March 22, 1932, No. 31773 (in Suny.); S. P. Ko, July 14, 1931, No. 51578 (in Suny.); -

HONGKONG: New Territory, Mount of the Phoenix, Stream side, tree 7 metres high, N. K. Chun, October 5, 1930, No. 41893 (in Suny.):-

KWANGSI: Without precise locality, R. C. Ching, No. 8042 (in Suny.), Yao-shan, S. S. Sin, May 1928, Nos. 200 & 9009 (in Berol.).

This species is near Acer Wilsonii Rehder, from which it differs by its short panicles, its small fruits with shorter wings spreading at obtuse angles, and its small chartaceous leaves with shorter and serrate lobes.

36. Acer ginnala Maximowicz in Bull. Phys. - Math. Acad. Sci. St. Petersburg. XV. (1857) 126 No. 6; in Mel. Biol. II. (1857) 415. - Ruprecht in Bull. Phys. - Math. Acad. Sci. St. Petersburg. XV. (1857) 264, No.13; in Mell. Biol. II. (1857) 522. - Pax in Engler, Bot. Jahrb. VII. (1886) 185; in Engler, Pflanzenreich, Heft 8 (IV. 163). (1902) 12. - Dippel, Handb. Laubholzk. II. (1892) 418 fig. 194. - Bretschneider. Hist. Europ. Bot. Discov. China, (1898) 584. - Graf. v. Schwerin, in Gartenfl., XLII. (1893) 231. - Koehne, Deutsch, Dendr. (1893) 376. - Komarov in Act. Hort. Petrop. XXII. (1904) 719 (Fl. Mansh. II.). - Veitch in Journ. Roy. Hort. Soc. XXIX part 3, (1904) 332. - Schneider, Dendr. Winterstud. (1903) 227, 257 figs. h-k; Illustr. Handb. Laubh. II. (1907) 196 figs. 125 h-p.- Rehder in Sargent, Trees & Shrubs, I. (1905) 179; in Journ. Arn. Arb. VII. (1926) 220; VIII. (1927) 162; IX. (1928) 89; Manual Cult. Trees & Shrubs, (1927) 568. - Nakai in Journ. Coll. Sci. Imp. Univ. Tokyo, XXVI. (1909) 134 (Fl. Kor. pt. 1); XXXI. (1911) 462 (Fl. Kor. part 2); Fl. Sylv. Kor. I (1915) 8, t. 2; in Tokyo Bot. Mag. XXIX. (1915) 26. - Koidzumi in Journ. Coll. Sci. Imp. Univ. Tokyo, XXXII, Part. 1. (1911) 30 t. 18 (Rev. Acer. Jap.). - Fedchenko (or Fedtschenko) in Act. Hort. Petersburg. XXXI. (1912) 157 (Mat. Fl. Far East). - Loesener in Bot. Centralbl. beih. XXXVI, part 2. (1919) 152 (Prod. Fl. Tsingtau). - Bailey, Gent. Herb. I. (1920) 35. - Gee in Science, Sci. Soc. China, VI. (1921) 213. - Hers in Journ. N. China Branch, Roy. As. Soc. LIII. /

LIII. (1922) 106; Liste Ess. Lign. Honan Sept. (1922)
 1. - Chung in Mem. Sci. Soc. China, I. (1924) (Cat.
 Trees & Shrubs, China). - Hu in Science, Sci. Soc.
 China, IX. (1924) 840. - Bean, Trees & Shrubs, Hardy,
 Brit. Isl. I. (1922) 142. - Fang in Contrib. Biol. Lab.
 Sci. Soc. China, (Bot. Ser.), VII. (1932) 158, VIII.
 (1932) 167. -

Acer Tataricum Linn. var. laciniatum Regel in Bull.
 Phys. - Math. Acad. Sci. St. Petersb. XV. (1857)
 217; in Mel. Biol. II. (1857) 483.

Acer tataricum Linn. var. ginnala Maximowicz in
 Mem. Pres. Acad. Imp. Sci. St. Petersb. div. sav.
 IX. (1859) P.57 No.(161) 3. P.388 (Prim. Fl.
 Amur.); in Bull. Acad. Sci. St. Petersb. XXVI.
 (1880) 445; in Mel. Biol. X. (1880) P.604 No.21
 Enum. Pl. Mongol. (1889) 138. - Regel in Mem.
 Acad. Imp. Sci. St. Petersb. 7 ser. IV. No. 4.
 (1861) P.34, No.106 (Tent. Fl. Ussur). -
 Gartenfl. (1877) 308 et fig. - Miquel, Arch.
 Neerl. II. (1867) 470, 476, - Schmidt in Mem.
 Acad. Imp. Sci. St. Petersb. 7 ser. XII, No. 2
 (1868) P.36 No(79) (Reis. Amur. u. Ins. Sachalin.)-
 Nicholson in Gard. Chron. n. ser. XV. (1881) 74.-
 Hance Journ. Bot. XX (n. ser. XI). (1882) 4. -
 Franchet in Nouv. Arch. Mus. Paris, ser 2, V.
 (1883) 228 (Pl. David. I. 76). - Korshinsky in
 Act. Hort. Petrop. XII. (1892) 318 (Pl. Amur.). -
 Matsumura in Tokyo Bot. Mag. IX. (1895) 87. -
 Palibin in Act. Hort. Petrop. XVII. (1898) 59. -
 Consp./

(Consp. Fl. Kor.). - L'éveillé in Bull. Soc. Bot. France, LIII. (1906) 593; Fl. Changhai et Kiangsou, (1918) 118, MSS.- Courtois, Mem. Mus. Herbor. Kiangsou, (1920) 45. -

Acer tataricum Linn. var. aidzuense Franchet in Bull. Soc. Bot. France, XXVI. (1879) 84. - Nicholson in Gard. Chron. n. ser. XV. (1881) 74. - Graf v. Schwerin, Gartenfl. XIII. (1893) 231.

Acer tataricum Linn. var. acuminatum Franchet in Nouv. Arch. Mus. Paris, ser. 2, V. (1883) 228 (Pl. David. I. 76).

Acer ginnala Maximowicz subsp. euginnala Pax in Engler, Bot. Jahrb. VII. (1886) 185; Koehne, Deutsch, Dendr. (1893) 376. -

Acer ginnala Maximowicz subsp. euginnala var. aidzuense (Franchet) Pax in Engler, Bot. Jahrb. VII. (1886) 185.

Acer tataricum Forbes et Hemsley (non Linnaeus) in Journ. Linn. Soc. XXIII. (1886) 142. - Pax ex Diels in Engler, Bot. Jahrb. XXIX. (1900) 448 (Fl. Centralchina); in Engler, Bot. Jahrb. XXXVI, beibl. LXXXII. (1905) 73. - L'éveillé in Bull. Soc. Bot. France, LIII (1906) 593.- ~~Rehder in Sargent, Pl. Wilson, I. (1911) 91.-~~ in Mem. Real. Acad. Cien. Art. XII. No. 22 (1916) 561 (Cat. Pl. Prov. Chin. Kiangsou).- Rehder in Sargent, Pl. Wilson, I. (1911) 91.-
Chung /

Chung in Mem. Sci. Sci. China, I. (1924) 150
 (Cat. Trees & Shrubs, China). - Hu in Science,
 Sci. Soc. China, IX. (1924) 840. - Fang in
 Contrib. Sci. Soc. China (Bot. Ser.) VII.
 (1932) 158. -

Acer tataricum subsp. ginnala Wesmael in Bull
 Soc. Roy. Bot. Belg. XXIX. (1890) 31.

Acer tataricum subsp. ginnala var. 1 euginnala
 Wesmael in Bull. Soc. Roy. Bot. Belg. XXIX
 (1890) 31.

Acer tataricum subsp. ginnala var. 2 Aidzuense
 Wesmael in Bull. Soc. Roy. Bot. Belg. XXIX
 (1890) 31.

Acer ginnala Maximowicz var. euginnala Pax in
 Engler, Pflanzenreich, Heft 8, (IV.163). (1902)
 12. - Schneider, Illustr. Handb. Laubh. II.
 (1907) 196. - Matsumura Ind. Pl. Jap. II. pt. 2
 (1912) 327.

Acer sizuense (Franchet) Nakai in Tokyo Bot. Mag.
 XL. (1926) 146; XLIX. (1935) 418. - ?Makino et
 Memoto, Fl. Jap. ed. 2. (1931) 689.

Acer ginnala Maximowicz form. coccineum Nakai in
 Journ. Coll. Sci. Imp. Univ. Tokyo, XXVI.
 (1909) 134.

Shrub or tree usually 5 metres high, rarely up to
 15 metres high. Bark rough, grey, occasionally blackish
 grey or brownish grey, lenticels ovate or rounded,
 branchlets /

branchlets slender, glabrescent, those of the present season purple or purplish green, those of more than one year old yellowish or yellowish grey. Winter buds small, brownish; scales imbricate, 4 pairs, villous on the margin. Leaves chartaceous, deciduous, rounded, truncate or subcordate, ovate or elliptical-oblong, 6 - 10 cm. long, 4 - 6 cm. broad, deeply 3-lobed or 5-lobed rarely not lobed; middle lobes acute, acuminate or long acuminate, lateral lobes usually acute; margins irregularly incised serrate or crenate-serrulate; sinuses acute or broadly acute, upper surface dark green, glabrous; lower surface light green, pubescent especially on the nerves while young, glabrous or glabrescent when matured; petioles 1 - 5 cm. long, slender, green or purplish green, slightly pubescent while young, then glabrous. Flowers numerous, androgynous, in pubescent corymbs about 2 cm. long and broad; sepals 5, ovate, yellowish green, villous on the margin, 1.5 - 2 mm. long; petals 5, oblong-ovate, white, about 3 mm. long; stamens 8, about 3 mm. long, filaments glabrous, anthers yellow; disk glabrous, extrastaminal; ovary densely villous, rudimentary in staminate flower, style glabrous and about 3 - 4 mm. long, stigmas short, spreading or recurved; pedicels slender, 3 - 5 mm. long, slightly villous. Fruits yellowish green or brownish green; nutlets villous while young, strongly veined, 8 mm. long, 5 mm. broad; wings included nutlets 2.5 - 3 cm. long, 8 - 10 mm. broad, parallelled or widest at the middle, spreading erectly or at acute angles.

Manchuria/

MANCHURIA: "ad Fl. Suifan", Goldenstaedt sine no. Berol., Firen., Munch., Paris & Vind.); "Usuri", Maack in 1855, sine no. (in Berol., Firen., Paris & Vind.); "ad Fl. Amur" L. Schrenk, June 21, 1855, sine no. (in Vind.); "Amur", Maximowicz, sine no. (in Berol., Brit., Firen., Paris & Vind.); "Amur" C. Lorshinsky, No. 408 (in Berol.); same locality, C. Korshinsky, June 11, 1891 and June 15, 1898, sine no. (2 specimens in Berol.); "Amur" V. Komarov, August 27, 1895, (Fl. Mansh. No. 1047) (in Berol. & Vind.); "Fl. Amur, circa Sachalien, Saro", V. Komarov, June to August 1905, (Fl. Mansh. No. 1047) (in Vind.); "Khaborovia", C. S. Sargent, September 1903, Sine no. (in Arn.); "Monte pres Merki", Chaffanjon, April 23, 1895, No. 458 (in Paris); "Korol", Chaffanjon, July 28, 1896, No. 1379 (in Paris); Harbin, J.H. Dorsett & P.H. Dorsett, May 24, 1925, No. 3028 (in Edinb.); Sitankhitsy, P. H. Dorsett & J.H. Dorsett August 23, 1926, No. 6457 (in Edinb.); Kirin, Swen Si Suan, April 1926, No. 11 (in N.E.); Kirin, Chen No. 1126 (in Sci.); Kirin, F.H. Chen, August 1931, Nos. 169 & 447 (in Brit., Fan, & Sci.); near Chao-yang, G. Fenzel, May 31, 1930, No. 1 (in Vind.);

MONGOLIA: "Terra Ordos, mont Alaschan", N. M. Przewalski in 1871 - 73, sine no. (in Paris); "Tugo Numi-ula", N. M. Przewalski in 1872, sine no. (in Kew); "Hongor-abo", J. G. Anderson, July 10, 1920, No. 724 (in Berol).

JEHOL: "Toumet, Sartchy", A. David, May to July 1866, Nos. 1789, 2612, 2692 (all in Berol. Kew & Paris).

Hopei/

HOPEI: Hsiao-wu-tai-shan, F. N. Meyer, August 23, 1913, No. 1315 (in Kew); near Peiping, A. David, sine no. (in Paris); Tien-tsin, E. Licent, June 28, 1928, No. 8368 (in Kew).

SHANSI: Tung-tsa Region, C. O. Lee, July 19, 1924 (in N.B. Herb. No. 6046); Wu-tai-shan, J. Hers, July 27, 1923, No. 2639 (in Arn.); Wen-yu-ho Valley, J. Hers, October 2, 1923, No. 2670 (in Arn. & Vind.); Chin-yuan, K. Ling, August 7, 1925, No. 1549 (In N.B.); Fan-shan-hsien, K. Ling, July to August, 1925, Nos. 1768 & 1878 (all in N.B.); Chian-chen, plain K. Ling, August 6, 1925, No. 1913 (in N.B.); Mien-hsien, T. Tang, May 28, 1929, No. 875 (in Fan. Sci. & Suny.).

KANSU: Between Choni and Lanchow, R.C. Ching, September 19 - 21, 1923, No. 1022 (in Arn. Edinb., Paris & Vind.); Lien-hoa-shan, J. F. Rock, July 1925, No. 12783 (in Arn., Edinb., Kew & Paris).

SHANTUNG: "Tsingtao, Lao-shan, B. Krug, in 1905 No. 535 (in Berol.); Tsingtao, Ming-sha-tung, C. Y. Chiao August 14, 1930, No. 2948 (in Arn., Edinb., Fan & Kew); Confucius grave, J. Hers, June 19, 1922, No. 1923 (in Arn.).

HONAN: Mien-chih, J. Hers, August 20, 1919, No. 58 (in Arn.); Chih-kung-shan, L.H. Bailey, June 13, 1917; sine no. (in Arn.); same locality, on the slopes of hills, A. David Lindskog, June 7, 1923, No. 12. (in Berol.).

CHEKIANG: Mo-kan-shan, P. Klantke, July 15, 1926, No. 83 (in Berol.); Hang-chow, Chi-pan-shan, C. Y. Chiao, April 29, 1925, No. 23 (in N.B.); Hang-chow, T. Tang, and W. Y. Hsia, July 15, 1927, No. 67 (in Berol. Fan & Sci.); near Hang-chow, West Lake, H. H. Hu, June 1927, Nos. 1445, 1512, 1513 & 1690 (all in Berol. Fan. & Sci.); near Hang-chow, F. N. Meyer, June 26, 1915, No. 1474 (in Kew); same locality, W. C. Cheng, August 24, 1929, No. 85 (in Sci.); same locality, G. P'ei, September 17, 1931, No. 3048 (in Sci.); Ningbo, E. Faber, June 1887, Nos. 95 (in Vind.), 361 (in Kew); Tung-yang-hsien, Y. L. Keng, August 1, 1927, No. 926 (in Berol. Fan & Sci.); E. Tien-mu-shan, S. S. Chien, August 1929, Nos. 447 & 651 (in Sci.); same locality, K. K. Tsoong, April to August 1929, Nos. D62, 322 & D336 (all in Sci.); same locality W. C. Cheng, July 25, 1932, No. 2116 (in Arn. Brit. & Sci.); Feng-hwa-hsien, Y. Y. Ho, June 12, 1932, No. 1437 (in Sci.); Chu-chi-hsien, S. Chen, July 19, 1932, No. 313 (in Sci.); Tien-tai-shan, Y. L. Keng, August 4, 1927, No. 946 (in Arn. Berol. Fan. & Sci.); without precise locality, F. C. Lu, No. 175 (in Sci.); without precise locality, H. J. Hickin, sine no. (in Kew); without precise locality, J. L. Bullock, No. 1280 (in Berol.).

KIANGSU: Hsiao-hsien, Huang-tsang-yu, J. Hers, May 26, 1919, No. 1051 (in Arn. & Paris); Liu-lin-shan, near Hai-chow, J. Hers, May 5, 1921, Nos. 634 & 667 (all in Arn. Kew & Paris); Hai-chow (Tung-hai-hsien), Kang-fu-lai, J. Hers, October 8, 1922, Nos. 2260 & 2286/

2286 (all in Arn., Kew & Paris); Tang-yang-hsien, Mau-shan, C. L. Tso & C. N. Chun, September 7, 1926, No. 1812 (in Arn., Berol., Fan, Kew & Sci.); I-shing-hsien, C. L. Tso & C. N. Chun, May 11, 1926, No. 429 (in Fan. & Sci.); same locality, W. C. Chow, April 19, 1930, No. 365 (in Sci.); same locality, Y. Y. Ho, June 1933, Nos. 1791 & 1851 (all in Sci.); Hwang-san-yu, C. T. Ren, July 10, 1926, No. 6046 (in N. B.); Chang-shan, C. T. Ren, & Tai, July 10, 1926, No. 74 (in N.B.); Chengking, T. L. Bullock, May 1880, No. 13570 (in Brit.); same locality, without name of collector, from Herb. of W. R. Carles, Spring 1880 (in Edinb.); same locality, Chemulpo, without name of collector, No. 42, May 1884 (in Edinb.); Hsia-shu, Wao-chi-shan, C. L. Tso, April 28, 1926, No. 341 (in Sci.); Hsi-hsia-shan, C. L. Tso & C. N. Chen, June 29, 1926, No. 1348 (in Sci.); Chu-yong-hsien, Pao-hwa-shan, Walter T. Swingle, June 1922, No. 2827 (in Sci.); same locality, K. Ling, July 21, 1926, No. 2154 (in Arn. Nank. B.); same locality, C. L. Tso, & C. N. Chen, May 1926, Nos. 353 & 1168 (in Arn. Fan & Sci.); same locality, C. P'ei, June 14, 1932, No. 3254 (in Sci.); Kih-shan, J. L. Keng, May 5, 1928, No. 1484 (in Fan & Sci.); Kiang-pu-hsien, L. F. Tsu, July 5, 1920, Nos. 521 & 521A (in N.B.); Kiang-pu-hsien, Lao-shan, Y. Y. Ho, April 18, 1931, No. 1910 (in Sci.); Nanking, L. G. Zee, May 7, 1920, No. 521 (in Edinb.); same locality, A. N. Steward, May 1922, Nos. 160 & 254 (in Nank. B.); same locality, E. D. Merrill, June 1922 (in Phil. No. 11388 also in Kew); same locality K. Ling, September 9, 1924, (in N. F.); same locality, K. H. Cheo, October 3, 1924, No. 29 (in N. F.); same locality, Y. Tsiang, June /

June 26, 1925, No. 72 (in Sci.); same locality, C. Y. Chiao, May 30, 1927, No. 680 (in N. B.); same locality, C. T. Chow, October 1928, No. 64 (in N.B.); same locality, without name of collector, sine no. (in Cent. Nos. 3588 & 3589); Mo-fu-shan, north of and near Nanking, Y. Z. Sun, May 1930, Nos. 129 & 368 (in Sci.); same locality, C. P'ei, April 24, 1933, no. 3293 (in Sci.); same locality, Y. Z. Sun, May 16, 1933, No. 1093 (in Sci.); Spirit Valley, W. P. Fang, May 20, 1929, No. 218, (in Sci.); same locality, W. C. Cheng, September 15, 1929, No. 147 (in Sci.); same locality, S. S. Chien, July 6, 1932, No. 1036, (in Sci.); Chi-ming-sze, C. L. Tso & C. N. Chen, May 1926, No. 1077 (in Arn., Berol., Fan, Kew, Sci. & Vind.); same locality, C. L. Tso & C. N. Chen, June 1926, No. 1372 (in Berol. & Sci.); same locality, W. C. Chow, September 27, 1929, No. 108 (in Sci.); Peh-chi-kou, W. C. Chow, September 27, 1929, No. 93 (in Sci.); San-pei-lau, C. L. Tso & C. N. Chen, September 25, 1926, No. 1964 (in Berol. Fan & Sci.); same locality, W. C. Chow, May 1930, No. 446 (in Sci.); Ox-head-hill, C. L. Tso & C. N. Chen, June 28, 1926, No. 1282 (in Sci.); same locality, Y. L. Keng, May 4, 1928, No. 1417 (in Sci.); same locality, C. P'ei, May 2, 1931, No. 2637 (in Sci.); same locality, W. P. Fang, May 9, 1933, Nos. 10413 & 10448 (all in Brit., Fan & Sci.); Yun-tai-shan, Y. L. Keng, August 18, 1928, No. 1720 (in Sci.).

ANHWEI: Chu-chow, without name of collector, May 18, 1922, Nos. 550, 551, & 552 (in N. F.); near Yu-ting, N./

N.K. Ip, August 28, 1923, No. 6342 (in N. B.); Chu-hwa-shan, R. C. Ching, May to June 1925, Nos. 2702 & 2778 (in Arn., Berol., Edinb., Kew & Sci.).

KIANGSI: Kiukiang, Maries, sine no. (in Kew); same locality, A. David, No. 834 (in Paris).

HUPEH: without precise locality, E. H. Wilson, May 1907, No. 1933 (in Arn., Berol., Edinb., Firen Vind.).

KWANGTUNG: without precise locality, G. Fenzel, in 1929, No. 14 (in Suny.).

COREA: "Fluvium Tuminzan, Districtus Musang Vallis Emorriensis", V. Komarov, May 31, 1897, Fl. Mansh. No. 1047 (in Brit.); Prov. Yellodo, O. Warburg, in 1887, No. 6698 (in Berol. & Wien); Chemulpo, W. W. Carles, May to June 1884, Nos. 42 & 84 (in Brit. & Kew); "in Monte des diamants", U. Faurie June 1906, Nos. 166 & 476 (all in Berol., Brit., Edinb. & Paris); without precise locality, F. N. Meyer, August 20, 1906, No. 139 (in Kew) Kang-kai, R. G. Mills, May 10, 1910, No. 93 (in Kew); N. Keian, E. H. Wilson, June 16, 1917, No. 8674 (in Brit.); Kogen, Kongosan, E. H. Wilson, June 30, 1918, No. 10426 (in Brit. & Kew); N. Heian, Hokai, E. H. Wilson, August 5, 1918, No. 10581 (in Kew); Kang-von, Kum-gang-san, (Mt. Diamont), P. Klantke, No. 38 (in Berol.); Kum-gang-san, P. Klantke, August 2, 1927, No. 112 (in Berol.).

JAPAN: "in humidis sylvarum Lakayu", U. Faurie, June 1904, No. 6087 (in Edinb.): "in sylvis Kamikama"

U./

U. Faurie, July 1905, No. 6726 (in Edinb): "basi norikusa"

U. Faurie, July 1905, No. 6734 (in Edinb.).

This species differs from its nearest ally, Acer tataricum, in its distinctly 3-nerved leaves which are deeply green above usually turning to a dark colour in drying.

I have never seen the type specimens of Acer aizuense Nakai and Acer ginnala Maxim. form. coccineum Nakai, but judging from the descriptions they are representing different stages of this species, as the type species is very variable. In my opinion it is advisable to reduce them to the type species.

37. Acer Fenzelianum Handel-Mazzetti in Oesterr. Bot. Zeitsch. LXXXII. (1933) 250. -

Acer insulare Chun MSS. in Herb. Suny.

Tree usually 16 to 20 metres high. Bark grey or blackish grey, smooth. Branchlets slender, densely grey or yellowish tomentose, those of the present year purplish or purplish green, those of more than one year old yellowish grey or blackish grey; lenticels brown, rounded. Leaves deciduous, thick membranaceous or subcoriaceous, rounded or broadly cuneate at base, obovate or oblong-obovate, 10 - 13 cm. long, 6 - 10 cm. broad, shallowly 3-lobed; lobes forwarding, triangularly-ovate, acuminate; sinuses obtuse, reaching from $\frac{1}{4}$ to $\frac{1}{5}$ of the blade; upper surface deep green, glabrous except /

except slightly pubescent on the bases of the nerves; lower surface deep green, reticulate, glabrous, except densely tomentose on the main nerves; primary nerves 3 from the base to the apex of blade, slightly elevated above, distinctly prominently below, secondary nerves usually inconspicuous above, conspicuous below; Petioles 2 - 3 cm. long, stout, densely yellowish tomentose. Flowers unknown. Fruits purplish yellow, 4 or 6 on usually grey or yellowish tomentose rarely glabrescent corymbose fruiting inflorescences. Nutlets convex, oblong, 10 - 12 mm. long, 6 - 8 mm. broad, veined, persistently villous, wings included nutlets, 3.5 - 3.8 cm. long, 1.5 cm. broad, semi-obovate, spreading at obtuse angles; pedicels 1 - 1.5 cm. long, pubescent or glabrescent.

INDO-CHINA: "Chappa nahe der Chinesischen Granze bei Laokai, zwischen-standing im Walde", G. Fenzel, December, 1929, No. 44 (type in Vind., co-type in Suny.).

This is quite a distinct species characterized by the densely yellowish tomentum on the inflorescences, branchlets and petioles. On some branchlets the tomentum is persistent for three or four years.

38. Acer Yuii Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. IX. (1934) 235, fig. 22. -

Tree about 7 metres high. Bark brownish grey or blackish /

blackish grey, longitudinally splitting. Branchlets slender, glabrous, those of the present year red or reddish green, those of more than one year old brown; or greyish brown; lenticels small, ovate or nearly rounded. Winter-buds terminal or axillary, small, ellipsoid, brownish or yellowish; scales numerous, exterior ones glabrous, ciliate on the margin, interior ones pubescent. Leaves deciduous, chartaceous, nearly rounded or broadly obtuse at the base, broadly ovate in outline, 5 - 7 cm., ^{long} 3.5 - 5.5 cm. broad, 3-lobed, the margin of the lobes entire or slightly sinuate; middle lobes ovate, oblong-lanceolate or lanceolate, acute, below the middle of the blade the two sides of the margins usually parallel; lateral lobes triangular-ovate, obtuse, sideward; sinuses obtuse, reaching from $\frac{3}{5}$ to $\frac{1}{3}$ of the blade; upper surface deep green, glabrous, smooth, lower surface yellowish or yellowish green, reticulate, greyish or yellowish pubescent at the axils of the nerves; primary nerves 3, inconspicuous above, prominent below, secondary nerves 5 - 7 pairs elevated below; petioles 3 - 4 cm. long, purplish or purplish green, slender, near the apex slightly pubescent, below glabrescent. Flowers unknown. Fruits yellowish brown, 3 - 5 in corymbose fruiting inflorescences, on peduncles 5 - 7 mm. long; nutlets 7 mm. long, 5 mm. broad, convex, veined, slightly puberulous; wings included nutlets 2.2. cm. long, 1 cm. broad, obovate, obtuse, spreading at obtuse angles; pedicels slender, 3 - 5 mm. long.

Szechuan/

SZECHUAN: Nan-ping-hsien, T. T. Yu, October 11, 1933, No. 2633 (type in Sci.).

This species differs from its nearest ally, Acer Buergerianum Miquell, by the deeply lobed leaves with the ovate-lanceolate middle lobe which is usually broad and parallel below the middle, and the obtuse lateral lobes usually sideward spreading.

39. Acer Buergerianum Miquel Ann. Mus. Lugd.-Bat. II. (1865) 88 (Prol. Fl. Jap.); Prod. Fl. Jap. (1865) 20; Arch. Neerl. II. (1867) 469. - Rehder in Sargent, Trees & Shrubs, I. (1905) 179; Journ. Arn. Arb. VII. (1926) 220; VIII. (1927) 163, Manual, Cult. Trees & Shrubs, (1927) 568. - Dunn in Journ. Linn. Soc. XXXIX. (1911), 413. - Chien in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. III. (1927) 61 (Fl. Hwangshan); - Liu in Bull. Pek. Soc. Nat. Hist. II. (1927-28) 136. - Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 160; VIII. (1932) 168. - Chun in Sunyatsenia, I. (1934) 264. -

Acer trifidum Hooker & Arnott (non Thunberg in 1784) Bot. Voy. Beechey, (1841) 174. - Siebold & Zuccarini, Abhand. Akad. Munch. IV. 2. (1846) 157 (Fl. Jap. Famil. Natur.); Fl. Jap. II. (1870) 81, t. 143, excl. fig. I & 1-4. - Franchet & Savatier, Enum. Pl. Jap. I. (1875) 87; II. (1879) 320. - Maximowicz in Bull. Acad. Sci. St. Petersburg. XXVI. (1880) 445; Mel. Biol. X. (1880) No. 19, 603; XII. (1892) 75. - Forbes & Hemsley/

Hemsley in Journ. Linn. Soc. XXXIII. (1886)
 142. - Pax in Engler, Bot. Jahrb. VII. (1886)
 186; in Engler & Prantl. Pflanzenfamilien,
 III. pt. 5, (1896) 270; in Engler, Pflanzen-
 reich, Heft 8 (IV 163), (1902) 10; in Engler,
 Bot. Jahrb. XXXIV. beibl. LXXV. (1904)
 49. - Pax & Hoffman ex Limpricht in Fedde
 Repert Beih. XII (1922) 435, - Wesmael in Bull.
 Soc. Roy. Bot. Belg. XXIX. (1890) 32. -
 Dippel, Laubholz. II. (1892) 427 fig. 199
 excl. Graf von Schwerin in Gartenflora,
 XLII. (1893) 258. - Koehne, Deutsch. Dendr.
 (1893) 375. - Faber in Denkscher, Entwick,
 Kiautschou, (1898) 33. - Bretschneider, Hist.
 Europ. Bot. Discov. China, (1898) 37. -
 292, 604. - Unger in Mollers Gartner-Zeitung,
 (1899) 90. - Makino in Tokyo Bot. Mag. XV
 (1901) 112. - Léveillé in Bull. Soc. Bot.
 France, LIII (1906), 593; in Mem. Real. Acad.
 Cien. art. XII, No. 22 (1916) 561 (Cat.
 Pl. Prov. China Kiangsou). - Schneider, Illustr
 Handb. Laubh. II. (1907) 197 figs 126 b-c
 127 a-d. - Pavolini in Nuov. Giorn. Bot.
 Ital. n. ser. XV. (1908) 409 (Contrib. Fl.
 Hupé). - Pampanini in Nouv. Giorn. Bot.
 Ital. n. ser. XVII. (1910) 423 (Pi. Vas.
 Hupé). - Koidzumi in Journ. Coll. Sci. Imp.
 Univ. Tokyo, XXXII. art. 1 (1911) 29 t.17
 (Rev. Acer. Jap.). - Loesener in Centralbl.
 beih. XXXVII, pt. 2, (1919) 152 (Prod. Fl.
 Tsingtau./

Tsingtau) - Bailey, Gentes Herberium, (1920)
 35. - Courtois in Mem. Mus. Herbor. Kiangsou,
 (1920) 45 (Fl. Changhai & Kiangsou). - Chun,
 Chinese Econ. Trees, (1921) 230. - Gee in
 Science, Sci. Soc. China. VI. (1921) 213. -
 Chung in Mem. Sci. Soc. China, I, (1924) 159
 (Cat. Trees & Shrubs). - Hu in Science, Sci.
 Soc. China, IX. (1924) 840. -

Acer palmatum a subtribobum Koch, Ann. Mus.

Lugd. Bat. I. (1863-64) 251 name only;
 ex Miquel, Ann. Mus. Lugd. Bat. II. (1865)
 88. -

Acer trifidum Buergerianum Schwerin, Gartenfl.

XLII (1893) 258.

Trees usually 5 to 10 metres high, rarely up to
 20 metres high. Bark brown or blackish brown, rough.
 Branchlets slender, those of the present year purple or
 purplish green, more or less yellowish villous at first,
 then glabrescent, those of more than one year old greyish
 or greyish brown, occasionally coating with wax. Winter-
 buds small, brown, ellipsoid, scales villous on the
 margin. Leaves deciduous, membranaceous, rounded or
 cuneate at base, ovate, obovate or elliptical in outline,
 6 - 10 cm. long, 4 - 6 cm. broad, usually shallowly
 and forwardly 3-lobed, occasionally entire; middle
 lobe triangular-ovate, acute or shortly acuminate;
 lateral lobes shortly acute or very small and even
 obsolete, the margin of lobes usually entire rarely
 with /

with a few serrations; sinuses obtuse; upper surface deep green, glabrous; lower surface yellowish green or pale green, whitish glaucous, more or less pubescent especially on the nerves; primary nerves usually 3 from the base to the apex, rarely with 2 additional basal nerves, inconspicuous above, prominent below, secondary nerves usually inconspicuous on both surfaces; petioles 2.5 - 5 cm. long, purplish green, slender, glabrous. Flowers numerous, in terminal pubescent corymbose inflorescences about 3 cm. broad, on peduncles 1.5 - 2 cm. long, appearing after the developing of leaves; sepals 5, yellowish green, ovate, glabrous, about 1.5 mm. long; petals 5, yellowish white, narrowly lanceolate or spatulate-lanceolate, obtuse, about 2 mm. long; stamens 8, as long as the sepals or slightly shorter; disk glabrous, slightly lobed, extrastaminal; ovary densely yellowish villous, style glabrous and very short, stigmas widely spreading or recurved; pedicels 5 - 10 mm. long, slender, villous while young, then glabrescent. Fruits yellowish brown; nutlets strongly convex, 6 mm. in diameter; wings falcate, with nutlets 2.5 - 3 cm. long, 8 - 10 mm. broad, widest at the middle, contracted at the base, spreading erectly or at acute angles.

SHANTUNG: Tsingtao, First Park, S.T. Chi, September 1927, No. 13 (in N.F.); same locality, without name of collector, no. 223 (in N.F. No. 15270); same locality, C.Y. Chiao, June 10, 1930, No. 2463 (in Arn., Fan, Edinb., Kew, N.B., & Sci.). -

Chekiang/

CHEKIANG: Mo-kan-shan, tree 30 m. high, P. Klantke, August 23, 1926, No. 376 (in Berol.); Chang-hsing, K. Ling, August 2, 1926, No. 2479 (in N.F.).- Hang-chow, K. Ling, August 1921, No. 229 (in N.F. No. 541); Hang-chow, tree 7 m. high, T. Tang, July 9, 1927, No. 61 (in Berol., Fan. & Sc.); same locality, W. C. Cheng, August 30, 1929 No. 54, (in Sci.); Chu-chi-hsien, S. Chen, May 25, 1932, No. 363, (in Sci.); same locality, Y. Chen, August 18, 1927, No. 5853 (in N.F); same locality, T. Tang & W. Y. Hsia, August 12, 1927, No. 160 (in Berol., Fan, & Sci.); W. Tien-mu-shan, I-tu-hsien, S. S. Chien, August 8, 1929, No. 596 (in Sci.); Cheng-hai-hsien, Chen-wan, Y. Y. Ho, April 19, 1922, Nos. 953 & 974 (all in Sci.); Ningpo (Ching-hsien), E. Faber, August 1887, No. 360 (in Berol., Kew & Vind.); same locality, Warburg, May 1887, No. 6771 (in Berol.); Ching-hsien, Tien-tung, Y. Y. Ho, April 30, 1932, nos. 1100, 1102 & 1110 (all in Sci.); Tsing-yuan-hsien, R. C. Ching, August 1924, No. 2440 (in Arn., Berol., Brit. Edinb., Kew, Paris & Vind.); same locality, Y. L. Keng, August 30, 1926, No. 446 (in Arn., Berol., Fan & Sci.); Tien-tai-shan, C. Y. Chiao, July 15, 1927, No. 878 (in Arn., Edinb., N.B. Sci. & Wien); Sia-chu-hsien, R. C. Ching, May 23, 1924, No. 1620 (in Arn., Berol., Brit., Fan, Kew, Paris & Vind.); Lung-chuan-hsien, K. Ling, August 22, 1928, No. 3018 (in N.B.); same locality, in forests, on slopes, tree 12 metres high, S. Chen, May 12, 1933, No. 1327 (in Sci.); Peh-an-tong, October 25, 1932, No. 1698, Y. Y. Ho, (in Sci.); without precise locality, R. C. Ching, No. 5127 (in Sci.).

KIANGSU: Hai-chow (Tung-hai-hsien), Shon-shan, without name of collector, No. 45 (in N.F.); same locality, C. P. Chang, in 1932 (in Cent.); Kun-shan-hsien, Y. Tsiang, June 21, 1928, No. 75 (in Sci. & Sci.); Soo-chow (Wu-hsien), Tien-ping-shan, R.C. Ching, & C.L. Tso, June 9, 1926, No. 822 (in Arn., Berol. & Sci.); Cheng-kiang, Chiao-shan, C.L. Tso April 25, 1926, No. 265 (in Arn., Berol, Fan & Sci.); same locality, "Wutschon-schan", W. Limpricht, May 26, 1912, No. 448 (in Bresl. & Wien); I-shing-hsien, R.C. Ching, & C.L. Tso, May 17, 1926, No. 546 (in Arn., Berol. & Sci.); same locality, K. Ling, June 29, 1926, Nos. 2335 & 2342, (in Sci.); same locality, W. C. Chow, April 19, 1930 No. 411 (in Sci.); on road from Puchen to Loaka, F. T. Wang, August 22, 1926, No. 2682 (in Fan & Sci.); Kiang-pu-hsien, F.T. Wang, September 5, 1926, No. 2784 (in Arn., Berol. Fan & Sci.); Hsia-shu, W.C. Cheng, September 12, 1929, No. 610 (in Sci.); same locality, Leclancher No. 76a (in Paris); same locality, F.N. Meyer, June 4, 1915, No. 1427 (in Arn., Berol., Kew N.B.); same locality, H. H. Hu, June 1920, (in Sci. No. 6106); same locality, J. L. Sample, April 1920, No. 24 (in Kew); same locality, L. F. Tsu, March 2, 1921, No. 525 (in Kew); same locality, K. Ling, April 28, 1925, No. 1426 (in N.F.); same locality, C.N. Chen, July 9, 1929, No. 8522 (in Edinb. & Sin.); same locality, Chen & Teng April 8, 1931, No. 4029 (in Sin., Sci. & Vind.); same locality, Mo-fu-shan, without name of collector, September 27, 1924, No. 1375 (in N.F.); same locality, L. T. Zee, April 26, 1924, No. 2
in /

(in N.F.); same locality, K. Ling, September 9, 1924, No. 96 (in N.F.); same locality, Y. Z. Sun, September 22, 1929, No. 115 (in Sci.); same locality, C. P'ei, April, 24, 1933, No. 3311 (in Sci.); Spirit-valley, near Nanking, W.C. Cheng, September 15, 1929, No. 153 (in Sci.); the Purple Mountain, Y. Tsiang, & C.N. Chen, April 14, 1929, Nos. 8731 & 8735 (in Sin., Sci. & Vind.); Chi-min-sze, North of Nanking, W. C. Chow, October 17, 1929, No. 218 (in Sci.); same locality, W. C. Chow, May 1, 1930, No. 445 (in Sci.); Peh-chi-koh, North of Nanking, W. C. Chow, September 27, 1929, No. 99 (in Sci.); in Agricultural Station of Central University, W. P. Fang, April 26, 1929, No. 104 (in Sci.); Tong-shan, Y. Z. Sun, May 6, 1933, Nos. 1085 & 1086 (in Sci.); Ginling Garden, Cowdry, November 1921, No. 2044, (in Sci.); Ching-liang-shan, C. L. Tso & C.N. Chen, June 21, 1926, Nos. 1213 & 1215 (all in Arn., Berol., Fan, Kew & Sci.); same locality, W. P. Fang, April 1929, No. 56 (in Sci.); Ox-head Hill, south of Nanking, C. N. Chen, July 1926, No. 1894 (in Sin. & Sci.); same locality, W. C. Cheng, September 1929, Nos. 382 & 493 (in Sci.); Chu-yong-hsien, Pao-hwa-shan, C. L. Tso & C. N. Chen, August 1926, No. 1860 (in Arn., Berol., Fan, Kew & Sci.); Kao-shen-hsien, P.S. Shen, October 1925, No. 3 (in Sci.); same locality, C.S. Chu, November 1925, sine no. (in N.F.); same locality, T. K. Chu, November 17, 1925, No. 29 (in Sci.); same locality, Y. Lee, September 1925, No. 2 (in Sci.); same locality, /

locality, C. S. Chen, September 19, 1926, No. 51 (in Sci.); without precise locality, K. Ling, June 22, 1926 No. 2217 (in N.B.). -

ANHWEI: Chu-chow (Chu-hsien), near Lang-yao-sze, in forests, tree 7.5 m. high, young fruits green, Y. Y. Ho, June 20, 1933, No. 1930 (in Sci.); Yu-ting, N.K. Ip, August 1923, sine no. (in N.B. No. 6353); Yeh-hsien, K. Ling, August 15, 1924, No. 1624 (in N. B.); same locality, R. C. Ching, July 27, 1925, No. 3082 (in Arn., Berol, Kew, Edinb., & Sci.); Chu-hwa-shan, R. C. Ching, July 3, 1925, No. 2890 (in Arn., Berol. Edinb., Kew & Sci.); Hwang-shan, K. Ling, August 1924, Nos. 1119, 1268 & 2217, (in Arn., N.B. & Sci.); same locality, S. S. Chien, August 5, 1926, No. 1231 (in Sci.); Che-men-hsien, Tai-feng, N.K. Ip, August 18, 1924, No. 35 (in N.B.); Shu-liu-hsien, K. Ling, August 19, 1924, No. 1288 (in N.B.); Wu-yuan-hsien, K. Ling, August 24, 1924, No. 1331 (in N.B.).

KIANGSI: Kiukiang, Maries, July 12, 1879, No. 224 (in Kew); vicinity, of Teng-cheng City, Y. Tsiang, July 14, 1932, No. 10275 (in Sin. & Sci.).

HUPEH: "Sce-men", alt. 1500 m., C. Silvestri, June 1 - 6, 1909, No. 1384 (in Firen.).

KWANGTUNG: cultivated in the garden of the Sunyatsen Univ., W. Y. Chun, April 29, 1928 No. 5313 (in Suny.).

Japan/

JAPAN: Kiushu, circa Nagasaki, U. Faurie, June 1899, No. 3150 (in Edinb.): Tsushima, U. Faurie, May, 1901, No. 4805 (in Edinb.).

The species is characterized by its 3-nerved and 3-lobed leaves, rounded or broad-cuneate at the base with triangular, acute and forwardly pointed lobes, entire or slightly serrate near the apex, dark green above and pale beneath, and by its glabrous fruits with wings parallel or erect-spreading.

KEY TO VARIETIES.

- A. Leaves cuneate, entire or shallowly lobed near the apex.
 - B. Branchlets densely yellowish green tomentose, fruits with wings spreading at acute angles..
..... var. Ningpoense
 - BB. Branchlets glabrescent; fruits spreading horizontally..... var. formosanum .
- AA. Leaves subrounded in outline, deeply 3-lobed.
 - B. Lobes of leaves coarsely and unequally serrate with obtuse teeth..... var. trinerve
 - BB. Lobes of leaves entire..... var. kaisianensis.

Acer Buergerianum Miquel var. Ningpoense (Hance)

Rehder in Sargent, Trees & Shrubs, I. (1905) 179. -

Handel-Mazzetti, Symb. Sin. VII. (1933) 641. -

Acer trifidum var. ningpoense Hance in Journ.

Bot. XI. (1873) 168. - Pax in Engler, Bot.

Jahrb. VII. (1886) 187. - Wesmael in Bull

Soc. /

Soc. Roy. Bot. Belg. XXIX. (1890) 32. -
 Graf von Schwerin in Gartenflora, XLII.
 (1893) 258. - Gee in Science, Sci. Soc.
 China, VI. (1921) 213. - Chung in Mem. Sci.
 Soc. China, I (1924) 151, (Cat. Trees &
 Shrubs, China). - Schneider, Illustr. Handb.
 Laubh. II (1907) 198. - Rehder in Sargent,
 Pl. Wilson. I. (1911) 92. - Koidzumi in
 Journ. Coll. Sci. Imp. Univ. Tokyo, XXXII.
 art 1 (1911) 30 (Rev. Acer. Jap.). -
 Hu in Science, Sci. Soc. China, VI. (1921)
 1165. -

Acer Paxii Franchet var. ningpoense (Hance)

Pax in Engler, Pflanzenreich, Heft 8 (IV.
 163) (1902) 11. -

CHEKIANG: Ningpo, hilly regions around Ningpo,
R. Swinhoe, in 1872, herb of Hance, No. 17693 (in Kew)
 (type of the variety); near Mei-chi, Carles & Farbes,
 April 16, 1881, No. 51 (in Brit. Edinb. & Kew). -

KIANGSI: Kiuking, plain, alt. 100 m., at one
 place only, tree 2 m. high, E. H. Wilson, August 2,
 1907, No. 1503 (in Arn., Berol., Brit., Edinb. & Kew). -

HUNAN: "inter urbes Linling (Yung-tschow-fu) et
 Sinning, in silvis collium supra vic Tsintresse",
H. Handel-Mazzetti, August 14, 1917, No. 11256 (in
 Berol., Vind., & Wien); "in monte Yun-schan prope
 urber/

urber Wukang, in silva elata fr ndosa umblosa arbor
anica sterilis infra Templ. Gwanyingo, "Handel-Mazzetti,
June 18, 1918, No. 12140 (in Wien & Vind.).

This is quite a distinct variety differing easily
and chiefly from the type species by its densely yellow-
ish green tomentose branchlets and inflorescences as
well as the wings of the fruits spreading usually at
an angle of 55 degrees.

Acer Buergerianum Miquel var. kaiscianensis
(Pampanini) Fang. comb. nov.

Acer trifidum var. kaisciensis Pampanini in
Nuov. Giorn. Bot. Ital. n. ser. XVIII. (1911) 127
(Pi. vas. Hupé). - Syn.nov.

HUPEH: "Kaiscian", C. Silvestri, September 1909,
Nos. 3096, 3086a & 3096b (in Firen.; Photo. in Sci.).

This variety differs from the type chiefly in its
more rounded and deeply 3-lobed leaves, glabrous
beneath, and in its small fruits which have wings 18
mm. long, 7 mm. broad, spreading at obtuse angles.

Acer Buergerianum Miquel var. trinerve (Hort
apud Dippel) Rehder in Journ. Arn. Arb. III. (1922)
217; Manual Cult. Trees & Shrubs, (1927) 567. -

Acer trinerve Hort apud Dippel, Handb. Laubb.
II. (1892) 428, fig. 200, excl. syn.

Acer pycnanthum K. Koch. - Pax in Engler,
Bot. Jahrb. XVI. (1892) 393. - in Engler,
Pflanzenreich, Heft 8 (IV.163) 12, pro
parte Koehne, Deutsch, Dendr. (1893) 376.-

KIANGSU: Nanking, F. M. Meyer, June 4, 1915, No. 1427 (in Arn., & N.F.).

This variety differs from the type in its deeply 3-lobed leaves, broader and rounded at base, with broad and unequally serrate lobes, and with lateral lobes spreading from below the middle.

Dippel's original description runs:-

Acer Buergerianum Miquel var. formosanum (Hayata) Fang, comb. nov.

Acer trifidum var. formosanum Hayata ex

Léveillé in Bull. Soc. Bot. France, LIII.

(1906) 593. - Schneider, Illustr. Handb.

Laubh. II. (1907) 198 figs. C¹ - C². -

Koidzumi in Journ. Coll. Sci. Imp. Univ.

Tokyo, XXXII. art. 1, (1911) 30 (Rev. Acer.

Jap.).

Acer trifidum Hook. & Arn. var.? Hayata in

Journ. Coll. Sci. Imp. Univ. Tokyo, XXII.

(1906) 97 (Matsumura & Hayata, Enum. Pl.

Formosa).

FORMOSA: Kelung, U. Faurie, June 15, 1903, No. 65 (type of the variety in Berol., Brit., Edinb., Paris & Vind.); Taihoku, T. Kawakami, May 1915, No. W155 (in Paris). -

This variety differs from the type by the leaves being rounded and slightly cordate at the base entire or shallowly 3-lobed near the apex and by the fruits having wings horizontally spreading.

40. Acer Paxii Franchet in Bull. Soc. Bot. France, XXXIII. (1886) 464; Pl. Delavayan, (1889) 144, fig. 31. - Pax in Engler, Bot. Jahrb. XI. (1889) 73; Engler, Pflanzenreich, Heft 8 (IV.163), 10, fig. 3. - (Aceraceae). - Wesmael in Bull. Soc. Roy. Bot. Belg. XXIX. (1890) 31. - Graf von Schwerin in Gartenflora, XLII. (1893) 258. - Bretschneider, Hist. Europ. Bot. Discov. China, (1898) 891. - Hemsley in Journ. Linn. Soc. XXXVI. (1905) 452. - Rehder in Sargent, Trees & Shrubs, I. (1905) 179. - Schneider, Handb. Laubhl. II. (1907) 198, figs. 126 d & 127 e-i. - Léveillé, Cat. Pl. Yunnan, (1917) 252. - Chung in Mem. Sci. Soc. China, I. (1924) 150. - Fang in Contrib. Biol. Lab. Sci. Soc. China, VII. (1932) 163. - Handel-Mazzetti, Symb. Sin. VII. (1933) 641.

Acer Paxii Franchet var. genuinum Pax in Engler, Pflanzenreich, Heft 8 (IV.163) (1902) 11. -

Acer oblongum Wallich var. biauratum W. W. Smith in Notes Roy. Bot. Gard. Edinb. VIII. (1915) 329. - Léveillé, Cat. Pl. Yunnan. (1917) 252: Cat. Illustr. Pl. Seutchouen, (1918) 179, MSS. - Metcalf in Lingn. Sci. Journ. XI. (1932) 195.

Acer oblongum var. erythrocarpum Léveillé Cat. Pl. Yunnan, (1917) 252. -

Tree usually 5 to 10 metres high, rarely up to 15 metres high. Bark brown or blackish brown, usually rough. Branchlets slender, glabrous, those of the present /

present year purple or purplish green, those of more than one year old greenish grey or brown. Winter-buds ellipsoid, scales brownish, ciliate on the margin. Leaves evergreen, coriaceous or thick coriaceous, rounded or broadly cuneate at the base, ovate, obovate or nearly rounded in outline, 7 - 11 cm. long, 4 - 6 cm. broad, entire or occasionally 3-lobed; middle lobe acuminate or shortly acuminate; lateral lobes shortly acuminate or acute, usually forwarding and shorter than the middle lobe, the margin of the lobes mostly entire rarely slightly sinuate; upper surface deep green, glabrous, smooth, shining; lower surface pale green, densely white glaucous; primary nerves 3, prominent below; secondary nerves usually conspicuous, petioles usually 3 - 5 cm. long, purplish green, glabrous. Flowers numerous, andro-monoecious, in terminal corymbs about 3 or 4 mm. broad, on peduncles 2 - 3 cm. long, from leafy branchlets; sepals 5, yellowish green, glabrous, lanceolate, about 4 mm. long; petals 5, white, linear lanceolate or linear oblanceolate, about 6 - 8 mm. long, 1 mm. broad, stamens 8, those in staminate flowers usually about 8 mm. long and exerted, those in pistillate flowers are very short, filaments glabrous, anthers yellow and globose; disk glabrous, slightly lobed, extrastaminal; ovary white tomentose, soon glabrescent, rudimentary in staminate flowers and only with tufts of hairs in the middle of disk, style 2 mm. long, glabrous, stigmas widely spreading or recurved; pedicels about 2 cm. long, slender, glabrous. Fruits greenish yellow or greenish brown; nutlets strongly /

strongly convex, globose, 8 mm. long, 6 mm. broad; wings oblong, included nutlets 3 cm. long, 1.2 to 1.4 cm. broad, spreading at right or obtuse angles, rarely horizontally.

SZECHUAN: "in valle prope Takiako", C. Schneider May 29, No. 1432 (in Berol. & Edinb.); "inter Woloho et Hunka", C. Schneider, June 1914, No. 3373 (in Berol. & Kew) & 3517 (in Berol. Edinb. & Kew); Yenyuan-hsien, C. Schneider, Nos. 252 & 783 (in Berol. & Edinb.); Hsi-chang-hsien, on mountain slopes, rocky places, small tree 3 m. high, bark brownish black, fruits green, T.T. Yu, July 8, 1932, No. 1174 (in Fan. & Sci.); "unter Yiwan-schui uber dem Wolo-ho zwischen Yungning und Yenyuen", H. Handel-Mazzetti, June 13, 1914, No. 2933 (in Vind. & Wien); "von Datjiaku bis ober Helugo unter Kwapi n von hier, 28° 2'", H. Handel-Mazzetti, May 21, 1914, No. 2459 (in Bres. Edinb., Firen., Kew, Paris, Mun., Vind. & Wien); Yenpien-hsien, Bichi-lu, W. P. Fang, October 17, 1930, No. 7115 (in Edinb. Kew & Sci.); same locality, alt. 1800 m., at mountain valley, tree 10 metres high, fruits brown, T. T. Yu, October 13, 1932, No. 1682 (in Fan. & Sci.).

YUNNAN: "Hoa-kiao-tsin pres Pin-tchouan", F. Ducloux, April 19, 1909, No. 1609 (in Edinb.); Mountains in the N.E. of the Yangtze bend, Lat. 27° 45' N., in thickets, shrub or small tree 8 - 12 metres high, G. Forrest, July 1913, No. 10560 (in Brit., Edinb. & Kew); "Pe-yen-tsin (Yeng-fong-hsien) silvis Siao-long-tan-tie-so arbor /

arbor 10 m., flor. albis". Pater Simeon Ten, April 1916, Nos. 79 (in Berol & Wien) & 98 (in Berol & Edinb.); Kou-ty, Pater Simeon Ten, in 1917, No. 438 (in Berol. & Edinb.); same locality, Pater Simeon Ten, February 22, 1918, No. 471 (in Edinb.); "brousse de Mahong, alt. 2800 m., E. E. Maire, May 1912 sine no. (type of Acer oblongum var. erythrocarpum in Edinb.) Suen-oui, E.E. Maire, No. 134 (in Kew); "Foret de Takeou, alt. 3000 M.", E.E. Maire, May 1913, No. 179 (in Edinb.); Tochow (Yao-an-hsien), E.E. Maire, Nos. 387 & 3630 (in Berol.); in side valley in the mountains of the Chungtien plateau, lat. $27^{\circ} 55'$ N., in open thickets, shrub of 8 - 12 metres high, G. Forrest, July 1913, No. 10644 (type of var. biaritum in Edinb.; co-type in Brit. & Kew); same locality, G. Forrest, July to August 1913, No. 10669 (in Brit. Edinb. & Kew); on the Long-shan, in the Yangtze bend. lat. $27^{\circ} 20'$ N., in open thickets, shrub of 10 metres, G. Forrest, August 1913, No. 10803 (in Edinb. & Kew); side valleys of the Chungtien plateau, lat. $27^{\circ} 30'$ N., green open situations in thickets, shrub or tree of 7 - 13 metres high, G. Forrest, April 1914, No. 12404 (in Edinb.); Chungtien plateau, lat. $27^{\circ} 30'$ N., in thickets, shrub of 7 - 12 metres high, flowers olive green, G. Forrest, April 1914, No. 12418 (in Edinb.); Mount Shwe-men-kai, southeast of Chung-tien, J.F. Rock, September, 1928, No. 17304 (in Edinb.); mountains west of the Tengkau valley, lat. $27^{\circ} 40'$ N., in open thickets, shrub or tree of 7 - 13 metres high, flowers green, G. Forrest, June 1914, No. 12536 (in Edinb. & Kew); Chienchuan-Mekong /

Mekong divide, lat $27^{\circ} 40'$ N., long. $99^{\circ} 40'$ E., in open thickets in side valley, shrub of 7 - 10 metres high, G. Forrest, August 1922, No. 23218 (in Edinb., Kew & Vind.); Chienchuan-Mekong divide, lat. $26^{\circ} 30'$ N., long. $99^{\circ} 20'$ E., in mixed deciduous forest, shrub or tree of 7 - 16 metres high, G. Forrest, September 1923, No. 23455 (in Edinb. & Kew); Chienchuan-Mekong divide, in thickets or forests, shrub or tree of 7 - 13 metres high, G. Forrest August 1923, No. 23509 (in Edinb. & Kew); without precise locality, G. Forrest, No. 30721 (in Edinb.); Ta-chao, au dessus de Hoang-kia-pin, Delavay, April 3, 1883, No. 1 (in Paris); "Ta-chao pres Ta-pin-tze", Delavay, June 9, 1883, No. 290 (in Paris); Ta-li, Mao-kou-tchang, Delavay, April 14, 1884, No. 894 (in Paris); Hokin, gorges de San-tchang-kiou, Delavay, August 1885, No. 894 (in Paris). "les bois de Che-tong pres Ta-pin-tze", Delavay, March 21, 1888, sine no. (in Paris); Ta-chao pres de Tapin-tze, Delavay, April 2, 1889, sine no. (in Paris); Hokin Long-man-chao, Delavay, July 8, 1889, sine no. (in Paris); "Joschuitang ad Septentr. urbis Yunnanfu", H. Handel-Mazzetti, March 9, 1914, No. 435 (in Bres. Vind. & Wien); "Hsiao-dsang n. von Yunnanfu, unter Beyendjing von Gwanfang bis gegen Hwangtsaoschao", Handel-Mazzetti, May 15, 1915, No. 6312 (in Berol., Vind. & Wien);- Hin-y-lien, J. Cavalerie, in 1916, No. 4232 (in Kew).

This species is closely related to Acer Buergerianum Miquel and Acer oblongum Wallich. From Acer Buergerianum it differs in its shining thick-coriaceous leaves, distinctly reticulate below and with acuminate lobes, in its/

its flowers with exceptional long sepals, petals and stamens, and in its larger and stronger fruits with wings spreading at right angles. From Acer oblongum it differs by its ovate usually 3-lobed leaves shining and very smooth above and also by its long sepals and petals.

SECT. IV. INTEGRIFOLIA PAX.

Key to species.

- A. Leaves with basal and lateral nerves distinctly prominent.
- B. Leaves usually cuneate at base, glaucous below, entire or rarely lobed but not serrate.
- C. Leaves, petioles and inflorescences usually glabrous, (in some species rarely pubescent while young).
- D. Fruits small with nutlets and wings usually 2-3 cm. long; petioles not over 3 cm. long.
- E. Leaves ovate or oblong, broad (usually more than 2 cm. broad); petioles short (usually not over 2 cm. long); fruits larger (over 2 cm. long).
- F. Leaves chartaceous, oblong or oblong-lanceolate, conspicuously veined above41. A. oblongum
- FF. Leaves thick coriaceous, usually ovate, inconspicuously veined above42. A. lucidum
- EE. Leaves lanceolate, narrow (not over 2 cm. broad); Petioles long (2-2.5 cm. long); fruits small (not over 2 cm. long).....43. A. lanceolatum
- DD. Fruits exceptionally large, 6-7 cm. long; petioles 5-8 long.....44. A. decandrum
- CC. Leaves, petioles and inflorescences persistently pubescent.
- D. Leaves lanceolate-oblong, less pubescent below; wings of fruit upright or spreading at an obtuse angle.
- E. Wings of fruit 2.8-3.2 cm. long, uprightly spreading.....45. A. cinnamomifolium
- EE. Wings of fruit spreading at an obtuse angle.
- F. /

- F. Leaves green tomentose below; fruits large with nutlets and wings 2-2.2 cm. long.....
..... 46. A. coriaceifolium
- FF. Leaves white woolly below; fruits small, with nutlets and wings not over 1.7 cm. long.....
.....47. A. hypoleucum
- DD. Leaves ovate, usually with two small lateral lobes densely pubescent below; wings of fruit spreading an acute angle ..48. A. sycopseoides
- BB. Leaves usually rounded to cordate at base, serrate or dentate especially towards the apex.
- C. Leaves coriaceous, deep green above, white glaucous below, round or subcordate at base, remotely dentate and usually 3 - lobed near the apex.....
.....49. A. discolor.
- CC. Leaves chartaceous, both surfaces brownish green, not glaucous below, cordate at base, sparingly serrulate near the apex.....50. A. cordatum
- AA. Leaves with basal and lateral nerves more or less raised but not prominent.
- B. Both surfaces of leaves greenish, not glaucous below.
- C. Leaves smooth, not distinctly reticulate above.
- D. Leaves cuneate at base, entire, shining and deep green above, pale green below..51. A. Fabri
- DD. Leaves cordate at base, usually serrulate near the apex, brownish on both surfaces. A. cordatum
- CC. Leaves distinctly reticulate on both surfaces.
- D. Leaves chartaceous not shiny; sepals glabrous.
.....52. A. laevigatum
- DD. /

- DD. Leaves coriaceous, shiny; sepals ciliate.....
53. A. reticulatum
- BB. Leaves glaucous below.
- C. Leaves elliptical or oblanceolate, with pale green under surface.
- D. Wings of fruit spreading at an acute angle; leaves elliptic or elliptical-oblong.....
54. A. sino-oblongum.
- DD. Wings of fruit spreading at an obtuse angle; leaves oblanceolate..... 55. A. litseaefolium.
- CC. Leaves lanceolate, with whitish purple under surface.....56. A. albo-purpurascens.

41. Acer oblongum Wallich apud De Candolle, Prodr. I. (1824) 593; Wallich, Pl. As. Rar. II (1831) 4. - Spach in Ann. Sci. Nat. 2 ser. II (1834) 165 (Rev. Acer.). Bentham, Fl. Hongkong, (1861) 47, in part.-Brandis, For. Fl. Brit. Ind. (1874) 110.- Hiern. in Hooker f. Fl. Brit. Ind. I. (1875) 693.- Maximowicz in Bull. Acad. Sci. St.-Petersb., XXVI. (1880) 442, in part; in Mel. Biol. X (1880) 599, in part.- Nicholson in Gard. Chron. n. ser. XV. (1881) 532.- Forbes & Hemsley in Journ. Linn. Soc. XXIII. (1886) 141 (Ind. Fl. Sin.), in part.- Pax in Engler, Bot. Jahrb. VII (1886) 208; in Hooker, Icon. Pl. XIX. (1889) under t. 1897; in Engler & Prantl, Pflanzenfamilien, III. pt. 5 (1896) 271; ex Diels in Engler, Bot. Jahrb. XXIX. (1900) 449 (Fl. Central-China) in Engler, Pflanzenreich, Heft 8 (IV.163). (1902) 31.- Wesmael in Bull. Soc. Roy. Bot. Belg. XXIX. (1890) 42.- Dippel, Laubh III (1892) 410, fig. 188.- Graf von Schwerin in Gartenfl. XLII. (1893) 228.- Collett, Fl. Siml. (1902) 98.- Henry in Gard. Chron. XXXIII /

XXXIII (1903) 62 (Chin. Maples).- Veitch in Journ. Roy. Hort. Soc. XXIX. pt. 3, (1904) 353,360, fig. 95.- Rehder in Sargent, Trees and Shrubs, I. (1905) 179; in Sargent, Pl. Wilson. I. (1911) 92; in Journ. Arn. Arb. VII.(1926) 221; XV. (1934) 5, Manuel Cult. Trees & Shrubs, (1927)571. Matsumura & Hayata in Journ. Coll. Sci. Imp. Univ. Tokyo, XXII. (1906) 96 (Enum. Fl. Formos.).- Schneider, Illustr. Handb. Laubh.II (1907) 214, figs. 141c & 142 1-n.- Burhill in Record. Bot. Surv. IV.(1910) 103.- Koidzumi in Journ. Coll. Sci. Imp. Univ. Tokyo. XXXII.art. 1 (1911) 55,t.29-Rev. Acer. Jap.) - L'éveillé, Cat. Pl. Yunnan. (1917) 252; Cat. Illustr. Pl. Seutchouen, (1918) 179,MSS.- Chun, Chin. Econ. Trees, (1921) 230.- Chung in Mem. Sci. Soc. China,I. (1924) 149 (Cat. Trees & Shrubs China).- Hu in Science, Sci. Soc. China, IX. (1924) 840.excl.- Bean, Trees and Shrubs, hardy Brit. Isles I.(1929) 150.- Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 167, in part, excl. specimens cited from chekiang, Fukien, Kwangtung and a part from Hunan. VIII. (1932) 170.- Metcalf in Lingn. Sci. Journ. XI. (1932) 194, in part.- Handel-Mazzetti, Symb. Sin. VII. (1933) 641, in part, excl. specimens cited from Hunan.

Acer laurifolium D. Don, Prodr. Fl. Nepal. (1825) 249.-

Acer oblungum var. 1, glaucum Graf von Schwerin in Gartenfl. XLII. (1893) 228.- Pax in Engler, Pflanzenreich, Heft 8 (IV.163). (1902)31; in Engler, Bot. Jahrb. XXXVI. beibl.82 (1905) 73.- Henry in Gard. Chron. ser, 3, XXXIII. (1903) 62 (Chin.Maples).- Pampanini /

Pampanini in Nuov. Giorn. Bot. Ital. n. ser. XVII. (1910) 421 (Pi. Vas. Hupe).- L'éveillé, Cat. Pl. Yunnan. (1917) 252.- Chung in Mem. Sci. Soc. China. I. (1924) 149 (Cat. Trees & Shrubs China).-

Acer Paxii Franchet var. integrifolia L'éveillé, Fl. Kouy-Tcheou, (1915) 383, name only. -

Tree usually 10 metres high, occasionally up to 20 metres high. Bark grey or blackish grey, rough, scaly, Branchlets slender, those of the present year purple or purplish red, pubescent or glabrescent, those of more than one year old brown or deep brown, glabrous. Winter-buds small, brown, glabrescent. Leaves persistent, coriaceous, smooth, ovate-oblong or ovate, 8-11 cm. long, 3-4 cm. broad, entire, obtuse or nearly round at base, acute or obtuse at apex; upper surface green, glabrous; lower surface whitish glaucous, nerves usually 3 the base, and the basal nerves usually reaching one-third or one-half of the blade, lateral nerves 6-7 pairs; petioles 2-3 cm. long, slender, glabrous. Flowers green or yellowish green, andro-monoecious, in pubescent corymbose inflorescence, terminal on leafy branchlets; sepals 5, oblong, obtuse, 2 mm. long; petals 5, obovate, 3 mm. long; stamens 8, slender, glabrous, rudimentary in pistillate flower, anthers round; disk slightly lobed, extrastaminal; ovary pubescent, rudimentary in staminate flower, style short and glabrous, stigmas recurved; pedicels 1-2 cm. long, slender, pubescent. Fruits purple while young, brownish yellow when matured; nutlets strongly /

strongly convex, 7 mm. long, 5 mm. broad; wings included
nutlets about 2.5 cm. long, 8 mm. broad, spreading at right
angles; pedicels 2-3 cm. long, slender glabrous.

SHENSI: "monte Lean-san," G. Giraldi, September
1898, no. 2140 (in Berol. & Firen.); without precise
locality, G. Giraldi, nos. 67 & 127 (in Firen.); "Mt. Maio-
uan-san," Hugh Scallan, in 1898, sine no. (in Arn., &
Brit.); "Mt. Lean-san," Hugh Scallan, 1898, sine no. (in
Arn. & Brit.); "Mt. Uo-mi-san," Hugh Scallan, in 1898, sine
no. (in Arn. & Brit.). "Tsinling- schan, centr. inter Mei
et Liupa, in silva dumosa, 900 m.," G. Fenzel, May 1934,
no. 555bis (in Vind.); "Montis Tapa- schan, prope Hant-
schung in decliv sicca australi faucium pr. Hsiao-wan-
hai, 900 m.," G. Fenzel, May to June 1934, no. 643
(in Vind.).

HUPEH: "Scian-kin," C. Silvestri, March 1912, no.
6015 (in Firen.); "U-tan-scian," C. Silvestri, March 1912,
no. 6016, 6017 & 6017B (in Firen.); "Nan-tsci-ang-sien,
alt. 600 m.," C. Silvestri, August to September 1906, no.
1373 (in Firen & Kew); Fang-hsien, E.H. Wilson, July 1907,
no. 1929 (in part) (in Firen. & Kew); Hsing-shan-hsien, Y.
Chen, September to October 1926, nos. 510, 515 & 1088
(in N.F.); Ichang, E. Faber, in 1887, no. 452 (in Kew &
Paris); same locality, A. Henry, February 1887, no. 1685
(in Berol. Brit. Kew & Paris); same locality, E.H. Wilson,
August to October 1907, no. 257 (in Berol., Edinb., Firen.
Kew & Vind.); same locality, S.S. Chien & W.Y. Chun, July
July 21, 1922, nos. 516 & 5055 (in Cent. & Sci.); Chang-
yang-hsien, A. Henry, nos. 3199 (in Brit. & Kew), 3795
(in /

(in Kew) & 7677 (in Kew); same locality, E.H. Wilson, no. 1929 (in part) [in Brit. Berol., Edinb., & Vind.]; Nanto, E.H. Wilson, April 1900, nos. 397 & 397A (in Edinb., Kew & Vind.)-

SZECHUAN: Wu-shan-hsien, A. Henry, no. 7226 (in Edinb.); same locality, E.H. Wilson, August 1900, no. 568 (in Edinb., Kew & Vind) same locality, S.F. Chang, August 14 1932, no. 1122 (in Suny.); "District de Tchen-keou-tin," (Chang-kou-hsien), R.P. Farges, April 6, 1894, no. 1333 (in Paris); same locality, W.P. Fang, May 1932, nos. 10278 & 10327 (In Sci.); Wan-yuan-hsien, Chu-shon-pa, W.P. Fang, May 21, 1932, no. 10261 (in Edinb. & Sci.): Kiang-yu-hsien, W.C. Cheng, August 4, 1931, no. 2703 (in Edinb. & Sci.); Mt. Omei, W.P. Fang, July 15, 1930, nos. 7544 & 7545 (in Kew & Sci.); same locality, Y.T. Liu, nos. F185 & H295 (in Sci.); Nan-chuan-hsien, W.P. Fang, May 15, 1928, no. 777 (in Arn. Berol. Kew, Parish & Sci.) same locality, S.F. Chang, May 1930, nos. 384 & 395 (in Sci.); Ki-kiang-hsien, S.F. Chang June to August 1930, nos. 551 & 1054 (in Sci.).

KWEICHOW: Tehkiang-hsien, Tsao-ti, alt. 500 m., A.N. Steward, C.Y. Chiao, & H.C. Cheo, November 14, 1931, no. 891 (in Brit. Kew, Paris & Vind.): Lau-chan, Tung-tse-hsien, Y. Tsiang, May 27, 1930, no. 5179 (doubtfully referred here) (in Sci.); Sze-nan-hsien, Tan-chai-pa, Y. Tsiang, January 26, 1931, no. 8007, (in Sci. & Sin.); Siu-wen-hsien, Luh-kwang-ho, Y. Tsiang, August 22, 1930, no. 8749 (in Sci. & Sin.);

"Route /

"Route de Pin-yui, a Kouy-yang," L. Martin & E. Bodinier, May 18, 1899, no. 2618 (type of Acer Paxii var. intergrifolia in Edinb.).

YUNNAN Descent to the Yangtze from the eastern boundary of the Lichiang valley, lat. 27° 15' N., shrub of 10-14 metres high, fruits rose-red, G. Forrest, June 1913, no. 10110 (in Brit., Edinb. & Kew); mountains of the Chung-tien plateau, shrub of 10-12 metres high, G. Forrest, August 1913 no. 10769 (in Brit. Edinb. & Kew).

This is quite a variable species. The typical specimens have ovate or oblong-ovate leaves glabrous and slightly reticulate above, glaucous or glabrescent below, corymbose inflorescences pubescent while young, and fruits with wings spreading at acute angles.

Key to varieties.

- A. Leaves 3-lobed, remotely and sharply serrate on the margin.....var. trilobum
- AA. Leaves entire.
- B. Leaves green, not glaucous, beneath..var. concolor
- BB. Leaves more or less glaucous beneath.
- C. Wings of fruits horizontally spreading
 var horizontale
- CC. Wings of fruit spreading at obtuse angles or acute angles.
- D. Wings with nutlets about 3 cm. long, 1.2 cm. broad.
 var latialatum
- DD. Wings with nutlets only or less than 25 cm. long.
- E. Wings with nutlets 1.5-2.5 cm. long, 1 cm. broad..... var. itoanum...
- EE. /

EE. Wings with nutlets 1 cm. long, 4 mm. broad.

.....var. microcarpum

Acer oblongum Wallich var. trilobum Henry in Gard. Chron. ser, 3. XXXIII (1903) 62.- Rehder in Sargent, Trees & Shrubs, I. (1905) 180.-

HUPEH: Near Ichang, A. Henry, no. 3199A (in Kew).

This variety differs from the type by its 3-lobed leaves the margin of which are remotely and sharply serrate.

Acer oblongum Wallich var. concolor Pax in Hooker Icon. Pl. XIX. (1889) under t. 1897, excl.; ex Diels in Engler, Bot. Jahrb. XXIX. (1900) 449 (Fl. Central China); in part, excl. specimen cited Henry's 7677; in Engler, Pflanzenreich, Heft 8 (IV. 163). (1902) 32, in part, excl. specimen cited Henry's 7677.- Graf von Schwerin in Gartenfl. XLII. (1893) 229 excl.-Henry in Gard. Chron. ser. 3, XXXIII. (1903) 62, excl. - Rehder in Sargent, Trees & Shrubs I. (1905) 180 in part, II (1907) 26; Manual Cult, Trees & Shrubs, (1927) 572.- Léveillé, Cat. Illustr. Pl. Seutchouen (1918) 179, MSS.- Chung in Mem. Sci. Soc. China, I. (1924) 149 (Cat. Trees & Shrubs China).- Metcalf in Lingn. Sci. XI, (1932) 196, in part.-

HUPEH: Patung-hsien, H.C. Chow, May 5, 1934, no. 59 (in Edinb. & Wuhan); Chien-shih-hsien, shrub 7 metres high, H.C. Chow, September 23, 1934, no. 1651 (in Edinb. & Wuhan).

SCECHUAN: Nanchuan-hsien, Tan-chia-wan, C. Bock & A. V. Rosthorn, in 1891 no. 383 (in Arn. & Berol.); Mount Omei /

Omei, W.P. Fang, July 23, 1930, no. 7889 (in Edinb. Kew & Sci.); without precise locality, S.F. Chang, September 23, 1930, no. 757 (in Suny.).

YUNNAN: Mengtze-hsien, S.E. Mountain forests, Alt. 2000 m., tree 5 metres high, A. Henry, no. 10957 (in Berol. Edinb. & Kew).

This variety differs from the type by its leaves green, not glaucous or slightly glaucous beneath.

Professor Pax published his variety concolor in 1889 and the only specimen cited Henry 7677 is identical with Acer Fabri Hance. Then in 1900 and 1902 he cited also Rosthorn 383 as this variety which looks like Acer oblongum but the lower surface of the leaves is either not glaucous or only slightly so. Now I consider Rosthorn's 383 as the type of this variety.

Acer oblongum Wallich var. Horizontale Pax in Engler, Pflanzenreich, Heft 8 (IV.163). (102) 31.-

This variety was described from cultivated plants in Florence. It differs from the type in the wings of the fruits being horizontally spreading.

Acer oblongum Wallich var. latialatum Pax in Engler, Pflanzenreich, Heft 8 (IV.163). (1902) 31.- Henry in Gard. Chron. ser. 3, XXXIII. (1903) 62.- Rehder in Sargent, Trees & Shrubs, I. (1905) 179; in Sargent, Pl. Wilson I. (1911) 92.- Pampanini in Nuov. Giorn. Bot. Ital. n. ser. XVII (1910) 421 (Pi. Vas. Hupe).- Chung in Mem. Sci. Soc. China I. (1924) 149 (Cat. Trees & Shrubs China).- Metcalf in Lingn Sci. Journ. XI. (1932) 196.-

Acer oblongum Wallich var. glaucum

Pavolini in Nuov. Giorn. Bot. Ital.
n. ser. XV. (1908) 409 (Contr. Fl.
Hupe), not Graf von Schwerin.-

HUPEH: "Zan-lan-scian, "C. Silvestri, May to June, 1913, nos. 6011 & 6012 (in Firen.); "Heang-lang-san," C. Silvestri, March 1912, no. 6013 (in Firen.); "Sce-men, alt. circa 700 m.," C. Silvestri, May 10-30, 1906, no. 1374 (in Firen.); "In-fon-ho, alt. circa 700 m.," C. Silvestri, June to July 1906, nos. 1375 (in Firen.); Patung-hsien, Tung-hu, tree 7 metres high, A. Henry, no. 6392 (type of the variety in Berol.; cotype in Arn., Bres., Edinb., Kew & Paris); Hsing-shan-hsien, E.H. Wilson, April to September 1907, no. 376 (in part) (in Arn., Berol., Edinb., Firen., & Vind.); Ichang, E.H. Wilson, April to September 1907, no. 376 (in Brit. Edinb., Kew & Vind.);.-

This variety differs from the type in the wings of the fruit being extremely falcate and widest in the middle.

Acer oblongum Wallich var. Itoanum Hayata in Journ. Coll. Sci. Imp. Univ. Tokyo, XXX art. I, (1911) 67 (Mat. Fl. Formos.).- Metcalf in Lingn. Sci. Journ. XI. (1932) 196.-

Acer oblongum var. Microcarpum Ito
(non Hieronymus) in Ito & Matsuma,
Tent. Fl. Lutch. (1899) 387.

LIUKIU ISLANDS : Kushimajiri, S. Tanak, May 1891 sine no. (type of the variety in Tokyo); without precise locality, Wright, about 1853 to 1856, no. 40 (in Gray & N.Y. without /

without precise locality, G. Masamune, March 22, 1924, sine no. (in N.Y.); Okinana Islands, tree 7-13 metres high, common at Shuri and elsewhere, E.H. Wilson, March 4, 1917, no. 8172 (in Arn. & Berol.).

This variety differs from the type by its small ovate leaves distinctly rounded at the base and abruptly acuminate at the apex as well as by the small fruits with wings 1.5 to 2.5 cm. long (by description 2 cm. long.).

Acer oblongum Wallich var. microcarpum Hiern-Ymus in Hooker f. Brit. Ind. I. (1875) 693.- Pax in Engler, Bot. Jahrb. VII. (1886) 208, in part; in Engler, Pflanzenreich, Heft 8 (IV.163). (1902) 32.- Graf von Schwerin in Gartenfl., XLII. (1893) 228.- Nicholson in Gard. Chron. n. ser. XV. (1881) 532.- Metcalf in Lingn. Sci. Journ. XI. (1932) 196.-

EASTERN BENGAL: without precise locality, Griffith Herb. East India Co., no. 935 (in Berol., Bres., Brit., Gray & Kew).

This variety differs from the type in its narrow lanceolate leaves and very small fruits with wings only about 1 cm. long. It is quite a distinct variety.

42. Acer lucidum Metcalf in Lingn. Sci. Journ. XI. (1936) 197

Tree about 7 metres high. Branchlets slender, those of the present year reddish brown, those of more than one year old greyish or blackish grey. Leaves persistent thick- coriaceous, entire, ovate rarely ovate- lanceolate, 6.5- 8.5 cm. long, 2-3 cm. broad; apex acuminate or long acuminate; base obtuse or roundish; upper surface glabrous; nerves inconspicuous above, prominent below, 3-nerved at base lateral /

lateral nerves 4-7 parts divergent at acute angles but not reaching the margin; petioles slender, glabrous, 1-1.5 cm. long. Flowers unknown. Fruits brownish yellow in slightly pubescent terminal or axillary corymbs; nutlets convexed, 7 mm. long, 5 mm. broad, wings included nutlets 2-2.5 cm. long spreading at acute angles; pedicels about 1 cm. long, slender, slightly pubescent,

KWANGTUNG: Tan-hu-shan, Shui-show region, K.P. To & E.H. Groff, April 25, 1919, no. 104 (Herb. Lingn. Univ. no. 2864, type in Phil. ; photo. in Arn. & Sci.).

This species is near Acer oblongum, from which it differs in its thick, coriaceous, ovate leaves with smooth and inconspicuous nerves on the upper surface.

43. Acer lanceolatum Molliard in Bull. Soc. Bot. France, L. (ser. 4, III.). (1903) 134, t.5. - Rehder in Sargent, Trees and Shrubs, I. (1905) 180, in part, excl. specimens cited from Hongkong & Formosa.- Hemsley in Journ. Linn. Soc. XXXVI. (1905) 452.- Dunn in Kew Bull. ad. ser. X. (1912) 67 (Fl. Kwangtung & Hongkong), excl.- Schneider, Illustr. Handb. Laubh. II (1907) 213.- Chung in Mem. Sci. Soc. China, I. (1924) 149 (Cat. Trees & Shrubs China), in part.- Metcalf in Lingn. Sci. Journ. XI. (1932) 197.

Small tree with slender stem. Bark darkish. Leaves opposite, simple, coriaceous, entire, slightly undulate, resembling the leaves of Lauraus, oblong, 8-10 cm. broad, apex attenuate acuminate and with incurved tip, base cuneate, lower surface glaucescent, nerves fine, distinctly 3-nerved at base, lateral nerves divergent at more than acute angles; petioles 2-2.5 cm. long, slender.

Flowers /

Flowers 10 in glabrous terminal corymbs; disk extraminal; stamens 8, fairly developed. Fruits with small nutlets 6-7 mm. long, 3.5 -4 mm. broad; wings 2 cm. long, 7 mm. broad, spreading at angles of 80 degrees; pedicels long slender, glabrous.

KWANGSI : Sikiang, between Taipingfu and Longchow, Beauvois, (ex Molliard).

This is quite a distinct species but the type has been destroyed. The above brief description was taken by the writer from the original plate and description. It is characterized by its narrow, lanceolate, glaucous, long-petiolled leaves with long attenuate-acuminate apex and curved tip as well as the shorter wings of the fruit (less than 2 cm. long) spreading at obtuse angles.

44. Acer decandrum Merrill in Lingn. Sci. Journ. XI. (1932) 47.- Chun in Sunyatsenia, II. (1935) 269, t. 56.-

Tree usually about 8 metres high, rarely up to 12 metres high. Bark brownish grey or blackish grey. Branchlets stout, glabrous, those of the present year purple or purplish green, those of more than one year old brownish purple. Winter-buds brownish, globose; scales pubescent on the margin. Leaves persistent, coriaceous or sub-coriaceous, entire, elliptical-ovate or oblong-ovate, 8-15 cm. long, 4-7 cm. broad; apex acuminate or shortly acuminate; base cuneate or broadly cuneate; upper surface pale green or brownish green, slightly reticulate; lower surface whitish or yellowish green; nerves slightly impressed above, prominent below /

below, basal nerves usually from one third to one half as long as the blade; petioles 5-7 cm. long, glabrous. Flowers purplish yellowish, dioerious, in glabrous racemes 2 cm. long in length, on glabrous peduncles about 1 cm. long, from axillary buds, appearing after developing of leaves; sepals 5, ovate, glabrous, 2 mm. long; petals 5, shorter than sepals; stamens 8-12, glabrous, about 4 mm. long; disk slightly pubescent, intrastaminal; ovary glabrous, with short style, rudimentary in staminate flower; pedicels 5-8 cm. long, slender, glabrous. Fruits green or purplish green while young, brown or brownish yellow when matured; strongly veined; nutlets convex 1.5 cm. long, 7 mm. broad; wings flaccate, widest near the apex, with nutlets 6-7 cm long, 2 cm. broad, occasionally only one of each pair developing, spreading at acute angles; pedicels 2-3 cm. long, slender, glabrous.

KWANGTUNG: Hainan, Hung-mo-shan, south of Fan-ta, along small streams, flowers yellowish white, Tsang & Fung June 6, 1929, no. 17787 (type in Lingn.); Lam-ko-hsien and Chung-mai-hsien; Paak-shek-shan, growing on dry ground in forests, tree 5 metres high, flowers yellow, Wai-tak-Tsang, June 10, 1928, no. 633 (Lingn. no. 17382 in Arn. Brit. Lingn. & Vind.); Tung-gap, tree 8 metres high, C.L.Tso & N.K. Chun, August 14, 1932, no. 43433 (in Suny.); Yen-chow, in forests, tree 12 metres high, H.Y. Liang, July 8, 1933, no. 61981 (in Suny.).

This species is easily distinguished from other species by its long petals, its large fruits and its intrastaminal disk. The last mentioned character has been found only in this species in the section *Integrifolia*.

All /

All other species of this section have extrastaminal disk flowers.

45. Acer cinnamomifolium Hayata in Icon. Pl. Formos. III (1913) 65, t. 14A. 1,2.- Metcalf in Lingn. Sci. Journ. XI. (1932) 197.- Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VIII. (1932) 171.-

Acer oblongum Hu (non Wallich) Science Sci. Soc. China IX (1924) 840.- Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot Ser. VII. (1932) 167 (in part, incl. specimens cited Shih Tse's 69; Ching's 1893; Ling's 6, 1057, & 3099; Chen's 1123, Kon's 19; Chung's 2200 & 2756; Cheng's 1721; Shac's II; Tso's 20791 & 20814.- Handel-mazzetti Symle Sin VII (1933) 641.

Acer oblongum Wallich var. macrocarpum Hu. in Journ. Arn. Arb. XII (1931) 154 Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII.(1932) 168.-

Tree usually 10 metres high, rarely up to 20 metres high. Bark blackish brown or blackish grey. Branchlets slender, those of the present year brownish yellow or brownish purple, densely tomentose, those of more than one year old brownish red or brownish black, glabrescent, lenticels small, ovate or round. Leaves persistent, coriaceous, elliptical-oblong or oblong-lanceolate, 8-12 cm. long, 4-5 cm. broad, rounded, obtuse or broadly cuneate at base, obtuse shortly cuspidate at apex, entire or nearly so on the margin; upper surface green and glabrous; lower surface pale green/

green or yellowish green, white glaucous and yellowish tomentose, less so when matured, nerves distinctly 3 at the base, lateral nerves 3-4 pairs, prominent below; petioles 1.5-3.5 cm. long, purplish tomentose. Flowers the writer never saw. Fruits brownish yellow, in tomentose corymbose fruiting inflorescence; nutlets convex, 7 mm. long, 4 mm. broad; wings with nutlets 2.8-3.2 cm. broad, spreading at acute angles or nearly erect; pedicels 2-2.5 cm. long, slender, tomentose.

CHEKIANG: South Yentang, Nan-hoo, shady woods, tree 20 metres high, H.H.Hu. August 30, 1920, no. 212 (in Berol. & Kew); Ping-yang-hsien, Shih Tse, July to August 1922, no. 69 (in N.F.); same locality, R.C. Ching, July 4, 1924, no. 1893 (in Arn., Berol. Brit. Edinb., Paris & Vind.); same locality, K. Ling, June to August 1924, nos. 6, 1057 & 3099 (in N.F.).

HUNAN: Yu-lu-shan, C.C. Chen, August 1929. no. 1123 (in N.B.); Chang-sha, C.T. Kon, May 18, 1930, no. 19 (in N.F.); "Walder der str. auf Schiefer Sandstein, 150-400 m., Yolu-schan bei Tschangscha. im SW bei Dsingdchou gegen Pukou," Handel-Mazzetti, July 30, 1917, no. 11013 (in Berol., Vind. & Wien); "und Haufig langs des Flusses zwischen Ngaidso und Meikou am wege von dort nach Wukang," Handel-Mazzetti, August 4, 1917, no. 11083 (in Berol., Bres., Vind. & Wien); Changsha Yo-lu-shan, tree 6 metres high, S. Sin, October 1928, no. HMB06 (in Berol); same locality, S.S. Sin, July 6, 1929, no. SH96 (in Berol.); southern Hunan, S.S. Sin, May to August 1926, no. 368 (in Berol.).

FUKIEN /

FUKIEN: Yuen-fu, Warburg, December 1889, no. 5980 (in Berol.); Kushan, near Min-how-hsien, Nagasawa (type in Tokyo); same locality, H.H. Chung, July 15, 1924, nos. 2756 & 2812 (in Edinb., Kew, Sci., & Vind.); same locality, Dunn, 2544 (in Arn.); same locality, Ulong & Fon no. 12168 (in Arn., ex Metcalf); same locality, Chen-hsi Cheng, August 6, 1925, no. 1721 (in N.F.); near Foochow, Peh-ling, H.H. Chung, August 8, 1923, no. 2200 (in Berol.) Kew & Sci.); Yung-chun, W.W. Shao, July 14, 1926, no. 11 (in N.F.); same locality, Lingchuan, September 1930, nos. 232 & 236 (in N.B.).-

KWANGTUNG : Loh-chong-hsien, C.L. Tso, May 1929, nos. 20791 & 20814 (in Berol., Edinb., Kew, Paris, Sci. & Vind.); Yu-yuang-hsien, by streams, tree 7 metres high, S.P. Ko, May 11, 1933, no. 52524 (in Sun.).

KWANGSI: east of Luchen-hsien, Tang-giar-poo, R.C. Ching, May 23, 1928, no. 5220 (type of Acer oblongum var. Macrocarpum in Fan, Sci. Sin. & Suny.).

This species is characterized by its tomentose corymbose inflorescence, peduncles, and lower surface of leaves, as well as by its reddish branchlets.

46. Acer coriaceifolium Léveillé in Fedde Repert. Nov. Spec. Reg. Veg. X. (1912) 433; Fl. Kouy-Tcheou (1915) 383, - Metcalf in Linfn. Sci. Journ. XI. (1932) 198.- Rehder in Journ. Arn. Arb. XV. (1934) 6.-

Acer oblongum Fang (non Wallich) in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 167, in part. incl. synonym. cited Acer coriaceifolium only.

Tree usually about 10 metres high, rarely up to 15 metres high. Bark blackish grey or blackish brown. Branchlets slender, those of present year brownish purple or brownish yellow, tomentose. Lenticels ovate or oblong-ovate. Winter-buds brown, shortly conical; scales ovate, tomentose on the margin. Leaves leathery, persistent, ovate-oblong, oblong-lanceolate or rarely lanceolate, 8-11 cm. long, 2.5-4.5 cm. broad, broadly cuneate or cuneate or rarely obtuse at base, apiculate on the apex, the margin entire; upper surface deep green, glabrous; lower surface pale green or yellowish green, greyish green tomentose, less so when matured, lateral nerves 5-6 pairs, slightly impressed above, prominent below; petioles 1.5-3 cm. long, slender, purple, tomentose. Flowers unknown. Fruits brownish yellow, tomentose while young, slightly so when matured, on tomentose corymbose fruiting inflorescence; nutlets strongly convex, 7 mm. long, 6 mm. broad; wings with nutlets 3-3.5 cm. long, 7 mm. broad, spreading at obtuse angles; pedicels 1 cm. long, slender, tomentose.

HUPEH: En-shih-hsien, tree 14 metres high, H.C. Chow, October 27, 1934, no. 1811 (in Edinb. & Wuhan).

KWEICHOW: Kwei-ting-hsien, Pin-fa, in forests, J. Cavalerie, July 1907, no. 3100 (type in Edinb.; cotype in Kew); Kiang-kou-hsien, Papan, alt. 400m., at forested hillside, tree 10 m. high, A.N. Steward, C.Y. Chiao & H.C. Chow, December 6, 1931, no. 953 (in Brit., Paris & Vind.).

This species is easily distinguished from its near species/^{by} the greyish green tomentose lower surface of its leaves. The identification of this species with

Acer /

Acer oblongum by the writer formerly was based on a photograph of Lévillé's specimen and on the original description of the leaves. The indumentum on the lower surface of the leaves which is green tomentose can hardly be seen on the photograph.

47. Acer hypoleucum Hayata in Icon. Pl. Formos. III (1913) 66, t. 14 C. - Metcalf in Lingn. Sci. Journ. XI. (1932) 198. -

Small tree. Bark dark. Branchlets slender, those of the present year tomentose, those of more than one year old dark brown, glabrous. Leaves persistent, chartaceous-coriaceous, entire or slightly undulate, oblong or elliptic-oblong, 8 cm. long, 3.5-4 cm. broad; apex obtuse or acutish; base rounded or obtuse, upper surface glabrous, green or reddish green; lower surface whitish glaucous, densely tomentose, nerves more or less raised above, distinctly prominent below, 3-nerved at base, lateral nerves 5-6 pairs, divergent at angles of 50-60 degrees; petioles 2-3 cm. long, slender, tomentose. Flowers unknown. Fruits in pubescent cymose fruiting inflorescence terminal on leafy branchlets; nutlets convex 5 mm. in diameter; wings with nutlets 17 mm. long, 6 mm. broad, spreading at an angle about 80 degrees; pedicels 1.5 cm. long, slender, pubescent.

FORMOSA: Baatankei, U. Mori July 1912, sine no. (type in Tokyo,); Karenko, Taroko, Kanehira & Sasaki, May 30, 1919, sine no. (in N.Y.); Kananan-sya, T. Kawakami, March 23, 1910, no. 1 (in Paris).

This species is near Acer coriaceafolium, from which it differs by its soft whitish woolly pubescence on the lower surface of leaves and by the small fruits only 17 mm. long and

6 mm. broad.

48. Acer sycopseopides Chun in Hooker Icon. Pl.

XXXII. (1932) t. 3160.- Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VIII. (1932) 172.-

Small tree about 6 metres high. Bark greyish white. Branchlets slender, those of present year brownish yellow, densely pilose with yellow hairs, those of more than one year old black. Leaves persistent, coriaceous, ovate or triangular-ovate, 5-7 cm. long, 2-3.3 cm. broad, 3-nerved, depressed above, margin revolute, apex usually acuminate, base rounded or obtuse, usually with 2 obsolete lateral lobes, upper surface yellowish green, glabrous; lower surface pubescent and glaucous; petioles 1.2-5 cm. long, stout, densely yellow pubescent. Flower unknown. Fruits purple; nutlets 5 mm. long, 4 mm. broad; wings with nutlets 1.8-2.2 cm. long, 4 mm. broad, spreading at obtuse angles; pedicels 5-10 mm. long, yellow pubescent, in corymbose fruiting inflorescence.

KWANGSI: Lu-chen-hsien, Tia-lian-shan, R.C. Ching, May 25, 1928, no. 5336 (type in Suny.; cotype in Kew & Sin.).

This species resembles Acer cinnamoniifolium in its pubescent leaves, petioles and inflorescence, but can be easily distinguished by its ovate leaves with two obsolete lateral lobes and by its small samara with wings spreading at an acute angle. While the latter species has lanceolate-oblong leaves and upright and usually parallel wings to the fruit.

49. Acer discolor Maximowicz in Bull. Acad. Sci. St.-Petersb, XXVI. (1880) 436; XXVII. (1881) under p. 560, t. 27 fig.6; in Mel. Biol.X. (1880) 589, 611; XI. (1881) 350, t. 27 fig.6.; in Act. Hort. Petrop. XI. (1839) 109 (Pl. Chin.).-Forbes & Hemsley in Journ. Linn.Soc. XXIII. (1886) 140 (Ind. Fl. Sin.)-Pax in Engler, Bot. Jahrb.VII. (1886) 253; in Engler, Pflanzereich, Heft 8 (IV.163).(1902) 33.-Graf von Schwerin in Gartenfl. XLII.(1893) 324.- Bretchn-eider, Hist. Europ. Bot. Discov. China(1898) 996.- Rehder in Sargent, Trees & Shrubs, I (1905) 180; in Journ. Arn. Arb. VII. (1926) 221.- Schneider, Illustr. Handb. Laubh. II. (1907) 214, fig. 141 f.- Chung in Mem. Sci. Soc. China, I. (1924) 148 (Cat. Trees & Shrubs China).-

Small tree or shrub. Branchlets slender, glabrous; those of the present year purple, those of more than one year old yellowish purple or dark purple. Winter-buds small; scales 4 pairs, slightly ciliate, accrescent scales lanceolate-oblong, persistent, ciliate on the margin. Leaves coriaceous, persistent, ovate or ovate-oblong, 7-17 cm. long, 5-9 cm. broad, remotely dentate with appressed obtuse teeth, usually 3-lobed rarely undivided, subcordate or nearly rounded at base; upper surface deep green, glabrous; lower surface usually glaucous with prominent nerves; petioles 2-3 cm. long, glabrous. Flowers and fr. monoecious, in corymbs; sepals 5, greenish yellow, triangular lanceolate, 2 mm. long, .5 mm. broad; petals 5, white, oblong-obovate, 2 mm. long, 1 mm. broad; stamens 8, exserted, 4-5 mm. long, rudimentary in pistillate flower; disk glabrous, lobed, extrastaminal; ovary pubescent, rudimentary in staminate flower, left a tuft of hairs in the middle of disk, style glabrous /

glabrous. Fruits yellowish brown; nutlets strongly convex, 5 mm. in diameter; wings including nutlets 2.5 cm. long, 8 mm. broad, spreading at obtuse angles.

SHENSI: along the Han River, P.J. Piasezki (ex Maximowicz).

KANSU: Plain in South Eastern Kansu, P.J. Piasezki (ex Maximowicz).

SZECHUAN: Cheng-kou-hsien, R.P. Farges, flowering and fruiting specimens, sine no. (in Paris); Nanchuan-hsien, C. Bock, & A. v. Rosthorn, in 1891, no. 601 (in Berol. & Vind.).-

This species is easily distinguished from other species by its remotely dentate and usually 3-lobed leaves and the ~~exserted~~ stamens.

50. Acer cordatum Pax in Hooker Icon. Pl. XIX. (1889) under t. 1897; in Engler & Prantl, Pflanzenfamilien, III. pt. 5 (1896) 271; ex Diels in Engler, Bot. Jahrb. XXIX. (1900) 449 (FL. Central China); in Engler, Pflanzenreich, Heft 8 (IV.163). (1902) 33 fig. 6.- Graf von Schwerin in Gartenfl., XLII. (1893) 229.- Bretschneider, Hist. Europ. Bot. Discov. China, (1898) 781.- Henry in Gard. Chron. ser. 3. XXXIII. (1903) 62 (Chin. Maples).- Veitch in Journ. Roy. Hort. Soc. XXIX. pt. 3 (1904) 354.- Rehder in Sargent, Trees & Shrubs, I. (1905) 180; in Journ. Arnold Arb. VIII. (1927) 163.- Hemsley in Journ. Linn. Soc. XXXVI. (1905) 452.- Schneider, Illustr. Handb. Laubh. III (1907) 214, figs. 142 g-k.- Chung in Mem. Sci. Soc. China, I (1924) 148 (Cat. Trees & Shrubs China).- Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 173, in part, excl. specimen cited Ching's 2268 from Fukien.- Metcalf in Lingn. Sci. Journ. XI (1932) 199, t. 3 fig. 1. -

Acer dimorphifolium Metcalf in Lingn. Sci. Journ. XI. (1932) 201, in part, incl. specimen cited Chung's 3638 from Fukien.-

Acer cordatum Pax var. microcarpum Metcalf in Lingn. Sci. Journ. XI. (1932) 199, in part, incl. specimens cited Ching's 2093 & Keng's 308 from Chekiang, & Chung's 2894 & 3263 from Fukien.

Tree usually 5 metres high, rarely up to 10 metres high. Bark grey or blackish grey, smooth. Branchlets slender, glabrous, those of the present year purple or greenish purple, those of more than one year old green or greenish grey. Leaves persistent, chartaceous or chartaceous-coriaceous, ovate or ovate-oblong, 6-9 cm. long, 3-4.5 cm. broad, subcordate or cordate at base, shortly acuminate on the apex, entire except remotely serrate near and below the apex; upper surface brownish green, glabrous; lower surface brownish green, glabrous, slightly reticulate; nerves slightly prominent, lateral nerves 4-5 pairs, basal nerves reaching one-fourth of the blade; petioles purple or purplish green, about 1 cm. long, slender, glabrous. Flowers unknown. Fruits purple while young, brownish yellow when matured, in glabrous corymbose fruiting inflorescence; nutlets convex, glabrous, 4 mm. long, 3 mm. broad; wings including nutlets 2 cm. long, 1 cm. broad, spreading at obtuse angles or nearly horizontally; pedicels 1-2 cm. long, slender, glabrous.

CHEKIANG; Sui-an-hsien, on slopes in forests, tree 6 metres high, S. Chen, October 9, 1933, no. 2332 (in Sci.); Sui- /

Sui-chang-hsien, Pei-chan, on slopes, in forests, S. Chen, April 28, 1933, nos. 1152 & 1168 (in Sci.); Lung-chuan-hsien, K. Ling, August 21, 1929 no. 2991 (in Sci.); Yun-ho-hsien, K.K. Tsoong, May 19, 1928, no. 374 (in Sci.); same locality, S. Chen, September 19, 1932, no. 375 (in Sci.); Ching-ning-hsien, near Tong-tai, on slopes, in thickets, S. Chen, June 19, 1933, no. 1609 (in Sci.); Sui-an-hsien, Y.L. Keng, July 15, 1927, nos. 801 & 804 (in Arn. Berol., Fan. & Sci.); I-kon, south of Ping-yang-hsien, R.C. Ching, July 6, 1924, no 2093 (in Arn. Berol. Edinb. Paris, Sci. & Vind.); Tai-shun-hsien, Y.L. Keng, August 5, 1927, no. 308 (in Arn., Berol., Fan & Sci.).

FUKIEN: Yen-ping-hsien, H.H. Chung, May to August 1925, nos. 2894, 3263 & 3638 (in Arn. Edinb., Kew, Sci. & K. Vind.); without precise locality, Dunn, no. 2541 (in part), (in Arn.).

ANHWEI: Chi-men-hsien, R.C. Ching, August 18, 1925, no. 3260 (in Arn., Berol., Edinb., Kew & Sci.).

HUPEH: Chien-shih-hsien, tree 5 metres high, A. Henry, no. 7721 (type in Berol. ; cotype in Bres., Brit., Arn Edinb., Kew & Paris); Tse-kwei-hsien, E.H. Wilson, April 1901, Veitch Exped. no. 1819 (in Arn. & Vind.).

KWANGTUNG: Loh-ching-hsien, C.L. Tso, May 5, 1929, no. 20662, (in Arn. Sci. & Suny.); Sou-ping-hsien, in forests, shrub 3-5 metres high, N.K. Chun, April 18-29, 1931, nos. 42182 & 42721 (all in Suny.); Hainan Islands, Five-finger mountain, tree 10 metres high, C.L. Tso & N.K. Chun, October 4, 1933, no. 43993 (in Suny.) (doubtfully referred here.)

This /

This species is characterized by its cordate, less reticulate leaves and small fruits with purple wings spreading at obtuse angles or nearly horizontally.

Acer cordatum Pax, var. subtrinervium (Metcalf) Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VIII. (1932) 175.-

Acer subtrinervium Metcalf in Lingn. Sci. Journ. XI. (1932) 200.-

Acer cordatum Fang (non Pax) in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932), in part, incl. specimen cited Ching's 2268 from Fukien.

CHEKIANG: Lung-chuan-hsien, Mou-chan, Y.Y. Ho, October 4, 1932, no. 1599 (in Sci.); same locality, S.Chen, May 14, 1933, no. 1381 (in Sci.).

FUKIEN: Jen-tou, Shaw-nin, near the border of Chekiang. R.C. Ching, August 5, 1924, no. 2268 (in Berol., Edinb., Kew, Paris, Sci. Suny. & Vind.); Chung-hu-hsien, open valley, alt. 1400 m., tree 10 metres high, H.H. Hu, July 27, 1921, no. 1341 (in Berol. & Kew).

This variety differs from the type chiefly by its long petioles and its long fruits.

51. Acer Fabri Hance in Journ. Bot. XXII. (1884) 76.- Pax in Engler, Bot. Jahrb. VII. (1886) 210; in Engler & Prantl, Pflanzenfamilien, III. pt. 5 (1896) 271; , - Forbes & Hemsley in Journ. Linn. Soc. XXIII. (1886) 140.- Wesmael in /

in Bull. Soc. Roy. Bot. Belg. XXIX. (1890) 42.- Graf von Schwerin in Gartenfl., XLII.(1893) 229.- Bretschneider, Hist. Europ. Bot. Discov. China, (1898) 955.- Dunn in Kew Bull. Ad. Ser. X. (1912) 67 (Fl. Hongkong & Kwangtung).- Chung in Mem. Sci. Soc. China, I. (1924) 149 (Cat. Trees & Shrubs China).- Merrill in Lingn. Sci. Journ. V. (1927) 117.- Metcalf in Lingn. Sci. Journ. XI. (1932) 204, in part, excl. specimen cited Chung's 7389 from Kwangsi.- Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VIII. (1932) 172.-

Acer oblongum Wallich var. concolor Pax
in Hooker Icon. Pl. XIX.(1889) under
t. 1897; ex Diels in Engler, Bot.
Jahrb. XXIX. (1900) 449 (Fl. Central
China), in part, incl. specimen
cited Henry's 7677; in Engler,
Pflanzenreich, Heft 8 (IV.163).(1902)
32, in part, incl. specimen cited
Henry's 7677.- Graf von Schwerin in
Gartenfl., XLII.(1893) 229.- Henry
in Gard. Chron. ser. 3, XXXIII.
(1903) 62.-Rehder in Sargent, Trees
& Shrubs, I. (1905) 180, in part.-
Metcalf in Lingn. Sci. Journ. XI.
(1932) 196, in part, incl. specimen
cited Henry's 7677 from Hupeh.-

Acer laevigatum Wallich var. Fargesii
(Rehder) Sargent apud Veitch in Journ
Roy. /

Roy. Hort. Soc. XXIX. (1904) 353,
360, fig. 91.-

Acer laevigatum Pax (non Wallich) in
Engler, Pflanzenreich, Heft 8
(1V.163). (1902) 32, in part,
incl. specimen cited from Canton
& syn. Acer Fabri.- Rehder in
Sargent, Trees & Shrubs, I. (1905)
180, in part, incl. syn. Acer Fabri.-
Fang in Contrib. Biol. Lab. Sci.
Soc. China, Bot. Ser. VII. (1932)
170, in part, incl. specimens cited
Tso's 20299, 25750, Chun's 5905,
6700, 6926, Kao's 50171 from Kwang-
tung, Ching's 5998, 7891, 8458 from
Kwangsi.

Acer Fargesii Franchet apud Rehder in Sar-
gent, Trees & Shrubs, I. (1905) 180;
in Fedde Repert. Nov. Spec. Reg.
Veg. I. (1905) 7; in Sargent, Pl.
Wilson. I. (1911) 92; Manual Cult.
Trees & Shrubs, (1927) 572.- Sch-
neider, Illustr. Handb. Laubh. II.
(1907) 212, figs. 141 e & 142 a.-
Dunn in Journ. Linn. Soc. XXXIX.
(1911) 413.- Chung in Mem. Sci. Soc
China, I. (1924) 149 (Cat. Trees
& Shrubs China).-Fang in Contrib.
Biol. Lab. Sci. Soc. China, Bot.
Ser. VII. (1932) 169.-

Acer /

Acer prainii Léveillé in Fedde Repert.

Nov. Spec. Reg. Veg. X. (1912) 432;

Fl. Kouy-Tcheou, (1915) 383.-

Acer microcordatum Pax, var. microcordatum

Metcalf in Lingn. Sci. Journ. XI.

(1932) 199, in part, incl. specimen

cited Chun's 6700 from Hainan.-

Acer Fabri Hance var. rubrocarpum Metcalf

in Lingn. Sci. Journ. XI. (1932)

206, in part, incl. specimens cited

Ching's 5998 from Kwangsi, Fang's

784, 824 from Szechuan, Tso's 20299,

20750 from Kwangtung.-Handel-Mazzetti

Symb. Sin. VII (1933) 641.- Rehder

in Journ. Arn. Arb. XV. (1934) 6.-

Acer reticulatum Metcalf (non Champion)

in Lingn. Sci. Journ. XI. (1932) 208,

in part, incl. specimen cited Ching's

7850 from Kwangsi.-

Small tree usually about 10 metres high. Bark brownish grey or blackish grey. Branchlets slender, glabrous, those of the present year green or purplish green, those of the more than one year old green or brownish green. Leaves persistent, coriaceous, lanceolate, oblong-lanceolate or oblong-ob lanceolate, 7-11 cm. long, 2-3 cm. broad, entire; base cuneate or obtuse; apex acuminate or shortly acuminate; upper surface deep green, glabrous; lower surface pale green, glabrous, rarely with tufts of hairs at the axils of nerves; middle nerves raised, lateral nerves 4-5 pairs, slightly raised; petioles 1-1.5 cm. long, slender, glabrous. Flowers andro- /

andro-monoecious, in purple glabrous panicles; sepals 5, purple, slightly pubescent, oblong, 3mm. long; 5 petals, white, obovate, shorter than sepals; stamens 8, glabrous, 5 mm. long; ovary glabrous, with short style and spreading stigmas. Fruits purple while young, brownish yellow or yellowish white when matured; nutlets convex, about 5 mm. in diameter; wings with nutlets 2.5-3 cm. long, 8-10 mm. broad, spreading at obtuse angles; pedicels 1-1.5 cm. long, slender glabrous.

KIANGSI: Swe-chuen-hsien, tree 10 metres high, wings of fruit red, H.H. Hu, May 8, 1921, no. 843 (in Berol. & Kew).

HUPEH: Chang-lo-hsien, E.H. Wilson, May 1907, no. 1937 (in Arn., Edinb., Brit., Edinb., Kew & Vind.); without precise locality, E.H. Wilson, July 1901, nos. 1993, & 2265 (in Arn., Berol., Edinb., Kew, Paris, & Vind.); Western Hupeh, A. Henry, no. 7677 (type of Acer oblongum var. concolor in Bres.&Brit.).-

SZECHUAN: "District de Tchen-keou-tin" (Cheng-kou-hsien), R.P. Farges, (8 sheets in flower & fruit in Paris, 2 marked as 1305 & 1309); Nanchuan-hsien, W.P. Fang, May 15-17, 1928, nos. 784, & 824 (in Arn., Berol., Edinb., Kew & Paris); same locality, S.F. Chang, April to May 1930, nos. 55 & 350 (in Sci.); same locality, T. H. Tu, April 1932, nos. 2871 & 2905 (in Sci.); Ki-kiang-hsien, S.F. Chang, June 15, 1930, no. 602 & 603 (in Sci.); Hsiu-shan-hsien, small tree, T.H. Tu, October 1932, no. 4054 (in Sci.).

KWEICHOW: Fan-ching-shan, Ying-kiang, Y. Tsiang, December 1930, nos. 7603 & 7644 (in Arn., Brit., Edinb., Fan, /

Fan, Kew, Paris, & Vind.); same locality, alt. 1900 m., tree 7-8 metres high, K.K. Ho, July 16, 1931, no. 51246 (in Sci.); Fan-ching-shan, Heh-wan, A.N. Steward, October 28, 1931, no. 815 (in Brit. & Paris); Tung-zen-hsien, Fan-ching-shan, alt. 1360 m., small tree 4 metres high, T.H. Tu, September 6, 1932, no. 3890 (in Sci.); Kwei-ting-hsien, Pin-fa, Jul. Cavalerie, May 1903, nos. 951 & 1048 (type of Acer prainii Léveillé in Edinb.; cotype in Kew; photo. in Fan & Sci.); south of Kwei-ting-hsien, Yun-wu-shan, alt. 1800 m., tree 4-6 metres high, T.S. Kong, July 6, 1931, no. 50062 (in Sci.); "inter oppida Kwei-ting et Tuyun," H. Handel-Mazzetti, July 9, 1917, no. 10644 (in Berol., Bres. Wien, & Vind.); Tu-yun-hsien, Tse-min-an, Y. Tsiang, July 7, 1930, no. 5646 (in Berol., Kew, Fan, Kew, Sci. & Sin.); without precise locality, J. Esquirol, no. 463 (in Edinb.).

KWANGTUNG: Thai-yong, sixty miles west from the port of Swatow, J.M. Dalziel, September 25, 1901, sine no. (in Edinb.); Peh-kiang, W.Y. Chun, December 25, 1927, no. 5905 (in Suny.); Loh-chong-hsien, C. L. Tso, May 1929, nos. 20299 (in Kew, Paris, Sci., Suny. & Vind.) & 20750 (in Suny.); same locality, N. K. Chun, May 1930, nos. 41061 & 42038 (in Suny.); same locality, C. Wang, November 18, 1931, no. 31410 (in Suny.); same locality, S. P. Kwok, May 17, 1934, no. 80602 (in Suny.); Chu-kiang-hsien, Lung-tung-shan, S.P.Ko, March 25, 1930, no. 50171 (in Edinb., & Suny.); Yu-yuen-hsien, S.P. Ko, May to October 1933, nos. 50171, 52554 & 53326, (in Suny.); same locality, S. P. Ko, March 1934, nos. 53943 & 53946 (in Suny.); same locality, S. P. Kwok, March to April, 1934, nos. 80082 & 80171 (in Suny.); Hunan (?), S. P. Ko, May 2, 1934, no. 54228 (in Suny.); Yin-teh-hsien, C. L. Tso,/

C.L.Tso, August 7, 1930, no. 21978 (in Suny.); Hwa-shui-shan, S.P.Ko, May 4, 1930, no. 50459 (in Suny.); Kwei-yang, Rud-Mell, July 26, 1915, no. 562 (in Berol. & Wien); "Tsatmukugao prope oppidum Lienping," Rud Mell, August 6, 1918, no. 562 (in Berol. & Wien); same locality, Rud Mell, July 24, 1917, no. 913 (in Wien); Lo-faulshan, E. Faber, September 1883, Herb. Hance no. 22220 (type of Acer Fabri Hance in Brit.) same locality, C.O. Levine, August 20, 1917, no. 1356 (in Edinb.); same locality, E.D. Merrill, no. 10697 (in N.Y.); same locality, S.P. Ko, no. 50097 (in Suny.); same locality, N.K. Chun, May to July, 1930, nos. 41037, 41270, 41275 & 41334 (in Suny.); same locality, S.P. Ko, February 25, 1930, no. 50097 (in Suny.); Shi-wan-da-shan, alt. 2400 m., in forested ravine, tree 8 metres high, C.L.Tso, August 2, 1933, no. 23518 (in Suny.); Sunyi-hsien, S.P. Ko, April 12, 1931, no. 51278 (in Suny.); same locality, C. Wang, April to August, 1931, nos. 31182 & 32259 (in Suny.); Hainan, Ng-chi-leng and Yik-tsok-Mau, F.A. McClure, May 19, 1922, no. 9728 (in Edinb., Kew & Paris); Hainan, Five-finger-Mountain, W.Y. Chun, May to June, 1920, nos. 1471, 2926 & 6700 (in N.B.); Hainan, Hung-mo-shan, Tsang, Tang, & Fung, May 31, 1929, no. 29 (in Brit.; Herb. Lingn. no. 17560)

KWANGSI: Bin-long, Miu-shan, north of Lu-chen-hsien, border of Kweichow, R.C. Ching, July 14, 1928, no. 5998 (in Sci. & Sin.); Seh-feng-dar-shan, R.C. Ching, October to November 1928, nos. 7850 & 8291 (in Sci. & Suny.); Yao-shan, S.S. Sin and his collectors, nos. 9273, 8944, 21315, 25231, 50062, 50319, 51246 & 51248 (in Berol.).

This species is characterized by its glabrous, not prominently netted leaves and its purple or whitish fruits with wings spreading at acute or obtuse angles.

Acer Fabri Hance var. virescens Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VIII. (1932) 174.-

Acer Laevigatum Fang (non Wallich) in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 170, in part, incl. specimen cited Ching's 7389 from Kwangsi, not Wallich.-

Acer Fabri Metcalf (non Hance) in Lingn. Sci. Journ. XI. (1932), in part, incl. specimen cited Ching's 7389 from Kwangsi, not Hance.-

KWANGTUNG: Lo-fau-shan, in woods, tree, N. K. Chun, April 1932, nos. 43069 & 43092 (in Suny.).

KWANGSI: Bako-shan, Western Poseh, R.C. Ching, September 13, 1928, no. 7389 (in Sci. & Sin.).

This variety differs from the type species by its villous inflorescence.

52. Acer laevigatum Wallich, Pl. As. Rar. II. (1831) 3, t. 104; Wallich, Cat. (1828) no. 1223; .- Spach in Ann. Sci. Nat. 2 ser. II. (1834) 165.- Walpers, Repert. Bot. Syst. I. (1842) 409.- Brandis, Forest Fl. Brit. Ind. (1874) 110.- Hiern in Hooker f. Fl. Brit. I. (1875) 693.- Pax in Hooker Icon. Pl. XIX. (1889) under t. 1897; in Engler & Prantl, Pflanzenfamilien, III. pt. 5, (1896) 271; ex Diels in Engler, Bot. Jahrb. XXIX. (1900) 449 (Fl. Centralchina); in Engler, Pflanzenreich, Heft 8 (IV.163). (1902) 32, in part, excl. syn. cited Acer reticulatum, & Acer Fabri.- Graf von Schwerin in Gartenfl., XLII. (1893) 229.- /

229.- Henry in Gard. Chron. ser. 3, XXXIII. (1903)
 62 (Chin. Maples).- Veitch in Journ. Roy. Hort. Soc.
 XXIX. pt. 3, (1904) 360.- Hemsley in Journ. Linn.
 Soc. XXXVI. (1905) 452.- Rehder in Sargent, Trees &
 Shrubs, I, (1905) 180, in part, excl. syn. Acer A Fabri;
 II. (1907) 26; in Sargent, Pl. Wilson, (1911) 92; Manual
 Cult. Trees & Shrubs, (1927) 572.- Schneider, Illustr. Handb.
 Laubh. II (1907) 212, figs. 141 d. & 142 b-f.- Léveillé,
 Cat. Illustr. Pl. Setcheouen, (1918) 178, MSS.- Chung in
 Mem. Sci. Soc. China, I. (1924) 149 (Cat. Trees & Shrubs
 China).- W.W. Smith & etc. in Notes Roy. Bot. Gard. Edinb.,
 XVII. (1930) 304,- 343.- Fang in Contrib. Biol. Lab. Sci.
 Soc. China, Bot. Ser. VII. (1932) 170, in part, excl. speci-
 mens cited from Kwangtung & Kwngsi; VIII. (1932) 172.- Met-
 calf in Lingn. Sci. Journ. XI. (1932) 207.-

Acer laevigatum Wallich var. 1, typicum Pax in
 Engler, Bot. Jahrb. VII. (1886) 209.- Graf
 von Schwerin in Gartenfl. XLII (1893) 229.-

Acer laevigatum Wallich var. 2, angustum Pax in
 Engler, Bot. Jahrb. VII. (1886) 209, -
 Graf von Schwerin in Gartenfl., XLII. (1893)
 229.-

Acer oblongum var. laevigatum Wesmael in Bull.
 Soc. Bot. Belg. XXIX. (1890) 42.-

Tree usually 5 to 10 metres high, rarely up to
 15 metres high. Branchlets slender, glabrous, those of the
 present year green or purplish green, those of more than
 one year old yellowish green or blackish green. Leaves per-
 sistent, coriaceous, reticulate, usually entire or remotely
 serrulate near the apex, lanceolate or oblong-lanceolate,

10-15 cm. long, 4-5 cm. broad; base cuneate or broadly cuneate, apex acuminate or shortly acuminate; upper surface light green, glabrous; lower surface light green, with tufts of hairs at the axils of nerves while young, then glabrous; nerves slightly raised, lateral nerves 7-8 pairs; 1-1.5 cm. long, glabrous. Flowers andro-monoecious, in glabrous corymbs terminal on leafy branchlets, appearing after the developing of leaves; sepals 5, purplish green, ovate-oblong, 3 mm. long; petals 5, white, obovate, emarginate, longer than sepals; stamens 6-8, glabrous, 6 mm. long, rudimentary in pistillate flowers, anthers oblong; disk purple, glabrous, extrastaminal; ovary purple, slightly pubescent, style glabrous and about 6 mm. long; pedicels about 6-8 cm. long, slender, glabrous. Fruits purple while young, brownish yellow when matured; nutlets strongly convex, ellipsoid or ellipsoid-oblong, about 6 mm. in diameter; wings with nutlets 3-3.7 cm. long, 1 cm. broad, straight or introrsely falcate, spreading usually at acute angles.

SHENSI: South of Han-chung (Nan-cheng-hsien), "Tapa-schan," G. Fenzel, in 1934, no. 993 (in Vind.)

HUPEH: Chang-lo-hsien, E.H. Wilson, July to September, 1907, no. 1924 (in Arn., Berol., Brit., Edinb., Firen., Kew & Vind.); Nanto, E.H. Wilson, May 1900, Veitch Exped. nos. 574 (in Arn., Berol., Edinb., Kew & Vind.) & 574A (in Arn., Berol., & Kew); Patung-hsien, tree 12 metres high, fruits green, H.C. Chow, June 17, 1934, no. 563 (in Edinb. & Wuhan).

SZETCHUAN: /

SZECHUAN: Wu-shan-hsien, A. Henry, nos. 5530 & 5538 (in Arn., Berol., Bres., Brit., Edinb., Gray., Kew, N.Y., & Paris); same locality, E. H. Wilson, May 1900, no. 574 (in Kew); Kiang-yu-hsien, W. C. Cheng, August 4, 1931, no. 2706 (in Edinb. & Sci.); Kuan-hsien, W. P. Fang, July 12-15, 1928, nos. 2129, 2130, & 2263 (all in Arn., Berol., Edinb., Fan., Kew, N.Y. & Paris); Mount Omei, E. Faber, in 1887, nos. 445 & 456 (in Arn., Berol., Brit., Edinb., Kew, Paris & Vind.); same locality, tree 14 metres high, E. H. Wilson, June 1904, nos. 3346 & 4818 (in Arn. & Kew); same locality, W. P. Fang, July 1930, nos. 7386 & 7916 (in Arn., Edinb., Fan., Kew & Sci.); Ya-chow (Ya-an-hsien), E. H. Wilson, June 1908, no. 979 (in Arn., Berol., Brit., Edinb., Firen., Kew, Vind.); same locality, W. C. Cheng, October 11, 1930, no. 1966 (in Sci.); Wa-su-shan, between Hung-ya-hsien and Yungking-hsien, W. P. Fang, August 16, 1930, nos. 8286 & 8290 (in Arn., Edinb., Fan, Kew, Sci. & Sin.); Han-yuan-hsien, Hwang-yi-pu, W. C. Cheng, April to November 1931, nos. 644 & 3579 (in Edinb., Fan, Sci., & Sin.); Nan-chuan-hsien, Mount of the Golden Buddha, C. Bock & A. V. Rosthorn, in 1891, no. 222 (in Berol. & Vind.); same locality, W. P. Fang, June 1928, nos. 1220, 1224 & 1226 (all in Arn., Berol., Edinb., Fan, Kew, Paris, Sci. & Sin.); same locality, S. F. Chang, April to May, 1930, nos. 32, 33, 34, 35, 374 & 512 (all in Sci.).

KWEICHOW: Tung-tze-hsien, near Lao-shan, Y. Tsiang, May 1930, no. 5054 (in Arn., Berol., Brit., Edinb., Fan, Kew, Sci., Sin., Suny., & Vind.); Tung-tze-hsien, Hong-huo-yuen, A. H. Steward, C. Y. Chiao & H. C. Cheo, /

H. C. Cheo, July 15, 1931, no. 1 (in Brit., Paris & Vind.); Tung-tze-hsien, by roadside, tree 10 metres high, T. H. Tu, July 1932, nos. 3371 & 3426 (in Fan. & Sci.).

YUNNAN: Hills to the south of Tengyeh-hsien, lat. 25° N., in thickets, shrub or tree 8-13 metres high, G. Forrest, June 1912, no. 8230 (in Edinb., & Kew); divide between the Shweli and Teng-yueh-hsien valleys, lat. 25° N., in open thickets, tree of 8-13 metres high, G. Forrest, July 1912, no. 8771 (in Edinb. & Kew); Shweli-Salween divide, lat. $25^{\circ} 30'$ N., alt. 3000m., in thickets, shrub 7-13 metres high, G. Forrest, September 1913, no. 11761 (in Berol., Edinb. & Kew); about the same locality, G. Forrest, July to September 1919, nos. 18013 & 18505 (in Edinb. & Kew); hills north-west of Tengyueh-hsien, Lat. $25^{\circ} 25'$ N., long. $98^{\circ} 30'$ E., alt. 2300 m., in mixed forests and open thickets, shrub or tree of 7-13 metres high, G. Forrest, June 1925, no. 26660 (in Arn., Edinb., Kew & Vind.); hills south of Tengyueh-hsien, lat. 25° N., long. $98^{\circ} 35'$ E., alt. 2400 m., in thickets, shrub of 7-10 metres high, G. Forrest, October 1925, no. 27387 (in Arn., Edinb., Kew & Vind.); hills northwest of Tengyueh-hsien, lat. $35^{\circ} 30'$ N., long. $98^{\circ} 25'$ E., alt. 2900 m., in mixed thickets, tree of 8 metres high, G. Forrest, May 1931, no. 29592 (in Edinb.); "Beyen-jing (Yen-fong-hsien), in rupibiss Gwankou," S. Pater Simeon Ten, March 29, 1919, no. 47 (in Vind.).

BURMA: around Htawgaw, lat. $26^{\circ} 10'$ N., long. 98° /

98° 25' E., alt. 2300 m., in mixed thickets, shrub of 7-13 metres high, G. Forrest, August 1924, no. 24857 (in Edinb. Kew, Paris & Vind.)

NEPAL: without precise locality, Hooker, in 1830, no. 1223 (in Berol., Brit., Gray & Kew).

HIMALAYA: N.W. Himalaya, Mussoarie, alt. 2000 m., Harsukh, May 1888, sine no. (in Berol. & Edinb.); same locality, alt. 2000-2300 m., P. W. Mackinnon, April 1898, sine no. (in Berol.).

EASTERN BENGAL: without precise locality, Griffith, Herb. East. India Co., no. 931 (in Berol. & Gray).-

SIKKIM: Darjeeling, alt. 200 m., Ribu & Rhomoo, February 1, 1910, no. 3428 (in Berol.); Darjeeling, J. H. Lace, June 1902, sine no. (in Edinb.); Shampung, Khasia Hills, alt. 1500 m., B. Khan, May 1890, sine no. (in Berol.); Gurhwal, Falconeri, Herb. East India Co., no. 341 (type of var. angustum in Berol.).

This species is characterized by its coriaceous leaves, green and reticulate on both surfaces, and by the wings of the fruit being 3.4 cm. long, usually spreading at obtuse angles.

Acer laevigatum Wallich var. salweenense (W.W. Smith) J.M. Cowan, MSS. in Herb. Edinb.-

Acer salweenense W.W. Smith in
Notes Roy. Bot. Gard. Edinb.,
XIII. (1921) 151; XIV. (1924)
276; XVII. (1930) 287, 288,
290, 296.-

YUNNAN: Shweli-Salween divide, lat. 25° N., alt. 2400m. in open mixed thickets, shrub of 10-13 metres high, G. Forrest, April to June 1919, nos. 17797 (type of the species in Edinb.; cotype in Kew) & 17903 (in Edinb.); Salween-N'Maikha divide, lat. 26° N., alt. 2700 m., in mixed forests, shrub or tree of 10-15 metres high, G. Forrest May 1919, no. 17802 (in Edinb., Kew & Vind.); eastern flank of the N'Maikha-Salween divide, lat. 26° 12' N., in thickets, shrub of 7-10 metres high, G. Forrest, May 1919, no. 17839 (in Brit., Edinb., Kew & Paris); Tsarong, Salween-Kiu-chiang divide, northwest of Si-chi-to, lat. 28° 30' N., long. 98° 30' E., in mixed forests, shrub or tree of 7-17 metres high, G. Forrest, May 1922, no. 21626 (in Edinb., Kew, Paris & Vind.); hills south of Tengyueh, lat. 25° N., long. 98° 30' E., alt. 2,000 m., in mixed forests, shrub of 5-8 metres high, G. Forrest, February 1925, no. 26201 (in Edinb.); hills northwest of Tengyueh, lat. 25° 30' E., alt. 2300 m., in open thickets in side valleys, shrub of 2-3 metres high, flowers pale green, tinged red, foliage ruddy, G. Forrest, March 1925 no. 26242 (in Edinb.); Shweli-Salween divide, lat. 25° 40' N long. 98° 45' E., alt. 2500 m., in forests, tree of 10-17 metres high, G. Forrest, May 1931, no. 29548 (in Edinb.); N'Maikha-Salween divide, lat. 26° 20' N., in mixed forests in side valleys, tree of 13-17 metres high, G. Forrest, July 1931, no. 29753 (in Edinb.); Mount Kenyichunpo and region of Champutong, Salween Irrawadi watershed, J.E. Rock, July 1923, no. 10112 (in Edinb.).

NORTH EASTERN BURMA: Western flank of the N'Maikha-Salween divide, lat. 26° 20' N. long. 98° 48' E., in thickets, shrub of 3-7 metres high, flowers green, G. Forrest, May 1925, no. /

no. 26555 (in Edinb.).

This variety differs from the type species by its densely villous petioles and inflorescence while young. Professor Smith described it as a new species only basing on two young flowering specimens. Since more specimens came from the type region the life history of this variety is more in detail. The villosity is usually less so or nearly glabrous when matured. Therefore I would like to follow Dr. Cowan in considering it as a variety.

Forrest's 17792 and 24389 are with foliage only and possibly belong to this variety.

53. Acer reticulatum Champion in Hooker Kew Journ. Bot. III (1851) 312 (Fl. Hongkong).- Seemann, Bot. Voy. Herald. (1852-57) 368 t. 80.- Bentham, Fl. Hongkong. (1861) 47. - Maximowicz in Bull. Acad. Sci. St.- Petersburg. XXVI. (1880) 442; in Mel. Biol. X. (1880) 599.- Forbes & Hemsley in Journ. Linn. Soc. XXII. (1886) 141 (Ind. Fl. Sin.).- Pax in Engler, Bot. Jahrb. VII. (1886) 209; in Engler & Prantl. Pflanzenfamilien, III. pt. 5 (1896) 271.- Wesmael in Bull. Soc. Roy. Soc. Bot. Belg. XXIX. (1890) 42.- Graf von. Schwerin in Gartenfl., XLII. (1893) 229.- Bretschneider, Hist. Europ. Bot. Discov. China, (1898) 376.- Dunn in Kew Bull, ad. Ser. X. (1912) 67 (Fl. Kwangtung & Hongkong).- Chung in Mem. Sci. Soc. China, I. (1924) 150 (Cat. Trees & Shrubs China).- Metcalf in Lingn. Sci. Journ. XI. (1932) 208, in part, excl. specimens cited from Kwangsi.

Acer laevigatum Wallich var. reticulatum
(Champion) Rehder in Sargent, Trees
& Shrubs, I. (1905) 180.- Schneider,
Illustr. Handb. Laubh. II. (1907)
213.- /

213.- Fang in Contrib. Biol. Lab. Sci
Soc. China, Bot. Ser. VII. (1932)

172.-

Shrub or small tree usually about 5 metres high. Bark grey or blackish grey. Branchlets slender, glabrous, those of the present year green or light green, those of more than one year old greenish grey or greenish yellow. Winter-buds ovoid, purplish grey; scales whitish pubescent. Leaves persistent, thick coriaceous, entire, elliptical-oblong or oblong-lanceolate, 7-10 cm. long, 3-4 cm. broad; apex acuminate or abruptly acuminate; base broadly cuneate or nearly round; both sides light green and strongly reticulate, very shining, middle nerves distinctly raised, lateral nerves 8-9 pairs, slightly raised, with tufts of brown hairs at the axils of nerves while young, then glabrous; petioles 1-1.5 cm. long, glabrous, slightly grooved above. Flowers andro-monoecious in glabrous corymbs about 2 cm. long and 3 cm. across, on peduncles 2 to 3 cm. long. terminal on leafy branchlets, appearing usually in December or January after developing of young leaves; sepals 5, purplish green, ovate or ovate-oblong; obtuse, slightly ciliate, about 2 mm. long; petals 5, white, spatulate, emarginate, longer than sepals; stamens 8, glabrous, about 6 mm. long, anthers globose and yellow; disk extrastaminal, nearly glabrous; ovary slightly pubescent with short style; pedicels 5-8 mm. long, slender, glabrous. Fruits greenish purple while young, brownish yellow when matured usually from April to July; nutlets convex, globose, about 6-8 mm. in diameter; wings with nutlets 2.5-3 cm. long, 1-1.2 cm. broad, spreading at obtuse angles; pedicels about 1.5-2 cm. long, slender, glabrous.

HONGKONG: Lantao Island, Wright, August 1888, sine no. (in Kew & Paris); Happy valley in woods, Wilford, January 1858, no. 172 (in Gray, Kew & N.Y.); without precise locality, Hance, April 1855, no. 224 (in Brit., Firen., Gray, Paris & Vind.); Tai-mou-shan or Hwang-y-tung, in ravines or by roadside, Shrub or small tree, N.K. Chun, December 1929 to July 1930, nos. 40008 (in Arn., Firen., N.Y., & Suny.); 40158 (in Berol., Kew & Suny.), 40159 (in Suny.), 40642 (in Suny.), & 40659 (in Suny.); Victoria Road, in forests, C.L. Tso, July 2, 1930, no. 21832 (in Suny.).

This species is near Acer laevigatum Wallich and Acer Fabri Hance, but differs easily by its ciliate sepals and strongly reticulate leaves.

54. Acer sino-oblongum Metcalf in Lingn. Sci. Journ. XI. (1932) 202.-

Acer oblongum Bentham (non Wallich) in Hongkong, (1861) 47, in part, excl. specimens cited from India & Loochoo.- Maximowicz in Bull. Acad. Sci. St.-Petersb. XXVI. (1880) 442; in Mel. Biol. X. (1880), in part, incl. specimens cited from Hongkong. Forbes & Hemsley in Journ. Linn. Soc. XXIII. (1886) 141, in part, excl. specimens cited from Luchu.- Pax in Engler, Bot. Jahrb. VII. (1886) 208, in part, incl. specimens cited from Hongkong.-

Acer laevigatum Pax (non Wallich) in Pflanzenreich, Heft 8 (1V.163). (1902) 32, in part, incl. specimens cited /

cited from Hongkong.

Acer lanceolatum Reñder (non Mollard) in
Sargent, Trees & Shrubs, I. (1905)
180, in part, incl. specimens
cited from Hongkong.

Tree usually about 5 to 7 metres high. Bark rough, brownish grey or blackish grey. Branchlets slender, glabrous, those of the present year purple or purplish green, those of more than one year old brownish purple or greyish purple, lenticels ovate or round. Winter-buds brownish, ovoid; scales slightly ciliate. Leaves persistent, coriaceous, entire, elliptical or elliptical-oblong, rarely lanceolate, 6-9 cm. long, 2-4 cm. broad; apex acuminate or long acuminate; base broadly cuneate or nearly roundish; upper surface green or pale green, glabrous; lower surface yellowish green and with whitish glaucous; nerves weak, lateral nerves 5-7 pairs slightly raised below, diverging at acute angles, not reached the margin; petioles glabrous, 1-3 cm. long. Flowers greenish yellow, andro-monoecious, in villous terminal corymbs, on villous peduncles about 1 cm. long; sepals 5, obovate-oblong, about 4 mm. long; petals 5, oblanceolate, as long as the sepals; stamens 8, very short, anthers ovoid; disk extrastaminal; ovary glabrous with glabrous style about 4 mm. long; pedicels 5-10 mm. long, villous. Fruits brownish yellow; nutlets strongly convex, 8 mm. long, 5 mm. broad; wings with nutlets 3 cm. long, 10-12 mm. broad spreading at acute angles.

KWANGTUNG: Lo-fau-shan, in woods, N.K. Chun, May 3, 1930, no. 40817 (in Suny.); same locality, in forests, tree 7 metres high, N.K. Chun, August 21, 1930, no. 41637 (in Suny.); .-

HONGKONG: Hongkong Island, Ford, June 4, 1893, sine no. (in Arn.); same locality, Wright, no. 72 (in Arn.); same locality, tree 5 metres high, C.L. Tso, May 28, 1930, no. 21804 (in Suny.); same locality, N.K. Chun, October 6, 1930, no. 41909 (in Suny.).

This species differs from Acer oblongum Wallich by its short inflorescence and leaves with weaker and shorter nerves. Judging from the specimens cited above it may be a geographical form of Acer oblongum. More specimens are desirable for deciding the validity of this species.

55. Acer litseaefolium Hayata in Icon. Pl. Formos. III. (1913) 66 t. 14 B.- Metcalf in Lingn. Sci. Journ. XI. (1932) 104.-

Tree usually 10 metres high, rarely up to 20 metres high. Bark blackish grey or blackish brown. Branchlets slender, glabrous, those of the present year purple or reddish purple. Winter-buds small; scales acute and pubescent. Leaves persistent, coriaceous, oblanceolate, 10-13 cm. long, 2.3-5 cm. broad; apex shortly acuminate or obtuse; base cuneate or obtuse; upper surface pale green, glabrous; lower surface whitish glaucous; middle nerves prominent, lateral nerves 10-12 pairs, slightly raised, basal nerves usually short, about $1/5$ - $1/3$ as long as the blade; petioles 1.5-2 cm. long, stout, glabrous. Flowers unknown. Fruits in cymose fruiting inflorescence; nutlets glabrous; 3 mm. in diameter; wings with nutlets about 2 cm. long, spreading at obtuse angles.

FORMOSA: Nanto. Z. Ohashi (Type in Tokyo); same locality, E.H. Wilson, no. 10044 (in Kew);

This /

This species is near Acer sino-oblongum, from which it is distinguished by the wings of the fruit spreading at obtuse angles.

56. Acer albo-purpurascens Hayata in Journ. Coll. Sci. Imp. Univ. Tokyo, XXX, art. 1, (1911) 64 (Mat. Fl. Formos).- Metcalf in Lingn. Sci. Journ. XI. (1932) 203.-

Small tree. Branchlets slender, those of the present year red purplish, pubescent, those of more than one year old dark purple or dark red, glabrous. Leaves persistent chartaceous-coriaceous, entire or slightly undulate, elongate-lanceolate, 10 cm. long, 3 cm. broad; apex acuminate or long acuminate; base cuneate or broadly cuneate; upper surface green; lower surface whitish purple, glaucous, densely greenish pubescent while young; nerves 3 at the base, lateral nerves 7 pairs, more or less raised, diverging at acute angles; petioles 1.5 cm. long, slender. Flowers and fruits the writer never found.

FORMOSA: Giokusan, S. Honda (Type, a leafy specimen only, in Tokyo); Konanan-sya, Ako, T. Kawakami & Sasaki, March 1910, no. 156 (in Arn.); Nanto, Musha, slender tree 8 metres high, flowering buds green, E.H. Wilson, March 8, 1918 no. 10082 (in Kew).

This species is characterized by its lanceolate leaves which are acuminate at the apex, cuneate at the base and whitish purple at the lower surface.

SECT. V. Macrantha Pax.

Key to species

- A. Leaves ovate or oblong-ovate, usually not lobed.
- B. Leaves acuminate, crenate-serrate, rufous-tomentose along the veins beneath at least while young.....
.....57, A. Davidi .
- BB. Leaves caudate-acuminate, nearly entire or closely and sharply serrulate, glabrous beneath.
- C. Pedicels 2 mm. long; fruiting inflorescence 13-15 cm. long; leaves entire or nearly entire.....
.....A. sikkimense
- CC. Pedicels 6-7 mm. long; fruiting inflorescence 6 cm. long; leaves sharply serrulate.58, A. Kawakamii.
- AA. Leaves ovate, usually lobed.
- B. Leaves nearly as broad as long, roundish-ovate in outline, with shortly acuminate lobes and obtuse sinuses.
- C. Leaves with middle lobe triangular-acuminate.
- D. Lateral lobes shortly obtuse or obsolete, rarely acute, margin closely serrulate.
- E. Leaves 5-lobed.....59, A. Grosseri.
- EE. Leaves 3-lobed.
- F. Bark smooth, dark green or greenish yellow; leaves not conspicuously reticulate..60, A. taiton-montanum
- FF. Bark white striated; leaves conspicuously reticulate
.....61, A. Veitchii.
- DD. Lateral lobes acuminate or elongated acuminate with entire acumen, margin coarsely serrate.62, A. Metcalfi
- CC. Leaves with middle lobe ovate-acuminate.
- D. Leaves with glabrous beneath.....63, A. tegmentosum
- DD. /

- DD. Leaves rufous-pubescent on the veins beneath at least while young.....64, A. rufinerve
- BB. Leaves triangular-ovate or oblong-ovate in outline, with long acuminate lobes and acute sinuses.
- C. Leaves pubescent on the veins beneath.
- D. Leaves less pubescent on the veins beneath, with caudate-acuminate middle lobe and acute lateral lobes.....65, A. laxilforum.
- DD. Leaves densely pubescent on the veins beneath, with acuminate middle and lateral lobes.....
.....66, A. taronense..
- CC. Leaves glabrous beneath except bearded in the axils of veins in some species.
- D. Leaves 3-lobed (lobes not lobulate).
- E. Lateral lobes acuminate.
- F. Middle lobe caudate-acuminate; lateral lobes acuminate or short acuminate; flowers with ovate-oblong sepals and obovate petals..67, A. Forrestii.
- FF. Leaves with elongated caudate-acuminate middle and lateral lobes; flowers with linear-oblong sepals and petals.....68, A. Wardii.
- EE. Lateral lobes usually shortly acute or obsolete.
- F. Lateral lobes small, obtuse or obsolete.....
.....A. taiton-montanum .
- FF. Lateral lobes comparatively larger, acute or obtuse.....69, A. morrisonense.
- DD. Leaves 5-lobed;
- E. Leaves deeply lobed; lobes sharply serrulate and lobulate.
- F. Middle lobe acuminate or caudate-acuminate; lateral lobes acuminate; basal acute or obtuse; sinuses /

sinuses acute, reaching $1/3$ to the middle of the blade; margin doubly serrate; pedicels 6 mm. long.

.....70. A. Maximowiczii.

FF. Middle lobe and lateral lobes acuminate; basal lobes usually acute; sinuses a deeply and narrowly acuminate, reaching $2/3$ or $4/5$ to the middle of blade; margin sharply serrulate; pedicels 8-12 mm. long..

.....71. A. Tschonoskii.

EE. Leaves shallowly lobed; lobes comparatively coarser serrate but not lobulate.....72. A. rubescens.

57. Acer Davidi Franchet in Nouv. Arch. Mus. Paris, ser.2 VIII. (1884) 212 (Pl. David II.30); in Bull. Soc. Bot. France, XXXIII. (1886) 464; Pl. Delavay. (1889) 145.- Pax in Engler, Bot. Jahrb. VII. (1886) 216; in Engler & Prantl, Pflanzenfamilien, III. pt. 5, (1896) 272; in Hooker Icon. Pl. (1889) under t. 1897; ex Diels in Engler, Bot. Jahrb. XXIX. (1900) 449 (Fl. Centralchina); in Engler, Pflanzenreich, Heft 8 (IV.163). (1902) 35.- Graf von Schwerin in Gartenfl., XLII. (1893) 230.- Bretschneider, Hist. Europ. Bot. Discov. China, (1898) 859.- Henry in Gard. Chron. ser. 3. XXXIII. (1903) 62 (Chin. Maples).- Veitch in Journ. Roy. Hort. Soc. XXIX. pt. 3, (1904), 348, 360, figs. 86 & 90.- Hemsley in Journ. Linn. Soc. XXXVI. (1905) 452.- Rehder in Sargent, Trees & Shrubs, I. (1905) 167, t. 83; II. (1907) 26, in part; in Sargent, Pl. Wilson, I. (1911) 92; III. (1917) 426; in Journ. Arn. Arb. VII. (1926) 221; VIII. (1927) 163; IX. (1928) 90; XIV. (1933) 213, 346; XV. (1934) 5; Manuel Cult. Trees & Shrubs, (1927) 572.- Schneider, Illustr. Handb. Laubh. II. (1907) 216, figs. 143 k-m 144 d.- Pavolini /

Pavolini in Nuav. Giorn, Bot. Ital. n. ser. XV. (1908) 409
 (Contrib. Fl. Hupe).- Matsumura in Icon. Pl. Koisikavenses,
 I. (1911) 21, t. 11.- Diels in Notes Roy. Bot. Gard. Edinb.
 VI. (1912) 175.- Léveillé, Cat. Pl. Yunnan. (1917) 252; Cat.
 Illustr. Pl. Seutchouen, (1918) 178, MSS.- Bailey, Gent.
 Herb. (1920) 35.- Chun, Chin. Econ. Trees, (1921) 230; in
 Hu & Chun, Icon. Pl. Sin. I (1927) 35 t. 35.- Hu in Science
 Sci. Soc. China, VI. (1921) 1165; IX. (1924) 840.- Thatcher
 in Gard. Chron. LXXII (1922) 119.- Hers in Journ. N. China
 Branch. Roy. As. Soc. LIII. (1922) 106; List. Ess. Lign.
 Honan Sept. (1922) 1.- Chung in Mem. Sci. Soc. China, I.
 (1924) 148 (Cat. Trees & Shrubs China).- W.W. Smith & etc.
 in Notes Roy. Bot. Gard. Edinb., XIV. (1924), 209, 242, 275,
 366, 383; XVII. (1930) 257, 288, 292, 345.- Bean, Trees &
 Shrubs Hardy Brit. Isl. I. (1929) 140.- T. Tang in Bull.
 Fan Mem. Inst. Biol. III (1931) 100, 105.- Y. Tang in Bull.
 Fan. Mem. Inst. Biol. III. (1932) 13, 197.- Fang in Contrib.
 Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 174; VIII
 (1932) 177.- Handel-Mazzetti, Symb. Sin, VII, (1933) 641.-

Acer Hookeri Forbes & Hemsley (non Miguel)

in Journ. Linn. Soc. XXIII. (1886)
 140 (Ind. Fl. Sin.).- Chung in Mem.
 Sci. Soc. China, I. (1924) 149 (Cat.
 Trees & Shrubs China).-

Acer Davidi Franchet var. glabrescens Pax

in Hooker Icon. Pl. XIX. (1889) under
 t. 1897; ex Diels in Engler, Bot.
 Jahrb. XXIX. (1900) 449 (Fl. Central
 China); in Engler, Pflanzenreich, Heft
 8 (1V. 163). (1902) 36; in Engler,
 Bot./

Bot. Jahrb. XXXVI. beibl. LXXXII. (1905)
73, excl.- Graf von Schwerin in Gartenfl
XLII. (1893) 230.- Rehder in Sargent,
Trees & Shrubs, I. (1905) 167.- Pampan-
ini in Nuov. Giorn. Bot. Ital. n. ser.
XVII. (1910) 421 (Pi. Vas. Hupé).-
Léveillé, Cat. Illustr. Pl. Seutcheunen,
(1918) 178, MSS.-

Acer sikkimense subsp. Davidi Wesmael in Bull
Roy. Soc. Bot. Belg. XXIX. (1890) 44.-

Acer Davidi Franchet var. 1. tomentellum
Graf von Schwerin in Gartenfl. XLII.
(1893) 230.- Pax in Engler, Pflanzen-
reich, Heft 8 (IV.163). (1902) 36.-

Acer laxiflorum Pax var. ningpoense Pax in
Engler, Pflanzenreich, Heft 8 (IV.163).
(1902) 36.- Rehder in Sargent, Trees &
Shrubs, I. (1905) 180.- Schneider,
Illustr. Handb. Laubh. II. (1907) 215,
fig. 142 i.-

Acer Davidi Franchet var. r. horizontale Pax
in Engler, Pflanzenreich, Heft 8
(IV.163). (1902) 89, excl.; in Engler,
Bot. Jahrb. XXXVI. beibl. LXXXII.
(1905) 73, excl.- Rehder in Sargent,
Trees & Shrubs, I. (1905) 168, in part,
incl. specimen cited Wilson's 1882 from
Hupeh.- W, W. Smith & etc. in Notes Roy.
Bot. Gard. Edinb., XIV. (1924) 112.-
Handel-Mazzetti, Symb. Sin. VII. (1933)
641.-

Acer stachyophyllum Léveillé (non Hérn)

Fl. Kouy-Tcheou, (1915) 383,

Acer Laxiflorum (non Pax) W.W. Smith & etc.

in Notes Roy. Bot. Gard. Edinb. XIV.

(1924) 353, not Pax.

Acer Davidi Franchet var, W.W. Smith in

Notes Roy. Bot. Gard. Edinb., XVII.

(1929) 13.-

Acer horizontale Franchet MSS, in Herb. Paris,

Tree usually about 10 metres high, rarely up to 15 metres high. Branchlets slender, glabrous, those of the present year brownish green or greenish purple, those of more than one year old yellowish or darkish brown. Winter-buds small, glabrous; acrescent scales oblanceolate, acute, densely pubescent outside. Leaves deciduous, chartaceous, ovate, oblong-ovate, or roundish-ovate, 8-12 cm. long, 5-8 cm. broad, apex acuminate or rarely caudate-acuminate, base subcordate or sometimes rounded, appressed serrate with unequal crenates; nerves pinnate, about 10-13 pairs; upper surface dark green, glabrous; lower surface pale green, rufously pubescent on the veins while young, then glabrescent when matured; petioles 3-6 cm. long, slender, rufously pubescent while young, then glabrous. Flowers greenish yellow, andromonoecious, in pendulous racemes, usually terminal on leafy branchlets, appearing with leaves; staminate flowers on pedicels 3-5 cm. long, usually 9-25 flowers in racemes 4-7 cm. in length; sepals 5, elliptic, obtuse, about 4 mm. long; petals 5, obovate, about 4 mm. long, 3 mm broad; stamens 8, glabrous, about 3 mm. long, anthers yellow; disk glabrous, lobed, intrastaminal; ovary rudimentary. Pistillate flowers on pedicels /

pedicels from 1-1.5 cm. long, usually 15 to 30 flowers in a raceme 7 to 12 cm. in length; sepals and petals are the same as in staminate flowers; stamens rudimentary; ovary rufous pubescent, style glabrous, stigmas slender and revolute. Fruits brownish green or brownish yellow, in pendulous fruiting racemes; nutlets flat, 8-10 mm. long, 6 mm. broad; wings included nutlets 2.5-2.8 cm. long, 1 cm. broad, usually spreading horizontally or at obtuse angles; pedicels 1-1.5 cm. long, slender.

CHILI (HOPEI): Eastern Tomb, H. T. Tsai, no. 50493 (in Fan).-

SHANSI: Chin-yuan, Lin-kon-shan, K. Ling, July 13, 1925, nos. 1686 & 1701 (in N.B.).-

SHENSI: Mount Miao-wang-shan, Hugh Scallan, July 1899, sine no. (in Arn. & Brit.); Tsing-ling, G. Fenzel, August 22 to September 5, 1934, no. 924 (in Vind.); "Tsing-ling-schan, Tsinfeng-schan, inter Santscha et Feng, in silva, 1500-1700 m., " G. Fenzel, in 1933, no. 114 (in Vind.) "in confl. prov. Schensi et Kansu, in silva montis Kwan-schan pr. Lung, ad 2000 m., " G. Fenzel, May 27-29, 1935, no. 1840 (in Vind.); "Nan-wu-tai- ad Mer. urbis Hsingan, " G. Fenzel, " October 5-15, 1935, no. 2931 (in Vind.).

KANSU; Hsia-mo-kou, near Lichen, R.C. Ching, July 7, 1923, no. 321 (in Arn., Edinb., Paris & Vind.); Lower Tebbu country, forests of Watsang-ku, J.F. Rock, August to September 1926, nos. 14660 (in Arn., Edinb. & Paris) & 15033 (in Arn.); Southeastern Kansu, Pei-la-hia, E. Licent, April 27, 1919, no. 5132 (in Brit. Kew & Paris).-

CHEKIANG:/

CHEKIANG: Mo-kan-shan, F.N. Meyer, July 20, 1915, No. 1573 (in Berol. & Kew); same locality, Cheo & Wilson, July 15, 1926, no. 94, Herb. N.B. no. 12740 (in Kew); same locality, tree 5-6 metres high, P. Klantke, July 19, 1926, no. 132 (in Berol.); E. Tien-mu-shan, S.S. Chien, August 9, 1929, no. 546 (in Sci.); W. Tien-mu-shan, W.C. Cheng, Chungshe H. Liu & H.C. Liu, August 22, 1924, no. 5186 (in Arn., Berol., Kew, Sci. & Vind.); same locality, S.S. Chien, August 13, 1929, no. 817 (in Sci.); same locality, W.C. Cheng, April to June 1931, nos. 2386, 2212, & 2283 (in Sci.); Ningpo, E. Faber, in 1886, sine no. (type of Acer laxilforum var. ningpoense in Berol.; cotype in Vind.); same locality, E. Faber, June 1887, no. 362 (in Kew); Feng-hwa-hsien, K.K. Tsoong, June 3, 1929, no. 195 (in Sci.); same locality, Y.Y. Ho, June 13, 1932, no. 1463 (in Sci.); Chu-chi-hsien, S. Chen, April 18, 1932, no. 99 (in Sci.); Tien-tai-shan, E. Faber, in 1891, nos. 96 & 201 (in Berol., Kew & Paris); same locality, R.C. Ching, May 1924, nos. 1465 (in Arn. Edinb. & Vind.) & 1500 (in Berol. & Kew); same locality, Y.L. Keng, August 12, 1927, no. 1066 (in Arn., Berol., Fan & Sci.); same locality, S. Chen, August 1, 1932, no. 456 (in Sci.); Sui-chang-hsien, Pei-ma-shan, tree 6 metres high, S. Chen, April 29, 1933, no. 1178 (in Sci.); Lung-chuan-hsien, Mou-shan, K.K. Tsoong, June 6, 1929, no. 546 (in Sci.); same locality, Tree 6 metres high, S. Chen, May 13, 1933, no. 1364 (in Sci.); Pan-shan, south of Ping-yang-hsien, R.C. Ching, July 17, 1924, no. 2121 (in Arn., Brit. & Paris).

KIANGSU: South of I-shing-hsien, Hai-wei, R.C. Ching, & C.L. Tso, May 16, 1931, no. 490 (in Arn., Berol. & Sci.); same /

locality, Y.Y. Ho, June 6, 1933, no. 1875 (in Sci.).

ANHWEI: Chu-hwa-shan, K. Ling, April 25, 1924, no. 2071 (in N.B.); same locality, R.C. Ching, June 30, 1925, no. 2875 (in Arn., Berol., Edinb., Kew & Sci.); Hwangshan, alt. 600 m., tree 5 metres high, W.C. Cheng, October 15, 1933, no. 3895 (in Sci.); Che-men-hsien, R.C. Ching, August 8, 1925, no. 3173 (in Arn., Edinb., Kew & Sci.).

KIANGSI: Lu-shan, Kuling, T.L. Bullock, May 15, 1892, no. 134 (in Kew); same locality, E.H. Wilson, July 29, 1907, no. 1501 (in Arn., Berol., Brit., & Edinb.); same locality, tree 8 metres high, H.H. Hu, August 28, 1921, no. 1397 (in Berol.); same locality, N.K. Ip, June 30, 1922, no. 1766 (in N.B.); same locality, A.N. Steward, nos. 942 & 2620 (in N.B.); same locality, Wang Hu, April 1924, no. 5 (in N.B.); same locality, C.Y. Chiao, July 20, 1928, no. 1549 (in N.B.); same locality, tree 4-5 metres high, P. Klantke, August 2, 1928, no. 75 (in Berol.); Kiu-Kiang, Maries, no. 218 (in Kew); same locality, A. David, June 1868, no. 834 (in Paris); same locality, W.R. Carles, June 9, 1892, sine no. (in Edinb.); Yenshu-hsien, Y. Tsiang, August 21, 1932, no. 10614 (in Sci. & Sin.)

CENTRAL CHINA: without precise locality, without name of collector in 1918, no. 527 (in Centr.)

HUPEH: "Monte Kian-scian (a 20 km. a.s.o. di Ou-tan-scian) alt. 2000 m., C. Silvestri, September 1907, no. 1371 (in Kew); Fang-hsien, E.H. Wilson, October 1907, nos. 255 (in part) 299 & 649 (all in Arn., Brit., Edinb., Kew & Vind.); Chu-chi-hsien, alt. 1900 m., in woods, tree 7 metres /

metres high, S.F. Chang, October 1, 1930, no. 863 (in Suny.); Hsing-shan-hsien, E.H. Wilson, May and October 1907, nos. 341, 436 & 225 (in part) (all in Arn., Brit., Edinb., Kew & Vind.); same locality, Y. Chen, September to October 1926, no. 906 (in N.F.); Chang-yang-hsien, E.H. Wilson, May 1907, no. 225 (in part) (in Arn., Berol., Brit., Edinb., Firen., Kew, Paris & Vind.); Chang-lo-hsien, tree 7 metres high, A. Henry, no. 6282 (in Kew); same locality, E.H. Wilson May 1907, no. 225 (in part) (in Arn., Brit., Firen., Kew, Edinb., & Vind.); Hsiu-tien-tze, W.Y. Chun, August 1922, nos. 3958, 4028 & 4051 (in Arn., Kew & N.B.); Huan-tsao, W.Y. Chun, August 30, 1922, no. 4136 (in Arn., Kew & N.B.); North and south of Ichang, E.H. Wilson, September to October 1907, no. 225 (in part) (in Arn., Edinb., Firen. & Kew); Kui-chow (Tse-kui-hsien), E.H. Wilson, May 1900, nos. 1218 & 12128A (in Arn., Edinb., Kew, Paris & Vind.); same locality E.H. Wilson, June 1907, no. 1882 (in Berol., Edinb., Kew & Vind.); Patung-hsien, A. Henry nos. 3716 & 5356 (in Kew); same locality, tree 10 metres high, E. H. Wilson, October 1900, Veitch Exped. no. 299 (in Berol., Edinb., & Kew); same locality, H.C. Chow, May to August, 1934, nos. 309 & 856 (in Edinb. & Wuhan); Chien-shih-hsien, ravines, tree 7 metres high, E.H. Wilson, June 1907, no. 299 A (in Arn., Berol., Kew & Vind.).-

SZECHUAN: Wu-shan-hsien, A. Henry, nos. 5643, 6910 & 7085, & 7199 (all in Brit. Edinb., & Kew); south of Wu-shan-hsien, E.H. Wilson, June 1900; Veitch Exped. no. 1218A (in Berol.,)

"District de Tchen-keou-tin" (Cheng-kou-hsien),

R. /

R.P. Farges, flowering and fruiting specimens, R.P. Farges no. 140 (in Paris); Cheng-kou-hsien, W.P. Fang, May 29, 1932, no. 10100 (in Arn., Edinb., Fan & Sci.); Sung-pan, W.P. Fang & S.F. Chang, August 28, 1918, no. 4378 (in Arn., Edinb., Fan, Kew, Paris, Sci. & Sin); Wen-chuan-hsien, Wa-ssu country, E.H. Wilson, July to October 1908, nos. 1008, 1008A, & 1918 (in Arn., Brit., Edinb., Kew & Vind.); west and near Wen-chuan-hsien, W.C. Cheng, September 26, 1931, no. 3374 (in Sci.); west of Kuan-hsien, foot of Pan-lan-shan, E.H. Wilson, October 1908, no. 1005 (in Arn., Edinb., & Vind.); Kuan-hsien, Tsing-cheng-shan, W.P. Fang, July 1928, nos. 2032, 2092 & 2369 (in Arn., Berol., Edinb., Fan. Kew, Paris, Sci. & Sin.); Moupine (Pao-hsing-hsien), in silvis, A. David, April 1869, sine no. (type of Acer Davidi in Paris); same locality, E.H. Wilson, June to October 1908, no. 1005A (in Arn., Berol., Edinb., Kew & Vind.); Tien-chuan-hsion, W.P.Fang, September 8, 1928, no. 3465 (in Arn., Berol., Edinb., Fan, Kew, Paris, Sci.,& Sin.); same locality, Y. Chen, October to November 1928, nos. 5483, 5566 & 5702 (in N.F.); Mount Omei, tree 13-18 metres high, E.H. Wilson, May to November 1904, nos. 3349 & 4826 (in Kew) same locality, W.P. Fang, August 1928, nos. 2692 & 3366 (in Arn., Edinb., Fan. Kew, Sci. & Sin.); same locality, Y. Chen, November 1928, no. 7605 (in N.F.); same locality, W.P. Fang, July 22, 1930, no. 7866 (in Edinb., Sci. & Sin.); same locality, T.T. Yu, April 1932; nos. 462 & 508 (in Fan & Sci.); Hung-ya-hsien, E.H. Wilson, September 12, 1908, no. 1917 (in part) (in Arn.); Hung-ya-hsien, foot of Wa-wu-sh W. P. Fang, August 1930, nos. 8805 & 8806 (in Brit., Sci. & Sin.); Hang-yuan-hsien, Fei-yueh-ling, W.C. Cheng, April 20, 1930 /

1930, no. 716 (in Sci.); Nanchuan-hsien, Mount of the Golden Buddha, C. Bock, & A. v. Rosthorn, in 1891, nos. 137, 530, 2263, 2270 & 2271, (in Berol.); same locality, S.F. Chang, April to August 1930, nos. 56, 245, 1077 & 1110 (in Sci.); same locality, alt. 1580m., in forests, tree 7 metres high, T.T. Tu, April 22, 1932, no. 2888 (in Fan & Sci.); Siu-shan-hsien, Lung-fong-chong, tree 7 metres high, T.H. Tu, October 1932, nos. 3936 & 4030 (in Fan & Sci.); Ki-kiang-hsien, W.P. Fang, June 11, 1928, no. 1319 (in Arn., Berol., Edinb. Fan. Kew, Paris, Sci. & Sin.); Mapien-hsien, Lei-se-kon, W.P. Fang, June 21, 1930; no. 4592 (in Sci.); Opian-hsien, W. P. Fang, August 1930, no. 4903 (in Sci.); same locality, alt. 1750 m., T.T. Yu, May 23, 1932, no. 855 (in Fan & Sci.); Mian-ning-hsien, alt. 2400 m., at mountain valleys, tree 7 metres high, T.T. Yu, November 6, 1932, no. 1783 (in Fan. & Sci.); Yen-yuan-hsien, W.P. Fang, October 1930, no. 6856 (in Sci.); Kalapa, H. Handel-Mazzetti, May 1914, nos. 2300 & 2309 (in Bres., Firen., Paris & Wien); Kwapi, H. Handel- Mazzetti, May 19, 1914, no. 2393 (in Edinb., Kew, Vind. & Wien); "ober Datscho jenseits des Yalung n von Yenyuan. Ober Duorliangdse und unter Yiwanschui w von hier. Ober Sili bei Muli, " H. Handel-Mazetti, May 25, 1914, no. 2594 (in Edinb., Vind. & Wien); "inter viculum Kalapa, in dunclis, abor circa 0.8 m.alt.," C. Schneider, May 17, no. 1263 (in Berol., Edinb., & Kew); "in silvis circa Kwapie, arbuscala circa 4 m. alt. "C. Schneider, May 19, no. 1330 (in Berol., Edinb., & Kew); "inter Oti et Yenuan-hsien, prope Saussiassung", alt. 2500 m., " C. Schneider, June 4, 1914, no. 3557 (in Berol., Edinb. & Kew).

SIKANG: /

SIKANG: Ching-ting-shan, northeast of Ta-chien-lu (Kang-ting-hsien), E.H. Wilson, May to July 1908, no. 1918 (in part) (in Arn., Brit., Edinb., Firen., & Kew); southeast of Ta-chien-lu (Kang-ting-hsien), E.H. Wilson, June 1908, no. 1917 (in part) (in Arn. & Kew); Kang-tin-hsien, W.C. Cheng, June 25, 1930, no. 1290 (in Edinb., Sci. & Sin.); Chu-lung-hsien, W.C. Cheng, May to August 1930, nos. 942, 1005 & 1791 (in Edinb., Kew, Sci. & Sin.); Muli and Litang River valley, near Muli Gomba, alt. 3000 m., J.F. Rock, June 1928, no. 16141 (in Arn., Berol., Edinb., & Paris); mountains between the Litang and Yalung River, between Muil Gomba and Baurong and Wa-erh-Dje, alt. 2960 m., J.F. Rock, July 1928, no. 16611 (in Arn. & Berol.)

HUNAN: Bau-shon-sze, C.C. Chen, June 1929, no. 746 (in N.F.); Sze-chin-tan, C.C. Chen, June 1929, no. 789 (in N.F.); "Moschi bei Dsingdchou," H. Handel-Mazzetti, August 1, 1917, no. 11046 (in Berol., Vind. & Wien); "Yunschan bei Wukang, sparlisch ober dem Tempel Gwanyin-go, alt. 1200-1350 m., " H. Handel-Mazzetti, no. 11181 (in Vind. & Wien); same locality, tree 4 metres high, S.S. Sin, October 7, 1929, no. SH827 (in Berol.); "ad minas Hsikwang-schan prope urbem Hsinhwa, on fruticetis, substr. calceo et arenaceo," H. Handel-Mazzetti, September 16, 1914, no. 11777 (in Edinb., Kew, Firen., Paris, Vind. & Wien); without precise locality, S.P. Ko, May 1, 1934, no. 54210 (in Suny.)

KWEICHOW: Tung-jen-hsien, Fan-ching-shan, alt. 1900 m., K.K. Ho, July 19, 1931, no. 51340 (in Sci.); Fan-ching-shan, Niu-tou-shan, alt. 1400 m., tree 10 metres high /

high, A.N. Steward, C.Y. Chiao, & H.C. Chow, September 15, 1931, no. 576 (in Brit., Paris & Vind.); Fan-ching-shan, small tree 4 metres high, T.H. Tu, August 12, 1932, no. 3475 (in Fan & Sci.); from Tung-tze to Cheng-yi, Y. Tsiang, May 29, 1930, no. 5203 (in Fan, Paris, Sci. & Sin.); Chengyi, A. N. Steward, C.Y. Chiao & H.C. Chow, August 3, 1931, no. 156 (in Brit., Paris & Vind.); Ma-jo-hsien, J. Cavalerie, September 1908, no. 3345 (type of Acer Cavaleriei In Edinb., cotype in Kew; photo. in Fan & Sci.); "Kia-tche-che, route de pin-fa, a Kouy-yang," J. Cavalerie, April 1903, no. 998 (in Fl. Kouy-Tcheou named as Acer stachyophyllum) (in Edinb.); "Sai-ing-tze," J. Esquirol, July 1905, no. 482 (in Edinb.); Tu-yun-hsien, Yu-wu-shan, Y. Tsiang, July 20, 1930, no. 5923 (in Berol., Fan, Kew & Sci. & Sin.); same locality, on slopes, small trees 3-7 metres high, T.S. Kong, June 17, 1931, no. 50178 (in Sci.); Kwei-yang, Kwipu, Y. Tsiang, July 7, 1930, no. 8458 (in Brit. Edinb., Fan. Sci. & Sin.); south of Kweichow, border of Kwangsi, Tushan-hsien, Tuling, Y. Tsiang, September 9, 1930, no. 7066 (in Fan. Sci. & Sin.); Anling, Tin-ku-shan, Y. Tsiang, October 22, 1930, no. 7461 (in Fan Sci. & Sin.); Hongkong, J. Esquirol, June 1911, no. 2692 (in Edinb.)

YUNNAN : Yung-ning, alt. 3300 m., on sheltered wooded cliffs by the stream, shrub of 3 metres high, flowers greenish cream, F. Kingdon Ward, April 20, 1922, no. 5047 (in Edinb.); same locality, tree of 10-13 metres high growing in thickets by the lake, F. Kingdon Ward, April 22, 1922, no. 5073 (in Edinb.); mountains east of Yung-ning, lat. 27° 48' N., long. 101° E., alt. 3300-3700 m., in mixed forests, /

forests, shrub or tree of 8-13 metres high, G. Forrest, June 1922, no. 21264 (in Edinb.); Yung-pek, Owei, Pater Simeon Ten, April 22, 1920, no. 936 (in Edinb.); "Pe-yen-tsin (Yen-fong-hsien), Kouy-ty, arbor 3-5 m., flor. flavis," Pater Simeon Ten, May 16, 1917, no. 377 (in Berol., Edinb., & Wien); same locality, Pater Simeon Ten, May 10, 1919, no. 598 (in Edinb.); Io-chow (Yao-an-hsien), E.E. Maire, July to October 1914, nos. 120 (in Berol., Kew & Vind.); 430 (in Berol. & Edinb.); 507 (in Berol., Brit., Kew & Vind.); 518 (in Berol., Kew & Vind.), 590 (in Berol., Brit., Edinb., Kew & Vind.), 3002 (in Berol.) & 6673 (in Berol.); Pilong, E.E. Maire, June 1916, no. 3357 (in Berol.); Yunnansen, Jul. Cavalerie, April 26, 1903, no. 998 (in Kew); same locality, Jul. Cavalerie, in 1907, no. 7145 (in Kew); in shady side valleys on the eastern flank of the Lichiang range, lat. 27° 12' N., alt. 2200 m., shrub or tree of 7-10 metres high, flowers yellowish green, G. Forrest, May 1906, no. 2126 (in Edinb.); in mixed forests on the eastern flank of the Lichiang range, lat. 27° 12' N., alt. 4000 m., tree of 10-17 metres high, G. Forrest, September 1906, no. 2914 (in Edinb.); eastern flank of the Lichiang range, lat 27° 15' N., alt. 3700 m., tree of 7-12 metres high, flowers greenish yellow, G. Forrest, May 1910, no. 5685 (in Brit., Edinb., & Paris); Lichiang range, lat. 27° 30' N., alt. 3300 m., in mixed forests, tree of 10-15 metres high, G. Forrest, May 1913, no. 10045 (in Brit. & Edinb.); Lichiang range, in open thickets, shrub of 4-10 metres high, G. Forrest, June 1913, no. 10078 (in Brit. & Edinb.); southwest of the Lichiang snow range, Yun-lu-shan, in mixed forests, tree 5 metres high, J.F. Rock, October no. 25403 (in Edinb.)
Leilung, /

Leilung, Kaushu-shan, in mixed forests with firs and spruce, tree 8 metres high, J.F. Rock, October 1932, no. 24483 (in Edinb.); on the T'ang-shan in the Yangtze bend, lat. 27° 20' N., alt. 3300 m., in open thickets, shrub of 7 metres high, G. Forrest, August 1913, no. 10869 (in Edinb.); descent of pass to the Yangtze from Chung-tien plateau, alt. 3000 m., G. Forrest, no. 428 (in Edinb.); Chungtien plateau, lat. 27° 30' N., in open thickets, shrub of 10-14 metres high, flowers yellowish green, G. Forrest, no. 12437 (in Edinb.); Mt. Kenichunpo, eastern and western slopes, Salween and Irrawady divide, tree 7 metres high, J.F. Rock, July 1932, no. 22072 (in Edinb.); western range of Mekong on Kaakerpo, Dokerla and Tsarung, in mixed forests, tree 10 metres high, J.F. Rock, June 1932, no. 22923 (in Edinb.); Yundshi shan in mixed forests, tree 10 metres high, J.F. Rock, November 1932, no. 23535 (in Edinb.); on Ka-gwr-pu, Mekong-Salween divide, lat. 28° 35' N., alt. 3300 m., in mixed forests, shrub or tree of 10-14 metres high, G. Forrest, October 1918, no. 17302 (in Edinb.); Salween-Kiu chiang divide, lat. 28° 24' N., long. 98° 24' E., alt. 4000 m., in mixed thickets in side valleys, shrub of 7-13 metres high, G. Forrest, October 1921, no. 20837 (in Edinb.); Salween-Kiu chiang divide, N.W. of Si-chi-to, lat. 28° 30' N. long. 98° 30' E., in open mixed forests, shrub of 7-10 metres high, G. Forrest, May 1922, no. 21619 (in Edinb.); Mekong-Salween divide, lat. 27° 30' N., long. 98° 56' E., alt. 3300 m., in mixed thickets, shrub or tree of 7-14 metres high, G. Forrest, July 1921, no. 19732 (in Edinb.); Chien-chuan-Mekong divide, lat. 26° 40' N., long. 99° 40' alt. 3300-3700 /

3700 m., in open thickets in side valleys, shrub or tree of 7-14 metres high, G. Forrest, August 1922, nos. 22599 & 23116 (in Edinb.); Chienchuan-Mekong divide, lat. 26° 30' N., long. 99° 20' E., alt. 3300 m., in open deciduous forests, tree of 10 metres high, G. Forrest, May 1923, no. 23460 (in Edinb.); Shui-li-shan, west of Wei-hsi, lat. 27° 12' N., long. 99° 12' E., alt. 3300 m., in open thickets, shrub of 7-9 metres high, flowers green, G. Forrest, June 1924, no. 25442 (in Edinb.); Shweli-Salween divide, lat. 25° 20' N., long. 98° 58' E., in mixed forests, tree of 10-17 metres high, G. Forrest, April 1924, no. 24068 (in Edinb.); eastern flank of the N'Maikha-Salween divide, lat. 26° 20' N., alt. 3300 m., in mixed thickets, shrub or tree of 8-14 metres high, flowers green, young shoots purple, G. Forrest, May 1919, no. 17857 (in Brit. & Edinb.); Yangpi valley, lat. 25° 40' N., in thickets, alt. 2300 m., shrub or small tree of 7-14 metres high, flowers green, G. Forrest, May 1913, No. 9929 (in Edinb.); hills flanking the Minghong valley, lat. 25° 15' N., in forests, tree of 12-20 metres high, G. Forrest, May 1912, no. 7773 (in Edinb.); flank of the Mingkwong valley, lat. 25° 15' N., in thickets, shrub or tree of 7-14 metres high, G. Forrest, June 1912, no. 8154 (in Edinb. & Kew); N'Maikha-Salween divide, lat. 25° 30' N., in mixed forests, shrub or tree of 7-15 metres high, G. Forrest, September 1919, no. 18539 (in Edinb.); Hokin, Delavay, May 27, 1884, no. 1096 (in Kew & Paris); "Hokin, Goryes de San Tchang-Mion, Delavay, July 10, 1889, no. 4447 (in Berol. Brit., Edinb., Kew & Paris); Tse-kou, T. Monberg, sine no. (in Kew); mountains above Tseku and Tsehchung /

Tsehchung, Mekong-Salween watershed, J.F. Rock, May 1923, no. 8817 (in Edinb.); western flank of the Tali- range, lat. $25^{\circ} 40'$ N., alt. 3300 m., in open thickets, and on the margins of forests, G. Forrest, August 1913, no. 11550 (in Edinb.); without precise locality, in open thickets by streams in side valleys, shrub of 7 metres high, G. Forrest, August 1922, no. 23180 (in Edinb.); without precise locality, G. Forrest, November 1917, no. 15289 (in Edinb.); without precise locality, G. Forrest, nos. 28591, 29881 & 30038 (in Edinb.); without precise locality, N.W. Yunnan, F. Kingdon Ward, in 1913, no. 484 (in Edinb.).

KWAMGTUNG: " in confinibus prov. Hunnan versus oppidum Kweiyang, in monte Mandse-schan ad marginem saltis, " Rud Mell, July 31, 1915, no. 561 (in Wien); Lok-chonghsien, alt. 1370 m., in open mixed woods, tree 13 metres high, Y. Tsiang, October 10, 1928, no. 1222 (in Edinb., Fan, Kew, Paris, Sci., Sin. & Suny.); same locality, in shady ravines, bushy shrub 4 metres high, C. L. Tso, May 15, 1929, no. 21512 (in Edinb., Sci., & Suny.); same locality, in woods, tree 7 metres high, C.L. Tso, May 28, 1929, no. 20803 (in Edinb., Sci. & Suny.); same locality, in woods, tree 3 metres high, C.L. Tso, June 2, 1929, no. 20899 (in Suny.); same locality, stream side, tree 14 metres high, S.P. Ko, January 21, 1931, no. 51166 (in Suny.); same locality, in woods, tree 8 metres high, S.P. Ko, November 12, 1931, no. 51842 (in Suny); Tu-yuen-hsien, woodside near farm, tree 6 metres high, S.P. Ko, October 11, 1933, no. 53430 (in Suny.); same locality, in mixed woods by hill, shrub 3 metres high, S.P. Ko, March 24, 1934, no. 53917 /

53917 (in Suny.); same locality, in woods by mountains, tree 8 metres high, S.P. Ko, April 1934, nos. 54045 & 54185 (in Suny.); same locality, in forests, S.P. Kwok, April 1934, nos. 80142, 80320 & 80327 (all in Suny); Sunyi-Hsien, tree 10 metres high, S.P. Ko, April 11, 1931, no. 51268 (in Suny.).

KWANGSI: Yuan, Fang-shan, west of Luchen, R.C. Ching, June 6, 1928, no. 7335 (in Sci. & Sin.); Chu-feng-shan, north of Luchen, R.C. Ching, June 9, 1928, no. 5878 (in Sci. & Suny.); Tsian-lung-shan, north of Lin-yen, R.C. Ching, August 20, 1928, no. 7024 (in Sci. & Sin.); Yao-shan, S.S. Sin, & K.K. Whang, nos. 448, 819, 8998, 21003, 22133, 50178, 50966 & 51340 in Berol.).

This is a distinct but very variable species. It is characterized by its ovate-oblong leaves acuminate, rarely caudate-acuminate at the apex, round or subcordate at the base, and dentate-serrate on the margin, by its inflorescences from a few to 20 centimetres long and by its fruits with wings spreading at an obtuse angle or horizontally

Acer Davidi Franchet var. acuminifolium Fang, n.var

Acer Laxilforum Pax var. integrifolium Fang

in Contrib. Biol. Lab. Sci. Soc. China,

Bot. Ser. VII (1932) 179.- *

Foliis ovato-oblongis angustioribus serrulatis acumine gracillimo circ. 2.5 cm. longo cauto-acuminatis a typo differt.

SZECHUAN: Ma-pien-hsien, Tai-liang-shan, in forests
tree/

* Fang's 2692 is a topographical error for Fang 2892 in the original text.

tree 12 metres high, W.P. Fang, June 17, 1930, no. 1939 (type of this variety in Sci.); Mount Omei, W.P. Fang, August 9, 1928, no. 2892 (cotype of this variety in Arn., Edinb., Fan, Kew, Sci. & Sin.).

These two specimens were erroneously identified as a variety of Acer laxiflorum and erroneously named as integrifolium by me. They are really representing a variety of Acer Davidi. They differ from the type species in the narrowly ovate-oblong leaves sharply serrulate with adpressed acute teeth and by the very long tip which is usually up to 25 mm. in length.

Acer sikkimense Miquel in Arch. Neerl. II. (1852) 471.- Hiern in Hooker f. Fl. Brit. Ind. I. (1875) 694.- Pax in Engler, Bot. Jahrb. VII. (1886) 215; in Engler & Prantl. Pflanzenfamilien, III. pt. 5 (1896) 272; in Engler, Pflanzenreich, Heft 8 (IV.163). (1902) 34.- Wesmael in Bull. Soc. Roy. Bot. Belg. XXIX. (1890) 43.- Graf von Schwerin in Gartenfl., XLII. (1893) 229.- Henry in Gard. Chron. ser. 3, XXXIII. (1903) 63 (Chin. Maples).- Rehder in Sargent, Trees & Shrubs, I. (1905) 180; Manual Cult. Trees & Shrubs, (1927) 573.- Schneider, Illustr. Handb. Laubh. II., (1907) 217, figs. 144 b and 145 e-g.- Dunn in Journ. Linn. Soc. XXXIX. (1911) 414.- Lèveillé, Cat. Pl. Yunnan. (1917) 252.-

Acer sikkimense var. a. subintegrum Graf von Schwerin in Gartenfl., XLII. (1893) 229.- Pax in Engler, Pflanzenreich, Heft 8 (IV.163). (1902) 34.-

Medium-sized tree. Branchlets slender, those of present year greenish or red, those of more than one year old /

old greyish brown or dark brown. Winter-buds large, Ellipsoid; scales glabrous, 4 pairs. Leaves deciduous, chartaceous, ovate or ovate-oblong, 10-12 cm. long, 5-7 cm. broad, caudate on the apex, subcordate or nearly rounded at the base, entire or nearly entire; upper surface deep green, glabrous; lower surface yellowish green or pale green, with barbate hairs at the axils of nerves while young, then glabrous; petioles 2-4 cm. long, stout, glabrous. Flowers unknown. Fruits yellowish brown, numerous on pendulous fruiting racemes; nutlets 4-5 mm. long, 2 mm broad; wings falcate, narrowed at base, with nutlets 2-2.2 cm. long, 5-7 mm. broad, spreading erectly; pedicels 1-2 mm. long.

EASTERN HIMALAYA: Sikkim, Griffith, Herb. East India Co., no. 930 (in Berol. & Kew); same locality, Thomson, no. 2 (in Berol.); same locality, Gamble, sine no. (in Berol.); same locality, G.L. Lister, April 1878, sine no. (in Berol.); same locality, J.D. Hooker, sine no. (in Berol., Edinb. & Kew); same locality, Hooker f. (in Darjeeling, alt. 2300 m., C.B. Clarke, no. 3509D: (in Berol.); same locality, J.H. Lace, May 14, 1902, no. 2214 (in Edinb.); Munsoong, alt. 2200 m., W.W. Smith, April 20, 1908, sine no. (in Edinb.);

This species is characterized by its ovate leaves subcordate at the base, nearly entire on the margin and caudate acuminate on the apex, and by its racemose fruiting inflorescence with numerous sessile fruits.

Acer /

Acer sikkimense Miquel var. serrulatum Pax
 In Engler, Bot. Jahrb. VII. (1886) 215; in Engler,
 Pflanzenreich, Heft 8 (IV.163). (1902) 34.- Graf von
 Schwerin in Gartenfl., XLII. (1893) 229.- Henry in
 Gard. Chron. ser. 3 XXXIII. (1903) 63 (Chin. Maples).-
 Rehder in Sargent, Trees & Shrubs, I. (1905) 180; in
 Journ. Arn. Arb. XIV. (1933) 346.- Schneider, Illustr.
 Handb. Laubh. II. (1907) 217.- Léveillé, Cat. Pl.
 Yunnan, (1917) 252.- Chung in Mem. Sci. Soc. China, I.
 (1924) 150 (Cat. Trees & Shrubs China).- Fang in Contrib.
 Biol. Lab. Sci. Soc. China, Bot. Ser. VIII. (1932) 178.-

Shrub or small tree usually 5 metres high,
 rarely up to 12 metres high. Branchlets slender,
 glabrous, those of the present year purple or reddish
 purple, those of more than one year old grey or brownish
 grey, rarely blackish grey. Winter-buds brownish, sub-
 globose. Leaves deciduous, chartaceous, ovate or
 ovate-oblong, 9-12 cm. long, 4-6 cm. broad, nearly rounded
 or subcordate at base, acuminate or caudate-acuminate
 on the apex, serrulate on the margin with closely
 apiculate teeth; upper surface deep green or purplish
 green, glabrous; lower surface pale green, glabrous,
 3-nerved at the base, lateral nerves 5-6 pairs, slightly
 raised at the lower surface; petioles 2-4 cm. long,
 dark purple or purplish green. Flowers yellowish
 green, dioecious, 40-50 flowers in simple, glabrous
 racemes, 6-8 cm. long, on glabrous pedicels 1.-1.5 cm.
 long, terminal on leafy branchlets, appearing after
 full developing of leaves; sepals 5, oblong-ovate,
 obtuse, 3 mm. long; petals 5, as long as the sepals;
 stamens /

stamens 8, slender, glabrous, as long as petals or slightly longer, rudimentary in pistillate flower, anthers pale yellow and subglobose; disk glabrous, slightly lobed, intrastaminal; ovary glabrous, dull crimson, rudimentary or none in staminate flower, style very short, stigmas widely spreading; pedicels about 2 mm. long, slender, glabrous. Fruits crimson while young, brownish when matured, 35-45 fruits in pendulous fruiting racemes 13-15 cm. in length; nutlets flat, ovate-oblong, 8 mm. long, 5 mm. broad; wings falcate, included nutlets 2.3-2.5 cm. long, 8 mm. broad, spreading at obtuse angles; pedicels 2-3 cm. long, slender.

YUNNAN: Feng-chen-lin, mountain forests, south of Red River, alt. 2300 m., tree 3.5 metres high, A. Henry, nos. 10640 (in Arn., Berol., Edinb. & Kew) & 10640bis (in Kew); hills to the north of Teng-yueh, Lat. 25° 10' N., alt. 2300 m., in thickets, shrub of 7-10 metres high, flowers greenish yellow, G. Forrest, March 1913, no. 9759 (in Arn., Edinb., & Kew); hills north-west of Tengyueh, Lat. 25° 20' N., Long. 98° 30' E. alt. 2000-2300 m., in mixed forests, tree of 10-13 metres high, G. Forrest, September to November, 1924, nos. 25202 (in Edinb. & Kew) & 26050 (in Edinb., Paris & Vind.); Shweli River drainage basin and environs of Tengyueh, J.F. Rock, February 1923, no. 8014 (in Arn. & Berol.); west of Tali, Mekong watershed, en route to Young-chang and Tengyueh, J. F. Rock, September to October, 1922, no. 6834 (in Arn., ex Rehder); Mekong-Chutong /

Chutong divide, lat. $25^{\circ} 20'$ N. alt. 3300 m., in open thickets, shrub of 7-10 metres high, foliage rose-crimson, G. Forrest, April 1917, no. 13722 (in Edinb. & Kew); Salween-N^o Maikha divide, lat., 26° N., alt. 2300-2700 metres high, in open thickets and mixed forests, shrub of 7-12 metres high, G. Forrest, May 1919, no. 17812 (in Edinb. & Kew); Shweli-Salween divide, lat. 25° N., long. 98° E., alt. 3000 - 3300 m., in open thickets and mixed forests, shrub of 3-8 metres high, G. Forrest, April to June 1924, nos. 24081 (in Edinb., Kew, Paris & Vind.) & 24582 (in Brit. & Edinb.); Shweli-Salween divide, north of the Ho-tou lat. $25^{\circ} 30'$ N., long. $98^{\circ} 45'$ E., alt. 3300 m., in mixed thickets in side valleys, shrub of 7-10 metres high, flowers greenish yellow, G. Forrest, March 1925, no. 26233 (in Edinb.).

EASTERN HIMALAYA: Bengal, Griffith, Herb. East India Co., no. 936 (type of this variety in Berol.).

TIBET: Adung Valley, F. Kingdon Ward, March 19 and April 6, 1913, nos. 9308 and 9355 (all in Brit.).

This variety differs from the type species in having closely and sharply serrulate leaves, It is also near Acer Davidi Franchet, but its long racemose inflorescence and very short pedicels show its kinship nearer to Acer sikkimense than to Acer Davidi. As the specimens of the type species are in fruit only, a full description for the variety seems desirable.

58. Acer Kawakamii Koidzumi in Tokyo Bot. Mag., XXV. no. 290, (March, 1911) 102, name only; in Journ. Coll. Sci. Imp. Univ. Tokyo, XXXII. art. 1 (1911) 15, t. 5 (Rev. Acer. /

Acer Jap.), in Latin.-

Acer caudatum Matsumura & Hayata (non Wallich)

in Journ. Coll. Sci. Imp. Univ. Tokyo,
XXII. (1906) 96 (Enum. Pl. Formos.).

Acer caudatifolium Hayata in Journ. Coll.

Sci. Imp. Univ. Tokyo, XXX. art.1
(June 1911) 65 (Mat. Fl. Formos.).-

Tree about 12 metres high. Branchlets slender, glabrous, those of the present year green or purplish green, those of the more than one year old green or dark green. Winter-buds ellipsoid; scales glabrous; Leaves deciduous, chartaceous, ovate or ovate-oblong, 6-10 cm. long, 3-4.5 cm. broad, closely serrulate with sharp and adpressed teeth, caudate-acuminate on the apex and rounded at the base, 5-nerved at the base and with 7-8 pairs of lateral nerves; upper surface deep green, glabrous; lower surface pale green, slightly pubescent on the nerves at first, then glabrous; petioles 3-4 cm. long, slender, glabrous. Flowers andro- polygamous, in glabrous or slightly pubescent racemes about 5 cm. long on peduncles about 2 cm. long, appearing while the developing of leaves; sepals 5, purple, oblong or ob-ovate-oblong, obtuse, 2-2.5 mm. long; petals 5, white, spatulate emarginate, 3.5-4 mm. long; stamens 8, shorter than sepals; disk glabrous, slightly lobed, intrastaminal; ovary purple, glabrous, style very short, stigmas revolute; pedicels 5-6 mm. long, slender, glabrous. Fruits yellowish brown; nutlets convex, about 5 mm. in diameter; wings intr^osely falcate, 2-2.2 cm. long, 1.2 cm. broad, spreading at /

at obtuse angles; pedicels 6-7 mm. long.

FORMOSA: Mt. Arisan, without name of collector, (type in Tokyo); Kagi, Grisan, in forests, tree 12 metres high, E.H. Wilson, February to November 1918, nos. 9759 & 10885 (all in Arn., Berol. & Kew).

This species is closely related to Acer sikkimense Miquel var. serrulatum Pax. From that variety it is distinguished by the longer (6-7 mm. long) pedicels and shorter (6 cm. long) fruiting inflorescence.

59. Acer Grosseri Pax in Engler, Pflanzenreich, Heft 8 (IV.163). (1902) 80; in Engler, Bot. Jahrb. XXXVI. beibl. LXXXII. (1905) 74.- Hemsley in Journ. Linn. Soc. XXXVI. (1905) 452.- Rehder in Sargent, Trees & Shrubs, I. (1905) 181; in Journ. Arn. Arb. VII (1926) 222; VIII. (1927) 163; IX. (1928) 90; XIV. (1933) 219, fig. 7.- Chung in Mem. Sci. Soc. China, I. (1924) 149 (Cat. Trees & Shrubs China.).- Frang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 181.- Handel-Mazzetti, Symb. Sin. VII. (1933) 641, excl.-

Acer Davidi var. r. horizontale Pax in Engler Pflanzenreich, Heft 8 (IV.163) (1902) 79; in Engler, Bot. Jahrb. XXXVI. beibl. LXXXII. (1905) 73.- Rehder in Sargent, Trees & Shrubs, I. (1905) 168, in part, excl. specimen cited Wilson's 1882 from Hupeh.- Hers in Journ. N. China Branch. Roy. As. Soc. LIII. (1922) 106; List. Ess. Lign. Honan Sept. (1922) 1.-

Acer /

Acer Davidi var. glabrescens Pax in Engler,
Bot. Jahrb. XXXVI. beibl. LXXXII.
(1905) 73.- Not Pax in 1889.-

Acer Pavolinii Pampanini in Nuov. Giorn.
Bot. Ital. n. ser. XVII. (1910) 422
(Pi. Vas. Hupe').-

Acer Hersii Rehder in Journ. Arn. Arb. III
(1922) 217, in part, incl. specimens
cited Hers' 533 & 1169 from Honan,
Giraldi's 1897 and 1899 from Shensi.

Tree usually medium sized. Bark smooth, those of the present ^{year} purple or purplish green, those of more than one year old greyish yellow or greyish brown. Leaves deciduous, chartaceous, roundish ovate, 5-6 cm. long, 4-5 cm. broad, adpressed and argute biserrate, base subcordate, 5-lobed; middle lobe triangular, acuminate; lateral and basal lobes acute, obtuse or obsolete; upper surface deep green, glabrous; lower surface pale green, with yellowish barbate hairs at the base of nerves while young, then glabrous; petioles 2-3 cm. long, slender, glabrous. Flowers greenish yellow, dioecious, in slender pendulous racemes; in staminate flowers sepals 5, ovate, acute, 3 mm. long, 1-5, . . . broad; petals 5, obovate, 3 mm. long, 2 mm. broad; stamens 8, glabrous, 2 mm. long; disk glabrous, intrastaminal; pedicels 3-4 mm. long; pistillate flower the writer never saw. Fruits yellowish brown; nutlets 7 mm. long, 4 mm. broad, slightly convex; wings included nutlets 2.5-2.9 cm. long, 5 mm. broad, spreading at wide angles or nearly horizontally.

CHILI (HOPEI): "Bois de Mei-heitong, alt. 1200-
1500 /

1500 m.," L. Chanet, May 25, 1995, no. 389 (in Vind.); without precise locality, L. Chanet, in 1919, no. 90 (in Arn.; ex Rehder).-

SHANSI: Chich-hsien, H. Smith, Nos. 5895 & 7932 (in Arn., ex Rehder); Shih-li-po-shan, H. Smith, no. 6780 (in Arn., ex Rehder); Mien-shan, Lin-shih-hsien, T. Tang, June 4, 1929, no. 970 (in Arn., Fan. & Sci.); Chin-yuan-Hsien, Lin-kon-shan, K. Ling, no. 9346 (in N.F.).-

HONAN: Sung-hsien, San-kuan-miao, J. Hers, May 1919, nos. 491 & 533 (in Arn. & Kew); Lu-shih, Lao-kiun-shan, J. Hers, September 21, 1919, no. 1169 (in Arn.).

SHENSI: "Monte del Lao-y-huo, Tui-y-huo, Tui-kia-san," G. Giraldi, April 1896, no. 1440 (in Berol. & Firen.); " Monte di Mang-hua-san, ad ovest di Si-ngan-fu, distante tre giornate," G. Giraldi, October to November 1894, no. 2108 (5) (in Berol. & Firen). " Piccolo monte Hua-tzo-pin, distante dal monte Tua-u-sze, 10 chilometri e da Han-kiun-fu, 29 chilometri, chensi meridionale, G. Giraldi June 20, 1894, no. 2109 (8) (type of Acer Davidi var. horizontale in Berol., Bres. & Firen.); Kan-y-san, (Lao-y-san), G. Giraldi, July 1899, no. 2121 (type of Acer grosseri in Berol.; cotype in Bres. & Firen.); " Monte presso Tu-sze-tsuen, " G. Giraldi, September 15, 1897, no. 2122 (in Berol. & Firen.); " in alto Monte Huan-tou-san," G. Giraldi, July 1899, no. 2125 (in Berol. & Firen.); "prope Thui-kio-tsuen (Lao-y-san), " G. Giraldi, July 1899, nos. 2126 & 2127 (in Berol. & Firen.); " in base alti montis Ngo-san," G. Giraldi, July 1899, no. 2128 (in Berol. & Firen. /

Firen.); "Po-no-li," north of Shensi, G. Giraldi, July 25-30, 1897, no. 2129 (in Berol.) & Firen.); " monte-Scinian-san, Lungi il fume, Kan-y-huo, a sud del Lao-y-san, G. Giraldi, May 19, 1899, no. 2135 (in Berol. & Firen.); " alb falde del Quan-tou-san dalla parte Nord," G. Giraldi, May 5, 1898 no. 2145 (in Berol. & Firen.); "Kan-y-san, catena del Lao-y-san," G. Giraldi, May 2, 1899, no. 3773 (in Berol. & Firen.); Mt. Ki-fong-san, Hugh Scallan, September 1899, sine no. (in Arn., & Brit.); Mt. Kian-san, Hugh Scallan, in 1897, sine no. (in Arn. & Brit.); Mt. Thui-kio-kuen, Hugh Scallan, July 1897, sine no. (in Arn. & Brit.); Thai-peishan, Wm. Purdom, in 1910, no. 949 (in Arn., Edinb., & Kew) Hua-shan, J. Hers, Oct October 31, 1924, no. 3080 (in Arn., ex Rehder); 60 km. south of Sian-fu, J. Hers, October 20, 1924, nos. 2950 & 2999 (in Arn., ex Rehder); Lung-chow, Kuan-shan, J. Hers, July 3, 1922, no. 2359 (in Arn., ex Rehder); "Tsing-ling-schan, Nanwutai, pr. Hsingan, in silva templi, 1500-1700 m.," G. Fenzel, in 1933, no. 35 (in Vind.); "Nan-wutai-ad mer. urbis Hsingan, " G. Fenzel, October 5-15 1935, no. 2931 Bis. (In Vind.).

KANSU: Chi-shan, near Cheng-hsien, F.N. Meyer, October 1, 1914, no. 1758 (in Arn. ex Rehder); Lower Tebbu country, Mayaku, J.F. Rock, September to October 1926, no. 15053 (in Arn., Edinb., Kew & Paris); without precise locality, E. Licent, August 18, 1916, no. 2628 (in Paris).

ANHWEI: Chu-hwa-shan, A.N. Steward, April 25, 1924, no. 1369 (in N.B.); same locality, R.C. Ching, April 29, 1925, no. 2613 (in Arn. & Kew).

HUPEH /

HUPEH: "FAN-sien," C. Silvestri, May 20 to June 3, 1906, no. 1369 (in Firen.); "Ou-tan-scian," C. Silvestri, September 1907, no. 1370 (in Firen.); "monte Kian-scian (20 km. a S.O.di Ou-tan-scian)," C. Silvestri, September 1907, no. 1371 (in Firen.); "Kin-ki-kou," C. Silvestri, June 21 to July 4, 1906, no. 1376 (in Firen.); "Monti di Ku-tcen, alt. 600 m.," C. Silvestri, July to August 1906, no. 1377 (type of Acer Pavolinii in Firen.); "U-tan-scian," C. Silvestri, July 1913, no. 6020 (in Firen.); "Zan-lan-scian," C. Silvestri, April to August 1913, nos. 6019, 2021, 2022 & 6023 (in Firen.); "Pao-kan," C. Silvestri, May 1912, no. 6024 (in Firen.).

This species is characterized by its 5-lobed and sharply serrulate and even slightly lobulate leaves with triangular-ovate or oblong-ovate middle lobe, with acuminate lateral lobes as well as acute basal lobes which sometimes are obsolete.

Acer Grosseri Pax var. Hersii (Rehder) Rehder in Journ. Arn. Arb. XIV. (1933) 220, fig. 8.-

Acer Hersii Rehder in Journ. Arn. Arb. III. (1922) 217, in part, excl. excl. specimens cited Hers' 533 & 1169 from Honan and Scallan's specimens from Shensi; VII. (1926) 222; VIII. (1927) 163.- Hers in Journ. N. China Branch. Roy. As. Soc. XLII. (1922) 106; List. Ess. Lingn. Honan Sept. (1922) 1.- Liu in Bull. Pek. Soc. Nat. Hist. II. (1927-28) 128.- Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) /

(1932) 180; VIII. (1932) 178.- Hu in
Hu & Chun, Icon. Pl. Sin. III. (1933) 147.

Acer sp. allied to Acer grosseri Bailey, (non
pax), Gent. Herb. I. (1920) 35.-

HONAN: Teng-feng-hsien, J. Hers, April 1919, nos.
219 (type of Acer Hersii in Arn.) & 2780 (in Arn.); Tsi-
yuan-hsien, J. Hers, from 1921 to 1923, nos. 1237 (in Paris),
1739 (in Arn. & Kew) & 2800 (in Arn., ex Rehder).

HUPEH: Ki-kung-shun, A. N. Steward, July 1925, no.
1640 (in N.B.); same locality, L. H. Bailey, June 16, 1917,
sine no. (in Arn., ex Rehder); N.W. Hupeh, without precise
locality, C. Silvestri, in 1912, no. 6014 (in Berol. &
Firen.).

ANHWEI: Chu-hwa-shan, R.C. Ching, June 28, 1925,
no. 2789 (in Arn., Edinb., Fan, Kew & Sci.).-

CHEKIANG: W. Tien-mu-shan, K.K. Tsoong, May 10,
1927, no. 393 (in Sci.).

This variety differs from the type species in
having elongated acuminate lateral lobes as long as the
middle one, though in Ching's 2789 from Anhwei the lateral
lobes are obsolete and in other specimens the lateral lobes
are less developed than in the typical form.

60. Acer taiton-montanum Hayata, Icon. Pl. Formos. III.
1913) 67.-

Tree usually 7-12 metres high. Bark smooth,
dark green or greyish yellow. Branchlets slender,
glabrous, those of the present year greenish or greenish
purple, those of more than one year old greenish yellow or
greyish/

greyish brown, with small and scattered lenticels. Winter-buds ellipsoid, small; scales glabrous. Leaves deciduous, chartaceous, triangular-ovate, 5-7 cm. long, 4-5 cm. broad, cordate or nearly rounded at base, doubly serrulate, usually undivided or rarely with obsolete lateral lobes; middle lobe triangular-ovate, acuminate or long acuminate, lateral lobes small, obtuse or obsolete; upper surface deep green, glabrous; lower surface pale green, glabrous, lateral nerves 8-9 pairs; petioles 2-3 cm. long, glabrous. Flowers unknown. Fruits greenish yellow or yellowish brown, in fruiting racemes up to 4 cm. long; nutlets slightly convex, 1 cm. long, 5 mm. broad; wings with nutlets 2.5-3 cm. long, 8 mm. broad, slightly intro^{se}ly falcate, spreading at right angles; pedicels 6-7 cm. long, glabrous.

FORMOSA: "In monte Taiton," U. Faure, May 7, 1903, no. 64 (type in Takyo, Catype in Berol., Brit., Edinb., Paris & Vind.; photo. in Sci.); Tai-ho-ku, Taiton Range, round Sozan, alt. 330-1000 m., small tree 7-12 metres high, E. H. Wilson, April to December 1918, nos. 10290 & 11229 (in Berol. & Kew.)

This species is closely related to Acer sikkimense var. serrulatum Pax, from which it differs by its caudate-acuminate leaves and short fruiting inflorescence with longer pedicels.

61. Acer Veitchi Graf von Schwerin in Mitteil. Deutsch. nr. III. (1894) erste Auflage S. 51, zweite Auflage S.87; nr. IX. (1900) erste auflage S. 125, zweite Auflage S.162.- Pax in Engler, Pflanzenreich, Heft 8 (IV.163). /

(IV.163). (1902) 37.- Hemsley in Journ. Linn. Soc. Soc. XXVI. (1905) 452.- Schneider, Illustr. Hand. Laubh. II. (1907) 217, figs. 144 g & 145 a-b.- Rehder, Manual Cult. Trees & Shrubs, (1927) 573.-

Shrub or small tree. Bark white striated. Branchlets slender, glabrous, those of the present year purplish, those of more than one year old dark brown. Leaves deciduous, chartaceous, ovate or oblong-ovate, rarely triangular-ovate, 6-8 cm. long, 3-5 cm. broad, doubly serrate with obtuse teeth, subcordate at base, 3-lobed or undivided; middle lobe acuminate or shortly acuminate; lateral lobes obtuse or obsolete; upper surface light green, glabrous; lower surface deep green, glabrous; petioles 2.5-3 cm. long, slender, glabrous. Flowers and fruits never found.

Cultivated plants, (specimen in Berol.; photo. in Sci.).

This brief description has been taken from a steril specimen kept in Herb. Berol., from which Professor Pax took his description and published in Pflanzenreich.

This species is based upon specimens from a cultivated tree in London which is said "aus Nordchina stammend." The native place of this plant is not yet ascertained for so far it has not been found in the wild state in China.

62. Acer Metcalfii Rehder in Journ. Arn. Arb. XIV. (1933) 221, fig. 9.-

Acer Davidi form trilobata Diels in Notizbl. Bot. Gard. Mus. Berlin, XI. (1931) 211.-
Fang /

Fang in Contrib. Biol. Lab. Sci. Soc.

China Bot. Ser. VIII. (1932) 177.-

Acer Maximowiczii Fang (non pax) in Contrib.
Biol. Lab. Sci. Soc. China, Bot. Ser.
VII. (1932) 180, in part, incl. specimen
cited Tso's 20570 from Kwangtung.

Tree up to 10 metres high. Bark smooth. Branch-
lets slender, those of the present year purplish or
yellowish green, those of the more than one year old
blackish yellow or dark brown. Leaves deciduous, sub-
coriaceous, 10-14 cm. long, 7-11 cm. broad, subcoate or
rounded at the base, 3-lobed; middle and lateral lobes
triangular-ovate, acuminate or occasionally caudate
acuminate, coarsely serrate with obtuse teeth, except the
acumens which are entire; lateral nerves 9-11 pairs,
reaching the margin; upper surface deep green or yellowish
green, glabrous; lower surface pale green, glabrous;
petioles 2-3 cm. long, glabrous. Flowers the writer
never found. Fruits brownish yellow, 6-9 in the fruiting
raceme; nutlets 8 mm. long, 6 mm. broad; wings included
nutlets 2.2-2.5 cm. long, 8 mm. broad, spreading at obtuse
angles; pedicels 5 mm. long, slender, glabrous.

HUNAN: southern Hunan, S. S. Sin, May to August
1926, no. 289 (type of Acer Davidi f. trolobata in Berol.)

KWANGTUNG: Lung-tan-shan, near Iu, To Kang
Peng, Ts'ang Wai Tak and Ts'ang Un Kin, May 22, to July 5,
Herb. Canton Chrit. Coll. no. 12135 (type of Acer Metcalfii
in Arn.; cotype in Berol., Edinb. & Paris; photo. in Sci.);
Lok-chong-hsien, in forests, tree with deep grey bark,
fruits green, C. L. Tso, May 16, 1929, no. 20570 (in Suny.);
Jao-ping /

Jao-ping, stream side, shrub 3 metres high, N. K. Chun, April 15, 1931, no. 42649 (in Suny.).

This species is characterized by its subcoriaceous leaves, reticulate on both surfaces and remotely and coarsely dentate-serrate with obtuse teeth.

63. Acer tegmentosum Maximowicz in Bull. Phys.-Math. Acad. Sci. St.-Petersb. XV. (1857) p.125, no. 5; in Mem. Pres. Acad. Sci. St.-Petersb. div. sav. IX. (1859) p. 66, no. 160. (Prim. Fl. Amur.); in Bull. Acad. Sci. St.-Petersb. XXVII. (1880) 441: in Mel. Biol. X. (1880) p.415, 597 no. 12.- Regel in Bull. Phys.-Math. Acad. Sci. St.-Petersb. XV. (1857) p.217, no. 5; in Mel. Biol. II. (1857) p. 483, no. 5; in Mem. Acad. Imp. Sci. St.-Petersb. VII ser. IV. no. 4 (1861) p. 33 no. 105 (Trent. Fl. Ussurien.).- Reprecht in Bull. Phys.-Math. Acad. Sci. St.-Petersh. XV. (1857) p. 263 no. 12; in Mel. Biol. II. (1857) p 521 no. 12.- Nicholson in Gard. Chron. n. ser. XV. (1881) 74, fig. 13.- Pax in Engler, Bot. Jahrb. VII. (1886) 246; in Engler & Prantl, Pflanzenfamilien, III. pt. 5 (1896) 272; in Engler, Pflanzenreich, Heft 8 (IV. 163). (1902) 67.- Korshinsky in Act. Hort. Petrop. II. (1892) 317 (Pl. Amur.).- Graf von Schwerin in Gartenfl., XLII. (1893) 454.- Matsumura in Tokoy Bot. Mag. IX. (1895) 87.- Bretschneider, Hist. Europ. Bot. Discov. China, (1898) 584.- Rehder in Sargent, Trees & Shrubs, (1927) 574.- Schneider, Illustr. Handb. Laubh. II. (1907) 238, figs. 163 d-e & 164 f.- Komarov in Act. Hort. Petrop. XXII. (1904) p 733 no. 1053 (Fl. Mansh. II.).- Nakai in Tokyo Bot. Mag. XXII. (1908) 104; XXIX. (1915) 29; in Journ. Coll. Sci. Imp. Univ. Tokyo, XXVI. art. 1, (1909) 135 /

(1909) 135 (Fl. Kor.J); Fl. Sylv. Kor. I. (1915) 20 fig.
 13.- Dunn in Journ. Linn. Soc. XXXIX. (1911) 414.- Fed-
 chenko (or Fedtschenko) in Act. Hort. Petrop. XXXI. (1912)
 158 (Mat. Fl. Far East).- Yabe, Enum. Manch. Pl. (1912)
 88.- Chung in Mem. Sci. Soc. China, I. (1924) 150 (Cat.
 Trees & Shrubs China).- Fang in Contrib. Biol. Lab. Sci.
 Soc. China, Bot. Ser VII. (1932) 181; VIII. (1932) 179.-

Acer pennsylvanicum var. tegmentosum Wesmael in
 Bull. Soc. Bot. Belg. XXIX. (1890) 62.-

Tree usually medium-sized. Bark grey or dark
 grey, striped. Branchlets glabrous, those of the present
 year purple or purplish green, those of more than one year
 old yellowish green or greyish brown. Winter-buds
 ellipsoid; scales pubescent outside. Leaves deciduous,
 chartaceous, roundish-ovate, 10-12 cm. long, 7-9 cm. broad,
 doubly serrulate, rounded or subcordate at base, usually
 3-lobed, rarely with 2 small basal lobes; lobes ovate,
 acuminate; sinuses usually obtuse or widely obtuse;
 upper surface deep green, glabrous; lower surface pale
 green, with yellowish barbate hairs at the axils of nerves;
 petioles 4-7 cm. long, rarely up to 13 cm. long, glabrous.
 Flowers andro-monoecious, yellowish green, in slender,
 glabrous, pendulous racemes; sepals 5, oblong, obtuse,
 3 mm. long, 1.5 mm. broad; petals 5, obovate, 3 mm. long,
 2 mm. broad; stamens 8, glabrous, rudimentary in
 pistillate flower; disk glabrous, intrastaminal; ovary
 glabrous, rudimentary in staminate flower, style short,
 stigmas slightly pubescent and turbinate. Fruits
 glabrous, yellowish brown; nutlets flat or slightly
 convex; wings with nutlets 2.5-3 cm. long, 1-1.3 cm.
 broad /

broad, spreading at a wide angle or nearly horizontally; pedicels about 5 mm. long, very slender.

MANCHURIA: "Bergwalder im unteren Amur und Ussuri-Gebiet," C. Maximowicz, sine no. (in Berol. & Vind); Amurland, C. Maximowicz, in 1860, sine no. (in Brit. & Mun.); Amurland, R. Maack, in 1855, sine no. (in Vind.); Vladivostock and Khabarovka, C.S. Sargent, August 1903, sine no. (in Berol.); Amur, Radde sine no. (in Vind & Wien); "Provincia austro Ussuriensis, ju Silvis Prondosis, circa Vladinoston," W. Palczewski, June 1, 1895, sine no. (Komarov, Fl. Mansh. no. 1053); (in Berol.) " Provincia Amurensis, Fluvium Amur Ostium vallis Diczun," V. Komarov, June 2, 1895, sine no. (Komarov, Fl. Mansh. no. 1053) (in Berol. & Firen.); "Provincia Amurensis, Fluvium Satar circa Kasanskji, " V. Komarov, June 13, 1895, sine no. (Fl. Mansh no. 1053) (in Berol.); "Fluvium Amur, Vallis Chingan, " V. Komarov, June 20, 1895, sine no. (Komarov, Fl. Mansh. no. 1053) (in Brit. & Firen.); Chang-pei-shan, H.E.M. James, August 1886, sine no. (in Kew); Kirin, F.H. Chen, no. 364 (in Sci.); Kirin, Tong-hwa-hsien, F.H. Chen, September 20, 1931, no. 621 (in Arn., Brit., Fan. & Sci.); S.E. Manchuria, G. Fenzel, June 2, 1930, no. 47 (in Vind.).

CCREA: N. Heian, Taiyudo, E.H. Wilson, in 1917, no. 8866 (in Arn. & Birt.); Kogen, Yutenyi, Longo-san, E.H. Wilson, July 11, 1918, no. 10475 (in Arn., Berol., Brit. & Kew); Kogen, around Choanyi, Kongo-san, around Choanyi, fairly common, E.H. Wilson, September 13, 1918, no. 10727 (in Arn., Berol. & Brit.); "in monte des diamants" U. Faurie, June 22, 1906, no. 1181 (in Edinb.)

This /

This species is characterized by its three lobed leaves subcordate at base with acuminate lateral lobes from the upper part of the blade and with petioles from 6 to 13 cm. long, and by its fruits with wings 2.5 to 3 cm. long spreading nearly horizontally.

64. Acer rufinerve Siebold & Zuccarini in Abh. Akad. Munchen. IV. 2 (1846) 155; Fl. Japon. II. (1870- 85, fig. 148.- Miquel, Arch. Neerl. II. (1867) 471: Ann. Mus. Bot. Lugd.-Bat. III. (1867) 200.- Maximowicz in Mel. Biol. X. (1880) 89, 596.- Forbes & Hemsley in Journ. Linn. Soc. XXIII. (1886) 142 (Ind. Fl. Sin):- Pax in Engler. Bot. Jahrb. VII. (1886) 247; in Engler & Prantl, Pflanzenfamilien, III. Pt. 5 (1896) 272:- in Engler, Pflanzenreich, Heft 8 (IV.163). (1902) 69.- Dippel, Hand. Laubh. II. (1892) 415, fig. 192.- Koehne, Deutsch. Dendr. (1893) 383.- Graf von Schwerin in Gartenfl., XLII. (1893) 454.- Léveillé in Bull, Soc. Bot. France, LIII. (1906) 593.- Schneider, Illustr. Handb. Laubh. II. (1907) 237, figs. 163 a-e & 164 g.- Koidzumi in Journ. Coll. Sci. Imp. Univ. Tokyo, XXXII. art. 1 (1911) 19, t.9 (Rev. Acer. Jap.)- Yabe Enum. Manch. Pl. (1912) 88.- Chung in Mem. Sci. Soc. China, I. (1924) 150 (Cat. Trees & Shrubs China).- Rehder, Manual Cult. Trees & Shrubs, (1927) 573.)- Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VIII. (1932) 178.-

Acer pennsylvanicum var. rufinerve Wesmael in Bull. Soc. Bot. Belg. XXIX. (1890) 62.-

Tree usually about 10 metres high. Bark smooth, dark brown or dark purple. Branchlets slender, those of the present year purplish or purplish green, those of the more than one year old yellowish brown or dark brown /

brown. Winter-buds ellipsoid; scales glabrous. Leaves deciduous, chartaceous, roundish-ovate in outline, 7-10 cm. long and broad, doubly serrate, rounded or rarely subcordate at base, 3-lobed; middle and lateral lobes ovate-acuminate, rarely with two basal lobes; upper surface deep green, glabrous lower surface pale green, rufous-pubescent on the nerves; petioles 3-4 cm. long, sparingly rufous-pubescent while young, then glabrescent. Flowers andro-monoecious, greenish yellow in upright rufous-pubescent racemes; sepals 5, oblong-lanceolate, 3-4 mm. long, 1.5 mm. broad; petals 5, obovate-oblong, 4-5 mm. long, 2-2.5 mm. broad; stamens 8, shorter than petals; rudimentary in pistillate flower; disk glabrous, intrastaminal. Ovary pubescent, rudimentary in staminate flower, style pubescent, stigmas recurved; pedicels 1-2 mm. long, slender, pubescent. Fruits yellowish green or yellowish brown; nutlets globose, 4 mm. in diameter, pubescent while young, then glabrescent; wings slightly introrsely falcate, with nutlets about 2.4 cm. long, 9 mm. broad, spreading at obtuse or right angles.

KIRIN: Veh-fu-ling, F.H. Chen, July 1929, no. 364 (in Fan. & Sci.).

JAPAN: Amakusa, Ruin, sine no. (in Berol.); Hakusan, Ruin, in 1875, nos. 62 & 63 (in Berol.); Asamayama, U. Faurie, July 20, 1897, no. 508 (in Edinb.); Guwassan, U. Faurie, July 23, 1897, no. 516 (in Berol.); Togakushi, U. Faurie, July 17, 1898, no. 2306 (in Berol.); Daisan. ; U. Faurie, May 26, 1899, no. 3146 (in Berol. & Edinb.); Shikoku, Mt. Tsurugi, U. Faurie, June 1900, no. 3858 (in Edinb.); "in sylvis Takayu, " U. Faurie, June 24, 1904, no. 6103 /

6103 (in Berol.); "in Berol.); " in sylvis Ubayu," U. Faurie, July 1, 1904, no. 6104 (in Berol. & Edinb.); "in sylvis Hayachine, " U. Faurie", June 5, 1905, no. 6732 (in Berol.).

This species is characterized by its 3-lobed leaves with petioles and the veins on the lower surface rufous pubescent while young, by its pubescent racemes and by its young pubescent samara.

Acer taiwanense Yamamoto (in Journ. Soc. Trop. Agric. Taiwan, V (1933) p. 180 fig. 6) of Formosa is a near ally of this species. I have seen no specimen of that species. By description the difference seems that species having large fruits usually up to 6 cm. long and 2 cm. broad.

65. Acer laxilforum Pax in Engler, Pflanzenreich, Heft 8 (IV.163) (1902) 36, fig. 7 c.d.- Henry in Gard. Chron. ser. 3, XXXIII. (1903) 63 (Chin. Maples).- Hemsley in Journ. Linn. Soc. XXXVI. (1905) 452.- Rehder in Sargent, Trees & Shrubs, I. (1905) 180; II. (1907) 26; in Sargent Pl. Wilson. I. (1911) 93, in part, excl. syn. Acer Pavolinii; III. (1917) 426, excl.; Manual Cult. Trees & Shrubs, (1927) 573; in Journ. Arn. Arb. XIV. (1933) 214, fig. 2.- Schneider, Illustr. Handb. Laubh. III (1907) 215, figs. 143 i & 144 h.- Léveillé, Cat. Illustr. Pl. Seutchouen, (1918) 179, MSS.- Pax & Hoffman in Fedde Repert. beih. XII. (1922) 435 (Bot. Reis. Hochg.Chinas & Ost-Tibets).- Chung in Mem. Sci. Soc. China I. (1924) 149 (Cat. Trees & Shrubs China), in part, excl. syn. Acer Forestii. W.W. Smith & etc. in Notes Roy. Bot. Gard. Edinb., XIV. (1924) 353, excl.- Fang in Contrib. Biol. Lab.Sci. Soc. China, Bot. Ser. VII (1932) 178, in part, excl. specimens cited Chun's 4030 & 4220 from Hupeh, Forrest's 5602 from Yunnan; VIII.(1932) 178.-

Acer laxilforum var. -genuinum Pax in Engler,
Pflanzenreich, Heft 8 (IV.163) (1902)

36.-

Tree usually 5-10 metres high, rarely up to 15 metres high. Bark smooth. Branchlets slender, glabrous, those of the present year purple or greenish purple, those of the more than one year old purplish brown or dark brown. Winter-buds brown, glabrous, ellipsoid, accrescent scales oblong-obovate, white pubescent on the margin. Leaves deciduous, chartaceous, ovate, 7-12 cm. long, 5-8 cm. broad, sharply serrulate with adpressed teeth, cordate or sub-cordate at base, 3 - rarely 5- lobed; middle lobe long acuminate, slender; lateral lobes small, acute; basal lobes usually obsolete; upper surface deep green, glabrous; lower surface yellowish green or pale green, 9-11 pairs of nerves, rufous pubescent on the nerves while young, less pubescent when matured; petioles 4-7 cm. long, slender, slightly rufous pubescent. Flowers greenish yellow, dioecious, on glabrous, pendulous racemes 4 cm. in length, with peduncles 2 cm. in length, terminal on leafy branchlets, appearing after leaves; sepals 5, green or purplish, oblong, obtuse, glabrous, 4 mm. long, 2 mm. broad; petals 5 obovate, obtuse, narrowed at the base, 4 mm. long, 2 mm. broad; disk glabrous, slightly lobed, intrastaminal; stamens 8, glabrous, about 3 mm long, included, rudimentary in pistillate flower, anthers yellow ovary glabrous, rudimentary in staminate flower, style 1 mm. long, stigmas recurved; pedicels about 3 mm. long, slender, glabrous. Fruits purple while young, greenish yellow or brownish yellow when matured; nutlets flat, about 8 mm. in diameter; wings with nutlets 2.5-2.7 cm. long, 1 cm. broad, /

broad, spreading at obtuse angles or nearly horizontally; pedicels slender, glabrous.

SZECHUAN: southeast of Sungpan, E.H. Wilson, August to October 1910, nos. 4099, 4100 & 4513 (all in Kew); same locality, W.P. Fang & S.F. Chang, August 11, 1928, no. 4171 (in Arn., Edinb., Fan. Kew, Paris, Sci. & Sin.); same locality, W.C. Cheng, August 24, 1931, no. 3085 (in Sci.); "Wenchuan-hsien, Tal von Tsao po, alt. 2600 m., "Limpricht, May 13, 1914, no. 1447 (in Bres. & Vind.); Wa-ssu-country, Wen-chuan-hsien, E.H. Wilson, July 1908, nos. 1007, 1309 and 4099 (in Arn. & Vind.); Kuan-hsien, W.P. Fang, July 14, 1928, no. 2369 (in Arn., Edinb., Fan, Sci. & Sin.); Pan-lan-shan, west of Kuan-hsien, E.H. Wilson, June 1908, nos. 1309 & 1904 (in Arn., Brit., Edinb., Kew & Vind.); Mupin (Pao-hsing-hsien), E.H. Wilson, June to November 1908, nos. 1007 & 1007A, (all in Arn. Brit. Edinb., Kew & Vind.); Mount Omei, E. Faber, in 1887, no. 453 (paratype in Berol., Kew & Vind.); same locality, E.H. Wilson, May 1904, Veitch Exped. no. 3349A (in Kew); same locality, W.P. Fang, August 13, 1928, no. 2874 (in Arn., Edinb., Fan. Kew, Paris & Sci.); same locality, Ching & Shun nos. 189 & 224 (in Sci.); "Yatchow-fu" (Ya-an-hsien), Ma-an-shhan, alt. 2000 m., Limpricht, June 10, 1914, no. 1574 (in Berol., Bres. & Vind.); Hungya-hsien, Wa-wu-shan, W.P. Fang, August 1930, nos. 8171, 8201 & 8238 (in Edinb., Fan, Kew, Sci. & Sin.); Same locality, T.H. Tu, July 16, 1931, no. 280 (in Sci.); Han-yuan-hsien, Ta-shon-ling, W.C. Cheng, April 17, 1930, no. 660 (in Sci.); Wa-shan, E.H. Wilson, June and October 1908, no. 1154 (in Arn., Brit., Edinb., & Kew); Nanchuan-hsien /

hsien, Mount of the Golden Buddha, W.P. Fang, May 1928, no. 1191 (in Arn., Edinb., Fan, Kew, Sci. & Sin.); Mapien-hsien, W.P. Fang, May to June 1930, nos. 448, 483, 493 (all in Edinb., Kew, Sci. & Sin.) 4535 & 4537 (in Sci. & Sin.); Opian-hsien, W.P. Fang, July 12, 1930, no. 7310 (in Edinb., Kew, Sci. & Sin.).-

SIKANG: Ta-chien-lu (Kang-tin-hsien), A.E. Pratt, no. 838 (type in Berol., cotype in Bres., Brit. & Kew); same locality, E.H. Wilson, no. 1309 (in part) (in Arn. & Brit.); same locality, W.P. Fang, September 28, 1928, no. 3664 (in Arn., Edinb., Fan, Kew, Paris, Sci. & Sin.); same locality, W.C. Cheng, June 1930, no. 1290 (in Brit., Edinb., Fan, Sci. & Sin.); southeast of Kang-tin-hsien, W.C. Cheng, May to August 1930, nos. 798, 804, 1496 and 1591 (in Edinb., Fan, Sci. & Sin.);

This species is characterized by its lobed leaves with sharply acute serrate, caudate and slender acumen and more or less rufous pubescent veins beneath, and by its purplish flowers and purplish young fruits.

Acer laxiflorum Pax var. longiphyllum Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 179.- Rehder in Journ. Arn. Arb. XIV. (1933) 215.-

SZECHUAN: Ma-pien-hsien, W.P. Fang, June 19, 1930, no. 4513 (type of the variety in Sci.).-

This is a very distinct variety. It differs from the type by its long leaves and its fruits with wings widest at the base and spreading horizontally or sometimes recurved.

66. Acer taronense Handel-Mazzetti in Anz. Akad. Wiss. Wien /

Wien, Math.-Nat. LXI. (1924) 84 (Pl. Nov. Sin. Fort. 25 p.3).-
 Rehder in Journ. Arn. Arb. XIV. (1933) 215, fig. 3.-

Acer laxiflorum Pax var. longilobum Rehder in
 Sargent, Pl. Wilson. I. (1911) 94,
 in part, excl. specimen cited Wilson's
 4108 from Szechuan.- Schneider, Illustr.
 Handb. Laubh. II. (1912) 1028.- Léveillé,
 Cat. Illustr. Pl. Seutchouen, (1918)
 179, MSS.- Chung in Mem. Sci. Soc. China,
 I. (1924) 149 (Cat. Trees & Shrubs).
 Handel-Mazzetti, Symb. Sin. VII. (1933)
 642.-

Tree usually 10 metres high, rarely up to 20
 metres high. Bark smooth, blackish brown. Branchlets gla-
 brous, those of the present year purple or reddish purple,
 those of more than one year old brownish purple or blackish
 purple. Winter-buds ellipsoid, glabrous; scales slightly
 pubescent on the margin. Leaves deciduous, chartaceous,
 triangular-ovate or ovate-oblong in outline, 6-15 cm. long,
 4-9 cm. broad, doubly serrulate with adpressed acute teeth,
 cordate or sub-cordate at base, 5-lobed; middle lobe tri-
 angular-ovate, acuminate, occasionally with a caudate acumen,
 lateral lobes acuminate; basal lobes small, acute, rarely
 obsolete; sinuses acute or obtuse; upper surface deep green,
 glabrous, with slightly depressed nerves; lower surface pale
 green, densely rufous pubescent on the conspicuous nerves
 while young, less pubescent when matured; petioles 2-6 cm.
 long, densely rufous pubescent while young, less pubescent
 when matured. Flowers yellowish green, dioecious, 30-40
 flowers /

flowers on simple racemes 6-8 cm. long, on peduncles 1.5-2 cm. long, terminal on leafy branchlets, appearing after developing of leaves; In staminate flower sepals 5, oblong, obtuse, glabrous, 3 mm. long, 2 mm. broad; petals 5, obovate, obtuse, 3 mm. long, 2 mm. broad at the widest part; stamens 8, glabrous, slender, 2 mm. long, included; disk glabrous, lobed, intrastaminal; ovary rudimentary; pedicels 4 mm. long, slender, slightly pubescent; pistillate flower the writer never found. Fruits purplish yellow; nutlets flat or subglabose, about 6 mm. in diameter; wings with nutlets about 2-2.3 cm. long, 7 mm. broad, spreading at an obtuse angle; pedicels 6 mm. long, slender.

SZECHUAN: Chin-ting-shan, E.H. Wilson, May 23, 1908, no. 1927 (type of Acer laxiflorum var. longilobum in Arn.; cotype in Berol., Brit., Edinb., Firen. & Vind.); Tu-ti-liang mountains, Lung-an-fu, E.H. Wilson, August 1910, no. 4509 (in Arn., ex Rehder); Muppin (Pao-hsing-hsien), E.H. Wilson, October 1908, no. 1069 (in Edinb.).

YUNNAN: "prope fines Tibeto-bumnicas fluvios Ludjiang (Salween) et Djiou-djiang (Irrawaddi)," H. Handel-Mazzetti, July 5, 1916, no. 9385 (type of Acer taronense in Wien; cotype in Vind.); Mount of Chi-cha or Gitsa Ngulu, west of Mekong and north of Weihsi, alt. 2850 m., tree 8 metres high, J. F. Rock, July 1928, no. 17062 (in Berol.); same locality, in forests, tree 9-12 metres high, J.F. Rock, October 1929, no. 18425 (in Arn. & Berol.); Shweli-Salween divide, lat. 25° 20' N., in forests, tree of 13-20 metres high, G. Forrest, August 1912, no. 8900 (in Edinb. & Kew); western /

western flank of the Shweli-Salween divide, lat. $25^{\circ} 20'$ N., alt. 3000 m., in open thickets, tree of 10-17 metres high, G. Forrest, August 1912, no. 9059 (in Edinb. & Kew); Shweli-Salween divide, lat. $25^{\circ} 30'$ N., long. $98^{\circ} 58'$ E. in forests, shrub or tree of 7-15 metres high, immature fruits dull crimson, G. Forrest, May 1924, no. 24264 (in Edinb. & Kew); Shweli-Salween divide, in thickets and open forests, shrub of 10 metres high, G. Forrest, September 1924, no. 25184 (in Edinb. & Kew); hills south of Tengyueh, lat, 25° N., long. $98^{\circ} 30'$ E., in thickets, shrub of 7 metres high, flowers green, G. Forrest, April 1925, no. 26317 (in Edinb. & Kew); hills west of Lung-fan, lat. $25^{\circ} 54'$ long. $98^{\circ} 33'$ E., alt. 2700 m., in thickets, shrub of 7 metres high, G. Forrest, May and October 1925, nos. 26581 (in Edinb., Kew & Vind.), & 27407 (in Edinb.); Tsarong, Salween-Kiu Chang divide, northwest of Si-chi-to, lat. $28^{\circ} 35'$ N. long. 98° , $18'$ E. alt. 4000 m., in thickets by streams, shrub of 6-9 metres high, flowers purplish red, G. Forrest, June and October 1922, nos. 21671 and 22744 (all in Edinb.); N'Maikha-Salween divide, Lat. $26^{\circ} 20'$ N. alt. 2700 m., in open thickets tree of 10-13 metres high, G. Forrest, June 1931, no. 29714 (in Edinb.); without precise locality, G. Forrest, no. 30373 (in Edinb.).

NORTH EASTERN UPPER BURMA: Hills around Szi-tse-ti, lat. $25^{\circ} 58'$ N., long. $98^{\circ} 29'$ E., alt. 3300 m., in mixed thickets, tree of 13 metres high, flowers green, G. Forrest, May and October 1925, nos. 26501 (in Edinb., Kew & Vind.) & 27269 (in Edinb.); Shing-hong Pass, tree of 7-10 metres high, R. Farrer, June 18, 1920, no. 1618 (in Brit. & Edinb.).

TIBET :/

TIBET: Modung, Rong-to Valley, Zayul, alt. 3000 m., a small tree with greenish flowers, F. Kingdon Ward, May 27, 1933, no. 10430 (in Brit. & Edinb.); Zayul, Chutong, Camp., above Ata, alt. 3300m., in mixed forests, a small tree, fruits red in pendent racemes, F. Kingdon Ward, October 1933, no. 10911 (in Brit. & Edinb.); Zayul, Rang-to Valley, above Migu, alt. 3300-3700 m., a small tree with ascending branches, fruits in pendent racemes, pale when ripe, F. Kingdon Ward, November 23, 1933, no. 11003 (in Brit. & Edinb.).-

This species is characterized by its leaves with comparatively broader and shorter middle lobe, comparatively longer caudate-acuminate lateral lobes, acute basal lobes, finer and closer serrations whose teeth are aristate, and with densely rufous-pubescent veins beneath, and by its elongated simple racemes with shortly pediceled flowers as well as shortly pediceled fruits.

67. Acer Forrestii Diels in Notes Roy. Bot. Gard. Edinb., V. (1912) 165.- Léveillé, Cat. Pl. Yunnan (1917) 252.- W. W. Smith & etc in Notes Roy. Bot. Gard. Edinb., XIV. (1924) 134, 248, 256, 282, 333; XVII. (1929) 95.- Rehder in Journ. Arn. Arb. XIV. (1933) 216, fig. 4.-

Acer laxiflorum Rehder (non Pax) in Sargent, Pl. Wilson. III (1917) 426.- Chung in Mem. Sci. Soc. China, I. (1924) 148, (Cat. Trees & Shrubs China), in part, incl. syn. Acer Forrestii.- Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 178, in part.-

Acer grosseri Handel-Mazzetti (non Pax) Sym.

Sin. /

Sin. (1933) VII. 641.-

Acer Grosseri Pax var. Forrestii (Diels)

Handel- Mazzetti, Symb. Sin. VII. (1933)
642.-

Acer Maximowiczii Handel-Mazzetti (non Pax)

Symb. Sin. VII. (1933) 640.-

Acer Forrestii Diels, var. minor W.W. Smith,

MSS. - apud Léveillé, Cat. Pl. Yunnan,
(1917) 252.-

Tree usually 10 metres high, rarely up to 17 metres high. Bark rough. Branchlets slender, glabrous, those of the present year purple or reddish purple, those of more than one year old greyish brown or blackish brown. Winter-buds purple, small, ellipsoid, glabrous. Leaves deciduous, chartaceous, ovate in outline, 7-12 cm. long, 5-9 cm. broad, cordate or subcordate at base, doubly serrulate with adpressed acute teeth, 3-lobed; middle lobe triangular-ovate, caudate-acuminate; lateral lobes triangular-ovate, acuminate, about one half as long as the middle lobe, rarely short and acute; upper surface deep green or purplish green, glabrous; lower surface pale green, glaucescent, rarely with barbate hairs at the axils of reticulate nerves; petioles 2.5-5 cm. long, slender, glabrous, purplish green. Flowers yellowish green, dioecious, 15-20 staminate flowers or 5-12 pistillate flowers on glabrous racemes, terminal on leafy branchlets, appearing after leaves; sepals 5, ovate-oblong, obtuse, 3-4 mm. long, glabrous; petals 5, obovate, obtuse, 3-4 mm. long, 1.5-2 mm. broad at the widest part; stamens 8, slender, glabrous, as long as the petals, rudimentary in pistillate flower; disk glabrous, slightly lobed, intrastaminal /

intrastaminal; ovary glabrous, reddish purple, rudimentary in staminate flower; style glabrous, stigmas revolute, staminate flowers with glabrous pedicels about 3 mm. long; pistillate flower with glabrous pedicels about 6 mm. long. Fruits reddish purple while young, brownish yellow when matured; nutlets flat, 7 mm. in diameter; wings with nutlets 2.3-2.5 cm. long, 6-8 mm. broad, spreading at an obtuse angle pedicels 6-8 mm. long, slender, glabrous.

SZECHUAN: "in montium Daliang-schan (Territorii 1610) ad orientem urbis Ninguen regione temperata, ad vicum Lolokou circa rivum," H. Handel-Mazzetti, April 21, 1914, no. 1474 (in Berol., Vind. & Wien) east of Ning-yuan-fu (Si-chang-hsien), C. Schneider, in 1914, no. 959 (in Arn., ex Rehder); "inter-Ouentin et Kalapa," C. Schneider, June 4, 1914, no. 1462 (in Arn., Berol., Edinb., & Kew); "in dumclis mount, inter Hunka et Woloho, arb. circa 8:0.6 m., " C. Schneider, June 13, 1914, no. 1499 (in Arn., Berol. & Edinb.); "supra vicum Kalapa, 27° 40' N., inter oppidum Venyuan et castellum Kwapi in regionis temperatae fructicetis siccus," H. Handel-Mazzetti, May 17, 1914, no. 2295 (in Wien)

SIKANG: Mountains north-east of Muli, lat. 28° N., long. 101° 6' E., alt. 3000-3300 M., in thickets and mixed forests, shrub or tree of 7-14 metres high, flowers dull olive-yellow, G. Forrest, June 1922, no. 21337 (in Arn., Edinb. & Paris); mountains around Muli, lat. 28° 12' N., long. 101° E., alt. 3300-3700 m., " G. Forrest, July 1930, no. 28395 (in Edinb.) Muli, mountains of Kulu, alt. 3200-3800 m., tree 7-12 metres high, J.F. Rock, June to September, 1929, nos. 17993, 18046 & 18230 (all in Arn., Berol., Edinb. & /

& Kew); Muli, Mountains of Kulu, alt. 4000 m., in mixed forests, tree 4-5 metres high, J.F. Rock, in 1932, no. 23920 (in Edinb.); Tsarung, mountains west of the Kaakerpo, Dokerla and Yundshi, alt. 3800 m., in mixed forests, tree 5-12 metres high, J.F. Rock, May 1932, no. 23160 (in Edinb.) Yundshi Mountains, alt. 3800 m., in mixed forests, tree 5-12 metres high, J.F. Rock, August 1932, no. 23612 (in Edinb.).

YUNNAN: Eastern flank of the Lichiang range, lat. 27° 12' N. alt. 3300 m., in shady side valleys, tree of 8-12 metres high, flowers brownish green, G. Forrest, May 1906, no. 2106 (type in Edinb.; cotype in Berol.); open situations in Pine Forests on the eastern flank of the Lichiang range, lat. 27° 12' N. alt. 3300-3700 m., spreading tree of 10-13 metres high, G. Forrest, June 1906, no. 2292 (in Edinb.); eastern flank of the Lichiang range, open situations in mixed forests, tree 7-10 metres high, flowers brownish green, G. Forrest, May 1910, no. 5612 (in Brit., Edinb. & Kew); eastern flank of the Lichiang range, shady situations on the margins of the mixed forests, shrub or tree of 7-12 metres high, G. Forrest, June 1910, no. 6008 (in Brit., Edinb. & Kew); eastern flank of the Lichiang range, in mixed forests, tree of 7-13 metres high. G. Forrest, September 1910, no. 6564 (in Edinb. & Kew); Lichiang range, open situations, alt. 3300 m., shrub or tree of 7-15 metres high, G. Forrest, June 1913, nos. 10063 & 10236 (in Brit., Edinb., & Kew); Lichiang, C. Schneider, July to October 1914, nos. 1909, 3281; & 3338A (in Berol.); " in montis Yulung-schan prope urbem Lidjiang (Likiang) regione temperata in Bambusetis supra prata Ndwolo," H. Handel- /

Handel-Mazzetti, June 7, 1915, no. 6677 (in Firen. Mun., Vind. & Wien); Yangtze watershed, western slopes of Likiang snow range, J. F. Rock, July 1923, no. 5404 (in Edinb.); Yungning, alt. 3330-3700 m., on slopes of the limestone range, tree of 13-17 metres high, F. Kingdon Ward, April 22, 1922, no. 5079 (in Edinb.); Pe-y'en-tsin (Yen-fong-hsien) Kouty, Pater Simeon Ten, May 28, 1918, no. 548 (in Edinb.); "Io-chow" (Yao-an-hsien), E.E. Maire, in 1914, no. 720 (in Edinb.); "Rockers de Makong," E.E. Maire, May 1910, no. 7191 (in Berol.); mountains in the northeast of the Yangtze bend, lat. $27^{\circ} 45'$ N., alt. 3300 m. in thickets, tree of 14 metres high, G. Forrest, September 1913, no. 11226 (in Edinb.); mountains of the Chungtien plateau, lat. $27^{\circ} 55'$ N. in thickets, shrub of 7-10 metres high, G. Forrest, September 1913, no. 11279 (in Edinb.); Alpine meadows north of Chungtien in Tonwa Territory, alt. 3400 m., in mixed forests, tree 17 metres high, flowers yellow, J.F. Rock, April 1932, no. 24715 (in Arn., Brit., & Edinb.); west of Mekong and north of Wei-hsi, Mount Chi-ch's or Gitsa Ngulu, alt. 3850m., J.F. Rock, June 1928, no. 17062 (in Arn. & Edinb.); on shaded slopes at A-tun-tsu, alt. 4300 m., small tree of 5-7 metres high, F. Kingdon Ward, in 1913, no. 359 (in Edinb.); on Doker-la, Mekong-Salween divide, lat. $28^{\circ} 20'$ N., in open thickets and mixed forests, shrub or tree of 7-13 metres high, G. Forrest, September 1917 no. 14763 (in Edinb.); Doker-la, Mekong-Salween divide, lat. $28^{\circ} 20'$ N. long. $98^{\circ} 40'$ E. alt. 3000-3300 m., in mixed thickets and forests, G. Forrest, August 1921, no., 20009 (in Edinb.); between Chienchuan plain and Mekong drainage, basin, J.F. Rock, no. 8630 (in Arn., ex Rehder); Chienchuan-Mekong /

Mekong divide, lat. 26° 30' N., long. 99° 40' E., alt. 3300-3700 m., in open thickets or in mixed forests in side valleys, shrub or tree 7-18 metres high, G. Forrest, September 1922, no. 22239 & 22380 (in Edinb. & Kew); without precise locality, G. Forrest, nos. 28021, 28721, 29235, 30462, 30496, 30631, 30726 & 30979 (all in Edinb.)

This species is closely related to Acer laxiflorum Pax, Acer taroinense Handel- Mazzetti and Acer Maximowiczii Pax, but it differs from first two species in its leaves glaucescent but not pubescent beneath and from the third species in its leaves without basal lobes, glaucescent beneath and with finer and closer serrations.

Acer Forrestii Diels f. *caudatilobum* Rehder in *faun. Arn. arb.* XIV. (1933) 217. f. 5.-
Acer laxiflorum var. longilobum (non Rehder) Fang

in contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VIII (1932) 178, not Rehder.-

YUNNAN: Yangtze watershed, western slopes of Likiang snow range, alt. 3300-3700 m., tree 10 metres high, J.F. Rock, May 30 to June 6, 1922, no. 4149 (type in Arn.; cotype in Edinb.); "prope urbem(Lidjiang) imprimis in monte Yulung-schan, " H. Handel-Mazzetti, June to September 1914, no. 3741 (in Wien); "Beyendjing (Yen-fonghsien), in silvis Kuli," Pater Simeon Ten, May 1918, no. 321 (in Vind.); "inter pagum Dschungdien (Chungtien) et vicum Djitsung, in regionis frijide temperatae abietetis jugi Ngukala, " H. Handel-Mazzetti, August 25, 1915, no. 7799 (in Wien).

This form differs from the type by its long caudate acuminate lateral lobes which are sometimes as long as the middle lobe.

68. Acer Wardii; W.W. Smith in Notes Roy. Bot. Gard. Edinb., X. (1917) 8; XIV. (1924) 256, 278; XVII. (1930) 304. - Handel-Mazzetti Pl. Nov. Sin. Forts. 36 (1925) 8.- Handel-Mazzetti, Symb. Sin. VII. (1933) 642.- Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 181.-

Acer mirabile Handel-Mazzetti in Sitz. Akad. Wiss. Wien, XLI. (1924) 84 (Pl. Nov. Sin. Forts. 25 p. 4).-

Tree usually 5-8 metres high, rarely up to 13 metres high. Bark grey or blackish grey, rough. Branchlets slender glabrous, those of the present year purple or greenish purple, those of more than one year old brownish purple or blackish purple. Winter-buds brown, ellipsoid; scales ovate ciliate on the margin. Leaves deciduous, chartaceous, ovate in outline, 7-9 cm. long, 6-8 cm. broad, subcordate at base, serrulate on the margin with adpressed apiculate teeth, 3-lobed; middle lobe triangular-oblong, elongated caudate-acuminate, with slender tailed acumen 2.5-3 cm. in length; lateral lobes ovate, elongated caudate acuminate, with slender, tailed acumen 2-2.5 cm. in length; sinuses acute; upper surface shining, deep green, glabrous; lower surface pale green, usually glabrous, rarely rufous-pilose on the axils of the primary veins; petioles 3-5 cm. long, slender, glabrous, purple or purplish green. Flowers purple, dioecious, in loose, slender paniculate racemes 3-5 cm. long, terminal on leafy branchlets, appearing after developing of leaves; in staminate flower sepals 5, linear-oblong, acute. 3 mm. /

mm. long, 1 mm. broad; petals 5, the same size as the sepals; disk flat, glabrous; stamens 8, glabrous, about 1.5-2 mm. long, inserted at the middle of the disk; ovary rudimentary; pedicels 1-2 cm. long, slender, glabrous, with persistent narrow bracts 1-1.5 cm. in length; pistillate flower the writer never found. Fruits purple while young, purplish yellow when matured; nutlets flat, oblong, 8 mm. long, 4 mm. broad; wings with nutlets 2.2-2.5 cm. long, 1 cm. broad, spreading at obtuse angles; pedicels 1 -1.5 cm. long, slender.

YUNNAN: "in pluviisilvis calide temperatis summis vallis Doyon-lumba ad fluvium Ludjiang (Salween)., " H. Handel-Mazzetti, September 23, 1915, no. 8286 (type of Acer mirabile in Vind.; cotype in Bres. & Wien); "etiam supra Bahan, " H. Handel-Mazzetti, June 24, 1916, no. 9056 (para-type of Acer Mirabile in Vind.); Mount Chi-cha or Gitsa Ngulu, west of the Mekong and north of Weihsi, alt. 3850 m., J.F. Rock, June to July, 1928, no. 17061 (in Brit. & Edinb.); same locality, J.F. Rock, September to October, 1929, nos. 18417 (in Arn., Berol., Kew & Paris) & 18419 (in Arn., Berol., & Edinb.); Tsarong, Salween-Kiu Chiang divide, west of Chamatong, lat. $28^{\circ} 18' N.$, long. $98^{\circ} 27' E.$, alt. 3700 m., in open thickets and forests, by streams, in side valleys, shrub of 7-12 metres high, flowers greenish-maroon, G. Forrest, June and October 1922, nos. 21645 & 22742 (in Edinb. & Kew); northern slopes of Mount Kenichunpo north of Sikitung, Upper Salween River, J. F. Rock, May to October 1932, nos. 22114 (in Arn., & Edinb.) 22218 (in Arn. Brit. & Edinb.) & 22555 (in Arn. & Edinb.); Salween- Kiu Chiang divide, lat. $27^{\circ} N.$, long. $98^{\circ} 35' E.$ alt. 3700-4000 m. in /

in thickets in side valleys, shrub of 4-7 metres high, flowers dark ruddy purple, G. Forrest, July 1924, no. 25669 (in Edinb. & Kew).

TIBET: Laktang, alt. 3000 m., a beautiful tree of 7 metres high, in upper forests and on ridge, amongst Rhododendrons. leaves pale green flushed with red, flowers red, F. Kingdon Ward, May 19, 1922, no. 3043 (in Edinb.); Assam, Delei, Valley, lat. $28^{\circ} 20'$ N., long. $96^{\circ} 97'$ E., a medium sized tree of the Rhododendron forests, flowers in red bud, young foliage copper red, F. Kingdon Ward, May 5, 1928, no. 8138 (in Kew); Assam, Delei Valley, F. Kingdon Ward, September 1928, no. 8215 (in Edinb.); Adung Valley, F. Kingdon Ward, May 16-24, 1931, nos. 9481 & 9538 (in Brit); Rang-to Valley, F. Kingdon Ward, May 12, 1933, no. 10399 (in Brit.).

NORTH EASTERN UPPER BURMA: Small tree of 8-12 metres high, Open drier parts of forest at 3000-3350 m., near Htawgaw, valley of Naung-chaung, Lashi country, F. Kingdon Ward, May 1914, no. 1614 (type of Acer Wardii in Edinb.); Shing-hong Pass, a light graceful little tree of the alpine woodland, R. Farrer, June 18, 1920, no. 1619 (in Edinb.); Western flank of the N'Maikha-Salween divide, lat. $26^{\circ} 20'$ N., in open thickets, shrub of 8-10 metres high, flowers purple-crimson, G. Forrest, May 1919, no. 18004 (in Edinb., Kew & Paris); western flank of the N'Maikha-Salween divide, near Pao-ti-ho, lat. $26^{\circ} 20'$ N., long. $98^{\circ} 48'$ E., alt. 3000 m., in thickets in side valleys, shrub of 10 metres high, G. Forrest, May and October 1925, nos. 26539 (in Edinb., Brit. & Vind.) & 27518 (in Edinb. & Kew); flank of /

of the N'Maikha-Salween divide, lat. 26° 30' N., in thickets, shrub of 7 metres high, flowers purple, G. Forrest, June 1931, no. 29653 (in Edinb.).

This species is quite distinct and easily recognised by its 3-lobed leaves with elongated acumens, by its purple flowers with narrow sepals and petals, and by its persistent narrow lanceolate bracts.

Professor Smith and Professor Rehder placed this species in section Spicata. The writer followed Dr. Handel-Mazzetti and placed it in the section Macrantha on account of its lacemose inflorescence, its stamens inserted at the middle of the disk, and its 3-lobed leaves with elongated caudate-acuminate lobes serrulate on the margin. It seems nearer to the section Macrantha than to Spicata.

69. Acer morrisonense Hayata in Journ. Coll. Sci. Imp. Univ. Tokyo, XXX. art. I. (1911) 66 (Mat. Fl. Formos); ex Koidzumi in Journ. Coll. Sci. Imp. Univ. Tokyo, XXXII. art. 1 (1911) 16 t. 7 (Rev. Acer. Jap.).-

Acer sp. aff. A. crataegifolia S. & Z.,
Hayata in Journ. Coll. Sci. Imp.
Univ. Tokyo, XXV, art. 1 (1911) 71
(Fl. Mont. Formos.).-

Shrub or small tree. Branchlets slender, glabrous, those of present year purplish green, (rufous-pubescent according to the original description), those of more than one year old dark purple or dark brown. Leaves deciduous, chartaceous, ovate in outline, subcordate at base, sharply serrulate, usually 3-lobed; middle lobe caudate-acuminate or long caudate acuminate; lateral lobes very /

very short, acute; upper surface deep green, glabrous; lower surface pale green with barbate hairs at the axils of nerves; petioles 2-2.5 cm. long, slender, glabrous. Flowers the writer never found.

FORMOSA: "in Monte Morrisan," without name of Collector, (type in Tokyo).

This species is characterized by its 3-lobed leaves with long caudate-acuminate middle lobe and small acute or obtuse lateral lobes. It is near acer-taiton-montanum Hayata but that species has small obtuse or obsolete lateral lobes.

70. Acer Maximowiczii Pax in Hooker Icon. Pl. XIX. (October 1889) under t. 1897; in Engler & Prantl. Pflanzenfamilien, III pt. 5 (1896) 272; ex Diels in Engler, Bot. Jahrb. XXIX. (1900) 450 (Fl. Central China); in Engler, Pflanzenreich, Heft 8 (IV.163). 74.- Graf von Schwerin in Gartenfl. XLII. (1893) 455.- Bretschneider, Hist. Europ. Bot. Discov. China, (1898) 781.- Henry in Gard. Chron. ser. 3 XXXIII. (1903) 100 (Chin. Maples).- Hemsley in Journ. Linn. Soc. XXXVI. (1905) 452.- Schneider, Illustr. Handb. Laubh. III (1907) 239, figs. 164 k & 165 e-f.- Matsumura in Icon. Pl. Koishikawa. I. (1911) 19 t. 10.- Rehder in Sargent, Pl. Wilson I. (1911) 94; in Journ. Arn. Arb. VII. (1926) 223; IX. (1928) 90; XIV. (1933) 217, fig. 6; Manual Cult. Trees & Shrubs, (1927) 574.- Chung in Mem. Sci. Soc. China, I. (1924) 149 (Cat. Trees & Shrubs China).- Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 180, in part, excl. specimen cited Tso's 20570 from Kwangtung; VIII. (1932) 178; - Handel-Mazzetti, Symb. Sin. VII. (1933) 640, excl.-

Acer urophyllum Maximowicz in Act. Hort. Petrof.

XI. (November 1889) 105.- Wesmael in Bull, Soc. Bot. Belg. XXIX. (1890) 38.- Graf von Swerin in Gartenfl., XLII. (1893) 269.- Pax in Engler & Prantl, Pflanzenfamilien, III. pt. 5 (1896) 271.- Bretschneider, Illustr. Hist. Europ. Bot. Discov. China, (1898) 1027.- Veitch in Journ. Roy. Hort. Soc. XXIX. pt. 3 (1904) 360. - Rehder in Sargent, Trees & Shrubs, I. (1905) 169, t. 84.- Hemsley in Journ. Linn. Soc. XXXVI. (1905) 452.-

Acer laxiflorum Fang (non Pax) in Contrib.

Biol. Lab. Sci. Soc. China Bot. Ser. VII. (1932) 178, in part, incl. specimens cited Chun's 4030 and 4220 from Hupeh and Chang's 4171 from Szechuan.

Tree usually 5 metres high, rarely up to 12 metres high. Bark blackish brown, smooth. Branchlets slender, glabrous, those of the present year purple or reddish purple, those of the more than one year old blackish brown or brownish grey. Winter-buds glabrous, oblong-ellipsoid; scales whitish ciliate on the margin. Leaves deciduous, chartaceous, ovate or triangular-ovate in outline, 8-11 cm. long, 6-9 cm. broad, doubly serrulate and lobulate with adpressed, apiculate coarse teeth, subcordate or cordate rarely truncate at base, distinctly 5-lobed; middle lobe triangular-ovate, caudate-acuminate; lateral lobes ovate, acuminate or acute; basal lobes small, ovate acute; sinuses acuminate; upper surface deep green, glabrous; lower surface pale green or yellowish green /

green, rufous pubescent on the axils of the lateral nerves and the base of the main nerves; petioles 5-7 cm. long, rarely 10 cm. long, purplish green, slender, pendulous racemes, 4-5 cm. long, on glabrous peduncles 1.1.5 cm. long, terminal on leafy branchlets, appearing after the fully developing of leaves; in staminate flower sepals 5, ovate-oblong, obtuse, 3mm. long, 1 mm. broad; petals 5, obovate, as long as the sepals; stamens 8, slender, slightly shorter than petals; disk intrastaminal, slightly lobed; ovary rudimentary; pedicels 3-4 mm. long, slender, glabrous; in pistillate flower sepals 5, elliptical or elliptical-oblong obtuse, 3 mm. long; petals 5, ovate-oblong, obtuse, longer than sepals; stamens 8, very short or rudimentary; disk glabrous, intrastaminal; ovary purple, glabrous, style very short, stigmas recurved; pedicels 5 mm. long, slender. Fruits purple while young, brownish yellow when matured; nutlets flat, 6 mm. in diameter; wings with nutlets 2.3-2.5 cm. long, 8 mm. broad, spreading at obtuse angles; pedicels 6 mm. long, slender, glabrous.

SHENSI: Thai-pei-san," G. Giralddi, July 1895, no. 1439 (in Berol. & Firen.); "monte-Tun-u-sze" G. Giralddi, June 1894, no. 2112 (in Berol. & Firen.); "Dalle falde alba del Thae-pei-san," G. Giralddi, August 1893, no. 2113 (4) (in Firen.); "prima Zona ed alb Yalde del monte Thae-pei-san," G. Giralddi, August 10-20, 1894, no. 2114(7) (in Berol., & Firen.); "Lao-y-san," G. Giralddi, July 4, 1899, no. 2123 (in Berol. & Firen.); " in basin alti montis Ngo-san," G. Giralddi, July 1899, no. 2124 (in Berol. & Firen.); "In-kia-po," /

"In-kia-po," G. Giraldi, August 1896, no. 2132 (in Berol. & Firen.); "monte Sciu-ian-san, ad fl. Kan-y-kuo, a sud del Lao-y-san, " G. Giraldi, May 19, 1899, no. 2147 (in Berol. & Firen.); "in Montibus Tsin-ling-san, G. Giraldi, July 10, 1900, no. 7138 (in Firen.); Mt. Miao-wang-san, Hugh Scallan, July 1899, sine no. (in Arn., & Brit.); Hu-hsien, Chotae-miao, Hugh Scallan, sine no. (in Arn., & Brit.); Mt. Ngo-san, Hugh Scallan, August 1899, sine no. (in Arn. & Brit.); Tai-pei-shan, Wm. Purdom, July 2, 1910, nos. 947 & 948 (in Arn. & Kew); Tsing-ling-schan, Tsinfeng-schan, inter Santscha et Feng in silva 1500-1700 m., " G. Fenzel, in 1933, no. 193 (in Vind.); "in saltu pr. Lungdungwan in latere merid montis Taipei-schan, 1800 m., " G. Fenzel, August 22 to September 5, 1934, no. 904 (in Vind.); "in conf. prov. Schensi et Kansu, in silva montis Kwan-schan, pr. Lung ad 2000 m., " G. Fenzel, May 27-29, 1935, no. 1844 (in Wien).

KANSU: Without precise locality, G.N. Potanin, in 1885, sine no. (type of Acer urophyllum in Lenn.; cotype in Berol. & Paris); Lower Tebbu country, Wantsang forests, J.F. Rock, September to October 1926, nos. 14682, 14706, 14730, 14814 (in Arn., Edinb., Kew & Paris), 14855, 15031, 15041 & 15047, (in Arn., ex Rehder); Tsaushi-ku, J.F. Rock, (in Edinb.) September 2, 1926, nos. 14735 & 14998 / Dayaya, J.F. Rock, September 8, 1926, no. 14784 (in Arn., ex Rehder); Pezhu valley, J.F. Rock, September 1926, no. 14946 (in Arn., ex Rehder); Lien-hoa-shan, Shanshen-miao, J.F. Rock, October 1925, no. 13488 (in Arn., ex Rehder); southwest of Titao-chow, vicinity of Choni. Mt. Lian-hwa-shan, R.C. Ching, September 7-15, 1923. no. 1009 (in Arn., Cent., Edinb., Paris & /

& Vind.).

HUPEH: Fang-hsien, A. Henry, nos. 6857 (type in Bres.; cotype in Arn., Brit., Kew & Paris), 6857A (cotype in Berol., Bres., Edinb. & Kew) & 6783 (in Berol., Brit. Edinb., Kew, Paris & Vind); same locality, E.H. Wilson, May to July, 1907, nos. 355A (in part.) (in Arn., Edinb., Firen. Kew, Paris & Vind.); & 1914 (in part) (in Arn., Berol., Brit., & Vind.); same locality, E.H. Wilson, October 1910, no, 4427 (in Arn., ex Rehder); Hsing-shan-hsien, E.H. Wilson, May 1907, nos. 355 (in Arn. & Kew) & 1914(in part) (in Arn., Berol., Brit., Edinb., Firen., & Vind.); Ichang, E.H. Wilson, May to September, 1907, nos. 355 (in part) (in Arn., Berol., Brit., Edinb., & Vind.) & 1914 (in part) (in Arn., Edinb., Kew & Vind.); Hsao-lung-tan, W.Y. Chun, September 1922, nos. 4220 & 4618 (in Cent. & N.B.); Shintien-sze, W.Y. Chun, August 22, 1922, no. 4030 (in Cent., Kew & N.B.); Chang-yang-hsien, tree 4 metres high, E.H. Wilson, May 1900, Veitch Exped. no. 724 (in Arn., Edinb., Kew, Paris & Vind.).

SZECHUAN ; Wu-shan-hsien, E.H. Wilson, June 1907, nos. 1891 (in Arn., Kew & Vind.) & 2343 (in Arn., Berol., Edinb., Paris & Vind.); south of Wu-shan-hsien, E.H. Wilson, September 1907, no. 229 (in Arn., Brit., Edinb., & Kew); "District de Tchen-keou-tin" (Cheng-kou-hsien), "R.P. Farges, flowering and fruiting specimens, no. 399 (in Paris); same locality, W.P. Fang, May to June 1932, nos. 10163 & 10389 (all in Sci.); Nanchuan-hsien, Mount of the Golden Buddha, W.P. Fang, May 25, 1928, no. 931 (in Arn., Berol., Edinb., Fan, Kew, Paris, Cent., Sci. & Sin.); Sung-pan /

Sungpan-hsien, E. H. Wilson, nos. 4100 & 4513 (in Arn., ex Rehder).

HUNNAN: Shih-men-hsien, A. Henry; no. 7557 (in Arn. & Kew).

KWEICHOW: Fan-ching-shan, Lau-shan, A.N. Steward, C.Y. Chiao, & H. C. Cheo, October 1, 1931, no. 500 (in Brit. & Paris); Fan-ching-shan, T.H. Tu, September 1932, nos. 3710, 3740 & 3812 (in Fan & Sci.).

This species is characterized by its glabrous, doubly serrate and lobulate leaves with caudate-acuminate middle lobe, with elongated acute lateral lobes, and with acute or obsolete basal lobes.

71. Acer Tschonoskii Maximowicz in Bull. Acad. Sci. St.-Petersb., XXXI. (1886) 24; in Mel. Biol. XII. (1886) 432,- Pax in Engler, Bot. Jahrb. XI. (1889) 80; in Engler Pflanzenreich, Heft 8 (IV.163). (1902) 70.- Wesmael in Bull, Soc. Roy. Bot. Belg. XXIX. (1890) 63.- Graf von Schwerin in Gartenfl. , XLII. (1893), 455.- Bretschneider, Hist. Europ. Bot. Discov. China, (1898) 595. - Rehder in Sargent, Trees & Shrubs, I. (1902) 33, t. 17; II. (1907) 26; Manual Cult. Trees & Shrubs, (1927) 574.- Komarov in Act. Hort. Pétrop. XXII. (1904) p. 735 no. 1054 (Fl. Manshur. II.).- Schneider, Illustr. Handb. Laubh. II. (1907) 238, figs. 164 h-i & 165 a-d.- Nakai in Tokyo Bot. Mag. XXII. (1908) 103; in Journ. Coll. Sci. Imp., Univ. XXVI. art. 1 (1909) 134 (Fl. Kor. i) Dunn in Journ. Linn. Soc. XXXIX. (1911) 414.- Takeda in Tokyo Bot. Mag. XXV. (1911) 26.- Koidzumi in Journ. Coll. Sci. Imp. Univ. Tokyo , XXXII. art. 1 (1911) 24, t. 13 (Rev.Acer. Jap.).- Yabe Enum. Manch. Pl. (1912) 88.- Chung in Mem. Sci. Soc. China I. (1924) 151 (Cat. Trees /

Trees & Shrubs China).

Shrub or small tree usually about 5 metres high. Bark smooth, greyish brown or blackish brown. Branchlets slender, glabrous, those of the present year purple or purplish green, those of more than one year old greyish brown or darkish brown. Winter-buds brown, ellipsoid; outer scales 2, glabrous, valvate; inner scales pubescent; accrescent scales obovate-oblong, nearly glabrous. Leaves deciduous, membranaceous or chartaceous, roundish in outline, about 6-9 cm. in diameter, cordate at base, distinctly 5-lobed; lobes lobulate, incisely^{ly} and sharply serrulate with adpressed and acuminate teeth; middle lobe ovate, acuminate or caudate-acuminate; lateral lobes triangular-ovate, acuminate; basal lobes usually acute; sinuses acuminate or very narrow, reaching $\frac{2}{3}$ or $\frac{4}{5}$ of blade; upper surface deep green, glabrous; lower surface pale green, rufous-pubescent on the nerves while young; petioles 3-5 cm. long, purple or purplish green, rufous-pubescent near the apex while young. Flowers yellowish green, andro-monoecious, 6-to 10 flowers in glabrous, slender racemes about 2-3 cm. long, on peduncles 1-1.5 cm. long, terminal on leafy branchlets, appearing while developing of leaves; sepals 5, linear-spathulate, obtuse, 3-3.5 mm. long; petals 5, obovate, obtuse, 4 - 4.5 mm. long; stamens 8, glabrous, as long as petals or slightly shorter, rudimentary in pistillate flower, anthers yellow and oval; disk glabrous, slightly crenate, intrastaminal; ovary glabrous, rudimentary or none in staminate flower, style very short, stigmas revolute, pedicels 8-12 mm. long, slender. Fruits /

Fruits brownish yellow, 7-10 fruits in racemose fruiting inflorescence; nutlets slightly convex, 8 mm. long, 6 mm. broad, horizontally; wings uncloded nutlets 2 - 2.5 cm. long, 8 - 10 mm. broad, spreading at obtuse angles.

Distributed also in Manchuria and Corea.

JAPAN: Hakusan, Rein, no. 61 (in Berol.); Nasuzan, U. Faurie, July 30, 1897, no. 514 (in Berol.); Togakushi, U. Faurie, July 14, 1898, no. 2315 (in Berol.); Makkoda, U. Faurie, August 1904, nos. 6097 & 6098 (in D Vind.).

This species is closely related to Acer micranthum Siebold & Zuccarini, but it is easily distinguished because that species has short pedicels, short sepals, many-flowered racemes, and wings spreading nearly horizontally.

Acer Tschonoskii Maximowicz var. rubripes Komarov in Act. Hort. Petrop. XXII. (1904) 736 (Fl. Manshur. II.). - Nakai in Tokyo Bot. Mag. XXIX. (1915) 30; Fl. Sylv. I. (1915) 21, t. 14. -

Shrub or small tree usually 5 to 10 metres high. Bark grey. Branchlets very slender, those of the present year purple or reddish purple, those of more than one year old purplish yellow or purplish grey. Winter-buds small, ellipsoid, purple. Leaves deciduous, chartaceous, triangular-ovate in outline, 6-10 cm. long, 6-8 cm. broad, cordate or subcordate at base, 5-lobed or rarely 3-lobed; middle lobe ovate, acuminate; lateral lobes triangular-ovate basal lobes ovate, obtuse; doubly serrulate with closely obtuse teeth and bolulate; upper surface deep green, glabrous /

glabrous; lower surface pale green with rufous pubescence at the axils of slender nerves; petioles 5-7 cm. long, purple or reddish purple. Flowers yellowish green, dioecious, in racemes, terminal on leafy branchlets; sepals 5, ovate-oblong, 3 mm. long; petals 5, obovate-oblong, slightly longer than sepals; stamens 8, glabrous, as long as the sepals, none in pistillate flower, anthers yellow, globose or ovate; disk glabrous, flat, slightly lobed, intrastaminal; ovary reddish purple, none in staminate flower, style very short, stigmas recurved; pedicels 3-4 cm. long, slender, glabrous. Fruits reddish purple while young, brownish yellow when matured; nutlets flat, smooth, 8 mm. long, 5 mm. broad; wings with nutlets 2.5 cm. long, 1-1.2 cm. broad, spreading at obtuse angles; pedicels 7-10 mm. long, slender, glabrous.

Distributed also in Manchuria.

COREA: "Fluvium Jalu, Districtus Samsu, Trajectus Pexsan-ien V. Komarov, August 5, 1897, sine no. (Fl. Mansh. II. no. 1054) (in Berol.); "Fluvium Jalu, Districtus Chuzan, Trajectus Undonien," V. Komarov, August 22, 1897, sine no. (Fl. Mansh. II. no. 1054) (in Berol. & Vind.); "in monte des diamants," U. Faurie, June 23, 1906, no. 475 (in Berol. & Edinb.); Northern Kankyo, Tumen-Yalu divide, in forests, bush or slender tree 2-10 metres high, abundant, E.H. Wilson, August 30, 1917, no. 9062 (in Berol., Brit., Edin. & Kew); Kogen, Kongo-san, in woods, bush or slender tree 2-5 metres high, common, E.H. Wilson, July 1, 1918, no. 10413 (in Berol.); Kogen, Kongo-san, abundant round Choanji, E.H. Wilson, September 11, 1918, no. 10700 (in Berol. & Brit.); Kanhoku, Mt. Kanboho, T. Nakai /

Nakai, July 19, 1918, no. 7230 (in Tokyo)

This variety differs from the type by its ovate leaves with shallow serrations and adpressed obtusish teeth. It is quite a distinct variety. The full description for this variety seems desirable.

72. Acer rubescens Hayata in Journ. Coll. Sci. Imp. Univ. Tokyo, XXX, art. 1 (1911) 66 (Mat. Fl. Formos.); ex Koidzumi in Journ. Coll. Sci. Imp. Univ. XXXII. art. 1 (1911) 21 t. 11 (Rev. Acer. Jap.).

Acer sp. aff. A. rufinerve Hayata in Journ. Coll. Sci. Imp. Univ. Tokyo, XXV. art. 1 (1908) 72 (Fl. Mont. Formos.).-

Tree usually 10 to 20 metres high. Bark smooth, yellowish grey or dark grey. Branchlets slender, glabrous, those of present year green or greenish purple, those of more than one year old greenish yellow or greyish black. Winter-buds ellipsoid; outer scales glabrous; accrescent scales pubescent outside. Leaves deciduous, chartaceous, roundish-ovate in outline, 8-10 cm. long, 6-8 cm. broad, nearly truncate or subcordate at base, doubly serrate with comparatively coarser acute teeth, shallowly 5-lobed; middle lobe shortly ovate, acuminate or caudate-acuminate; lateral and basal lobes small, acute, obtuse; sinuses acute or obtuse, reaching $1/5$ to the middle of blade; upper surface deep green, glabrous; lower surface pale green, 5-nerved at base, lateral nerves 5-6 pairs, with barbate hairs at the axils of nerves while young, then glabrous; petioles 5-7 cm. long, glabrous. Flowers the writer never saw. Fruits yellowish brown, small, in racemose /

racemose fruiting inflorescence; nutlets subellipsoid; 6 mm. long, 4mm. broad; wings with nutlets 1.8 -2.3 cm. long, 6-7 mm. broad, spreading at obtuse angles; pedicels 7-10 mm. long, slender, glabrous.

FORMOSA: Taito, Batai-ankei, alt. 2300 m., N. Konishi, June 13, 1902, sine no. (type in Tokyo); Mt. Hokkutaisan, U. Mori, September 1, 1910, sine no. (in Tokyo); west of Mt. Morrison, W.R. Price, October 26, 1912, no. 1012 (in Kew); Kagi, Grisan, alt. 2500-2830 m., tree 10-15 metres high, common, E.H. Wilson, October 19, 1918, no. 10830 (in Berol. & Kew); Mt. Niitaka, alt. 2800 m., R. Ranehira & A. Sasaki, October 9, 1927, no. 2180 (in Kew).

This species is characterized by its roundish-ovate and shallowly lobed leaves and by its small fruits. It is near Acer Tschonoksi Maximowicz and Acer Maximowczii Pax. Those two species, however, have larger fruits and deeply lobed leaves with lateral lobes usually larger than basal lobes.

Sect. VI. ARGUTA Rehder.

Key to species.

- A. Leaves undivided, densely pubescent below; fruits with nutlets and wings usually 4-5 cm. long, usually in long fruiting racemes.....73. A. stachyophyllum.
- AA. Leaves more or less lobed, slightly pubescent below while young, glabrous or glabrescent when matured; fruits with nutlets and wings about or within 3.5 cm. long, usually on short fruiting racemes.
- B. Leaves distinctly 5-lobed, coarsely bisserate; petals obovate, clawed at base.....74. A. barbinerve
- BB. Leaves slightly lobulate, incisely serrate; petals elliptical-oblong, not clawed at base....75. A. tetramerum.

73. Acer stachyophyllum Hiernymus in Hooker f. Fl. Brit. Ind. I. (1875) 694.- Wesmael in Bull. Soc. Roy. Bot. Belg. XXIX. (1890) 45.- Graf von Schwerin in Gardfl. XLII. (1893) 230.- Pax in Engler, Bot. Jahrb. VII. (1886) 217; in Engler & Prantl, Pflanzen-familien, III. pt. 5, (1896) 272; in Engler, Pflanzenreich, Heft 8 (IV. 163). (1902) 34, fig. 7, A & B.- Henry in Gard. Chron. ser. 3. XXXIII. (1903) 62 (Chin. Maples) excl.- Schneider, Illustr. Handb. Laubh. II. (1907) 245, figs. 169 g & 170 L.- Smith & Cave, Record. Bot. Surv. IV. (1911) 184.- Dunn in Journ. Linn. Soc. XXXIX. (1911) 414.- Lévillé, Fl. Kouy-tcheou, (1915) excl.- Marquand in Journ. Linn. Soc. XLVIII. (1929) 169.

Acer tetramerum Rehder non Pax in
Sargent, Trees & Shrubs, I
(1905) 171, t. 85, in part
incl. specimen
cited/

cited Henry's 8799 from Hupeh
& fig.7: II. (1907) 26.

Acer tetramerum Pax var. elobulatum Rehder
in Sargent Pl. Wilson. I. (1911)
95;.- Schneider, Illustr. Handb.
Laubh. II. (1912) 1029.- Léveillé,
Cat. Illustr. Pl. Seutchouen,
(1918) 179, MSS.- Chung in Mem.
Sci. Soc. China, I. (1924) 150
(Cat. Trees & Shrubs China).-
Fang in Contrib. Biol. Lab. Sci.
Soc. China, Bot. Ser. VII. (1932)
183.- Syn. nov.

Acer tetramerum Pax var. elobulatum Rehder
f. longe-racemosum Rehder in
Sargent, Pl. Wilson.I. (1911)
96.- Fang in Contrib. Biol. Lab.
Sci. Soc. China, Bot. Ser. VII.
(1932) 183.-

Acer tetramerum Pax var. tiliifolium Rehder
in Sargent, Pl. Wilson.I. (1911)
96; Manual Cutl. Trees & Shrubs,
(1927) 575.- Schneider, Illustr.
Handb. Laubh. II. (1912) 1029.-
Léveillé, Cat. Illustr. Pl.
Seutchouen, (1918) 179, MSS -
Chung in Mem. Sci. Soc. China,
I. (1924) 150 (Cat. Trees &
Shrubs China).- Handel-Mazzetti,
Symb. Sin. VII. (1933) 642.- Syn.
nov.

Acer/

Acer tetramerum Pax var. in Notes Roy.

Bot. Gard. Edinb., XIV. (1924) 210,
335, 276, 256, 276, & 335.-

Acer tetramerum Pax. var. elobulatum Rehder, f.

mapienense Fang in Contrib. Biol.
Lab. Sci. Soc. China, Bot. Ser.
VII. (1932) 183.- Syn. Nov.

Acer tetramerum Pax var. elobulatum Rehder

f. viridicarpum Fang in Contrib.
Biol. Lab. Sci. Soc. China, Bot.
Ser. VII. (1932) 184.-Syn. nov.

Small tree usually 5 to 10 metres high, rarely up to 15 metres high. Bark darkish or yellowish brown, smooth. Branchlets slender, glabrous, those of the present year purplish green or greyish green, those of more than one year old greyish green or brownish green, without lenticels. Winter-buds small, ellipsoid; outer pair of scales reddish purple, glabrous; inner pair of scales accrescent, obovate-oblong, yellowish, glabrous, except purplish and slightly pubescent near the apex. Leaves deciduous, chartaceous, ovate, 8-11 cm. long, 5-6 cm. broad, usually rounded or rarely slightly cordate at base, caudate-acuminate, cuspidate on the apex, coarsely serrate with appressed, obtuse or acutish teeth; upper surface deep green, glabrous; lower surface pale green, 5-nerved at base, rarely basal nerves rudimentary, lateral nerves usually 4-5 pairs, densely whitish pubescent especially on the nerves while young, occasionally less pubescent when matured; petioles/

petioles 3-8 cm. long, slightly pubescent near the apex. Flowers dioecious, in racemes, pistillate flower never found; staminate flowers yellowish green, on slender pedicels 8-15 mm. broad; petals 4, slightly shorter than sepals, linear-oblong, usually about 1 mm. broad; stamens 4-5 mm. long, glabrous; anthers yellow and ovate; disk glabrous, lobed, extrastaminal; ovary wanting. Fruits purple while young, yellowish brown when matured, in racemous fruiting inflorescence, about 12-15 cm. long, on peduncles 3-4 cm. long, terminal on leafy branchlets; nutlets oblong, convex, strongly rugose, 1.3 cm. long, 1 cm. broad; wings included nutlets 4-5 cm. long, 1.5 cm. rarely 2 cm. broad, spreading usually erectly or rarely at obtuse angles; pedicels 2-2.5 cm. long, slender, glabrous.

HUPEH: Nanto, tree 8 metres high, E.H. Wilson, June 1900, Veitch Exped. no. 1233 (in Arn. & Kew).

SZECHUAN: Wu-shan-hsien, A. Henry, no. 8799 (in Kew & Paris); Chiu-ting-shan, bush 4 metres high, E.H. Wilson, May 23, 1908, no. 1894 (in Arn.); Ping-wu-hsein, W.C. Cheng, August 19, 1931, no. 3010, (in Edinb. & Sci.); northeast of Sungpan-hsien, W.C. Cheng, August 24, 1931, no. 3085 (in Sci.); west and near Wen-chuan-hsien, W.C. Cheng, September, 26, 1931, no. 3377 (In Edinb. & Sci.); Wa-ssu country, Wenchuan-hsien, E.H. Wilson, October 1910, no 4107, (type of var. tiliifolium) (in Arn. & Kew); Seulo-go, south-east of Tsa-go-lou, west of Li-fan-hsien, W.C. Cheng, October 8, 1931, no. 3478 (in Sci.); Niu-tou-shan, west of Kuan-hsien, E. H. Wilson, June 20, 1908, no. 1896 (type of f. longeracemosum in Arn.); Mupin (pao-hsing-hsien), E.H. Wilson, September/

September 1910, no. 4104 (in part) (in Arn.); Mt. Omei, W.P.Fang, August 1928, nos. 2656 2751 (in Arn.); (Edinb. Kew & Paris); Mt. Omei, tree 7 metres high, E.H. Wilson, May 1904, Veitch Exped. no. 3348 (in Arn. & Kew); Mt. Omei, W.P.Fang July 18, 1930, no. 6640 (type of f. viridicarpum in Sci.); Wa-shan, E.H. Wilson, June 1908, no. 1895 & 1898 (in Kew & Vind.); Ma-pien-hsien, W.P. Fang, June 1930, nos. 3931 (type of f. mapienense in Edinb., Kew & Sci.); & 4514 (in Edinb. Kew & Sci.); "in einer tiefen Doline in der tp. St. bei Kalapa n von Yenyuen Kalk, 2800 m." Handel-Mazzetti, no. 2309 (in Wien).

SIKANG: Ta-chien-lu (Kang-ting-hsien), A.E. Pratt no. 328 (in Berol., Brit. & Kew); same locality, E.H. Wilson, June 1908, no. 1898 (in Edinb., Kew & Vind.); same locality, W.C. Cheng, August 9, 1930, no. 1640 (in Edinb. & Sci.), Muli, in thickets, in side valleys, shrub of 7-10 metres high, G. Forrest, September 1922, no. 22397 (in Edinb. & Kew).

YUNNAN: Tsarong, Salween-Kiu Chiang divide, lat. 28° 24' N., long. 98° 24' E., alt. 3700-4000m., in mixed thickets, shrub of 7-8 metres high, G. Forrest, October 1921, no. 20854 (in Arn. & Edinb.); Tsarang, Salween-Kiu Chiang divide, northwest of Si-chi-to, lat. 28° 35' N., long 98° 30' E., alt. 3700 m., in thickets in side valleys, shrub of 4-7 metres high, flowers greenish-yellow, G. Forrest, May and October 1922, nos. 21630 & 22743 (in Edinb. Kew, Paris & Vind.); mountains of the Chungtien plateau, lat. 27° 55' N., alt. 3300 m., in thickets, shrub of 7-10 metres high, G. Forrest, September/

September 1913, no. 11252 (in Brit. & Edinb.); without precise locality, G. Forrest, 29169 (in Edinb.).

TIBET: gorge of the Tsangpo, near Gyala, in mixed forests above the river, tree 10 metres high, F. Kingdon Ward, July 24, 1919, no. 5956 (in Kew); Modung, Rongto Valley, Zayul, alt. 3000-3300 m., small tree on boulder slopes, flowers greenish, leaves not yet fully developed, F. Kingdon Ward, May 27, 1933, no. 10429 (in Brit. & Edinb.); Zayul, Ata, alt. 2300-3000 m., tree with bark straked, leaves softly tomentos beneath, from the wood Tsamba bowls are made in the village, F. Kingdon Ward, June 4, 1933, no. 10471 (in Brit. & Edinb.); Zayul, Rangto Valley, Putsang River, F. Kingdon Ward, November 1933, no. 10965 (in Brit. & Edinb.).

SIKKIM: in the Lachoong Valley, J.D. Hooker, sine no. (in Berol. & Kew).

This species is near Acer tetramerum Pax, but differs easily in the broadly ovate leaves coarsely serrate on the margin, usually rounded at the base and densely whitish and softly pubescent at the lower surface, although some of the Chinese specimens are less pubescent when matured. The length of the inflorescences, the size of the fruits, and the length of the basal nerves are very variable and they represent the different stages of forms. It seems advisable to reduce all the varieties and forms to this species.

74. Acer barbinerve Maximowicz in Bull. Acad. Sci. St.-Petersb. XII. (1867) 227; XXVI. (1880) 439; in Mel. Biol. VI. (1867) 369; X. (1880) 593.- Miquel in Arch. Neerl. II. (1867) 469, 476.- Nicholson in Gard. Chron./

Chron. n. ser. XV. (1881) 726.- Pax in Engler, Bot. Jahrb. VII. (1886) 252; in Engler & Prantl, Pflanzenfamilien, III. pt. 5, (1896) 272; in Engler, Pflanzenreich, Heft 8 (IV.163). (1902) 72.- Koehne, Deutsch. Dendr. (1893) 383.- Graf von Schwerin in Gartenfl. XLII. (1893) 325.- Bretschneider, Hist. Europ. Bot. Discov. China, (1898) 590.- Komarov in Act. Hort. Petrop. XXII. (1904) p736, no. 1055. (Fl. Mansh. II.).- Rehder in Sargent, Trees & Shrubs, I. (1905) 173, 181, t. 86; Manual Cult. Trees & Shrubs, (1927) 574.- Schneider, Illustr. Handb. Laubh. II. (1907) 245, figs. 169 d & 170 e-g.- Nakai in Journ. Coll. Sci. Imp. Univ. Tokyo, XXVI, art. 1, (1909) 135 (Fl. Kor.I.); XXIX. (1915) 30; Fl. Sylv. Kor. I. (1915) 23, t. 15.- Dunn in Journ. Linn. Soc. XXXIX. (1911) 413.- Yabe, Enum. Manch. Pl. (1912) 87.- Chung in Mem. Sci. Soc. China, I. (1924) 148 (Cat. Trees & Shrubs China).- Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 184; VIII. (1932) 179.-

Acer diabolicum subsp. barbinerve Wesmael in
Bull. Soc. Bot. Belgique XXIX. (1890) 63.-

Shrub or small tree usually about 5 metres high. Bark smooth, greyish yellow or greyish brown. Branchlets slender, those of the present year greenish or greenish purple, sparingly pubescent, those of more than one year old greyish yellow or greenish brown, glabrescent. Leaves deciduous, membranaceous, roundish-ovate in outline, 8-10 cm. long, 6-8 cm. broad, cordate or subcordate at base, 5-lobed; middle lobe and lateral lobes acuminate, forwardly directed, basal lobes acute, doubly serrate with coarsely obtuse teeth; sinuses acute/

acute, reaching one half to the middle of blade; upper surface deep green, glabrous; lower surface pale green, hirsute-pubescent especially on the nerves, soon less pubescent or glabrescent; petioles 4-6 cm. long, slender puberulous while young, then glabrous. Flowers yellowish green, dioecious, in racemes; pistillate flowers in nodding racemes with small caducous bracts on puberulous peduncles about 4 cm. long, from terminal leafy branchlets of the present year; staminate flowers in short and simple racemes usually 5 or 6 flowers forming a subsessile fascicle; sepals 4, oblong, 5 mm. long, slightly ciliate on the margin; petals 4, obovate-elliptical, 4-5 mm. long, contracted at base; stamens 4, glabrous, slightly longer than petals, none in pistillate flower; disk 4-lobed, glabrous, intrastaminal; ovary glabrous, none in staminate flower, style glabrous and about 2 mm. long, stigmas revolute. Fruits greenish or greenish yellow, usually 5 or 7 in pedunculous racemose fruiting inflorescence about 5 cm. long, on peduncles about 2 mm. long; nutlets 1 cm. long, 8 mm. broad, subglobose, strongly veined, rugose; wings introse flaccate, slightly contracted at base, 3-3.5 cm. long, 1 cm. broad, spreading at obtuse angles; pedicels 1-2 cm. long, slender, glabrous.

MANCHURIA: without precise locality, C.

Maximowicz, in 1860, sine no. (in Berol., Firen Mun. & Vind.); "ad Fl. Li-fudin," C. Maximowicz, in 1860, sine no. (in Brit.); "Vallis U-scha-gon," V. Komarov, June 1, 1896, sine no. (Fl. Mansh. II. no. 1055); "Provincia Kirinensis, Via inter Omoso et Ninguta, Trojecty Sangtoalin," V. Komarov, August 25, 1896, (Fl. Mansh./

Mansh. II. no. 1055)(in Berol., & Brit.); Mukden, J. Ross, April 17, 1876, no. 425 (in Kew); Chang-peishan, H.E.M. James, August 1886 (in Kew); Heng-tao-hatze, P.H. Dorsett, June 9, 1925, no. 3238 (in Brit.); Kirin, F.H. Chen, no. 433 (in Sci.); same locality, F.H. Chen, no. 406 August 21, 1931, no. 406 (In Brit. Fan. & Sci.); Southeastern Manchuria, Wu-chin-ping, G. Fenzel, June 6, 1930, no. 121 (in Vind.); without precise locality and name of collector, no. 64 (in Suny.).-

COREA: "Fluvium Tumingan, Districtus Musang, Vallis Emonensu," V. Komarov, May 31, 1897, (Fl. Mansh. II. no. 1055) (in Brit.) "Fluvium Jalu super. Via inter Musang et Kapsan, Trojecty, Abuzsa-Kogar," V. Komarov, June 21, 1897, (Fl. Mansh. II, no. 1055) (in Firen. & Vind.); North Heian, Taiyudo, alt. 3300 m., in forests, slender tree often bushy 5 to 7 metres high, common, E.H. Wilson, June 16, 1917, no. 8667, (in Berol. & Brit.); South Kankyo, alt. 660-800 metres, in woods, bush or small tree, common, E.H. Wilson, July 6, 1918, no. 10482 (in Arn. & Brit.); same locality, E.H. Wilson, September 13, 1918, no. 10723 (in Arn. & Kew); Kum-gang-san, tree 5 metres high, P. Klantke, August 13, 1927, no. 264 (in Berol.).

This species is characterized by its 5-lobed leaves pubescent beneath especially on the nerves, coarsely serrate on the margin, by its clawed obovate petals, and by its short racemes with large samara.

Acer barbinerve Maximowiz, var. glabrescens
Nakai in Tokyo Bot. Mag. XXVIII. (1914) 308; XXIX. (1915) 30; Fl. Sylv. Kor. I. (1915) 23.-

I have not seen any specimen of this variety. It is said that this variety differs from the type in that the leaves are pub-erulous at first, finally glabrescent except on the nerves or quite glabrous, and in that the wings of the fruits are slightly broader.

75. Acer tetramerum Pax in Hooker Icon. Pl. XIX. (October 1889) under t. 1897; in Engler & Prantl, Pflanzenfamilien, III. pt. 5 (1896) 272; ex Diels in Engler, Bot. Jahrb. XXIX. (1900) 450 (Fl. Centralchina); In Engler, Pflanzenreich, Heft 8 (IV.163). (1902) 73.— Graf von Schwerin in Gartenfl., XLII. (1893) 325.— Bretschneider, Hist. Europ. Bot Discov. China, (1898) 781.— Hemsley in Journ. Linn. Soc. XXXVI. (1905) 452.— Rehder in Sargent, Trees & Shrubs, i. (1905) 171, t. 85, in part. excl. fig. 7; II. (1907) 26, excl.—; Manual Cult. Trees & Shrubs, (1927) 575.— Schneider, Illustr. Handb. Laubh. II. (1907) 245, figs. 169 c-c¹ & 170 h-k, in part, excl. fig. 169 c.— L'éveillé, Cat. Illustr. Pl. Seutcheouen, (1918) 179, MSS. Hers in Journ. N. China Branch. Roy. As. Soc. LIII. (1922) 106; Liste Ess. Lign. Honan Sept. (1922) 1. Chung/

Chung in Mem. Sci. Soc. China, I. (1924) 150
 (Cat. Trees & Shrubs China).- Bean, Trees & Shrubs
 hardy Brit. Isl. I. (1929) 160.-

Acer stachyophyllum Henry (non *Hiernymus*)

in Gard. Chron. ser. 3, XXXIII.

(1903) 62 (Chin. Maples),

Acer tetramerum Pax var. lobulatum Rehder

ex Veitch in Journ. Roy. Hort.

Soc. XXIX. (1904) 353, figs. 94

& 97; Rehder in Fedde Repert.

Nov. Spec. Reg. Veg. I. (1905)

174; Manual Cult. Trees & Shrubs,

(1927) 575.- Fang in Contrib.

Biol. Lab. Sci. Soc. China, Bot.

Ser. VII. (1932) 184.- Syn. nov.

Shrub or small tree usually 5 metres high,
 rarely up to 10 metres high. Bark smooth, greyish
 brown or blackish brown. Branchlets slender, glabrous,
 purple or rarely greenish purple, or yellowish purple,
 without lenticels. Winter-buds ovoid; outer pair
 of scales purplish, ovate, glabrescent outside, slightly
 pubescent on the margin; inner pair of scales yellowish,
 accrescent, obovate-oblong, glabrous or slightly
 pubescent near the apex. Leaves deciduous, membranaceous,
 ovate /

ovate or rarely oblong-ovate, 5-7 cm. long, 2.5-5 cm. broad, rounded rarely slightly truncate at base, caudate-acuminate, cuspidate on the apex, unequally and incisely serrate, usually more or less lobulate; upper surface deep green, slightly pubescent while young, then glabrous; lower surface lighter green, 3-nerved at base, lateral nerves 4-6 pairs, greyish pubescent especially on the nerves while young, less pubescent or nearly glabrous when matured, with tufts of whitish hairs on the axils of nerves; petioles 2.5-5 cm. long, slender, slightly pubescent while young, then glabrous. Flowers greenish yellow, dioecious, in glabrous, slender racemes; staminate racemes very short, consisting 3 to 5 flowers, with pedicels 1-1.5 cm. long, on subsessile peduncles, from leafless lateral buds; pistillate racemes about 4-5 cm. long, consisting of 5 to 8 flowers, with pedicels 8-20 mm. long, on peduncles 8-15 mm. long, terminal on 2-leafed short branchlets; sepals 4, oblong-ovate, obtuse, about 3 mm. long; petals 4, elliptical-oblong, as long as or slightly longer than sepals; stamens glabrous, usually 4, rarely 5 or 6 in staminate flower, one-third to one-half longer than petals, none in pistillate flower, anthers oval and yellow; disk glabrous, lobed, intrastaminal; ovary purple, glabrous, none in staminate flower, style glabrous and about 1.5 mm. long, stigmas recurved. Fruits yellowish /

yellowish brown, 5 to 8 in pendulous racemous fruiting inflorescence; nutlets oblong, rugose, about 8mm. long, 6 mm. broad; wings oblong, slightly contracted at base, with nutlets 3-3.5 cm. long, 1-1.2 cm. broad, spreading at right angles.

HUPEH: Patung-hsien, tree 10 metres high, A. Henry, nos. 236 (in Kew), 515 (in Kew) & 5313 (the type in Biblioth. Bres.; cotype in Kew); same locality, tree 4 metres high, E.H. Wilson, April 1900, nos. 91B, 274 & 298 (in Kew, Paris & Vind.); Fang-hsien, E. H. Wilson, May and September 1907, no. 274 (in part) (in Arn., Berol. Firen., Kew & Vind.); Hsing-shan-hsien, E. H. Wilson, May and October 1907, nos. 274 (in part) & 430 (in Kew & Vind.); same locality, Y. Chen, September 1926, no. 964 (in N.F.); Hsao-lung-tan, W.Y. Chun, September 1922, no. 4221 (in Sci.); north and south of Ichang, E. H. Wilson, May and September 1907, no. 274 (in part) (in Arn.); Nanto, E. H. Wilson, no. 1232 (in Vind.); south of Wu-shan-hsien, E. H. Wilson, May 11, 1907, no. 274 (in part) (in Arn. & Kew); Chang-yang-hsien, E. H. Wilson, December 1907, no. 683 (in part) (in Arn.); Chang-lo-hsien, E. H. Wilson, May 1907, no. 274 (in part) (in Arn. & Kew).

SZECHUAN: Cheng-kou-hsien, Shang-wang-ping, in forests, tree 8 metres high, W. P. Fang, May 25, 1932, no. 10017 (in Edinb. & Sci.).

This species is characterized by its ovate leaves /

leaves unequally and incisely serrate or even lobulate on the margin, shortly and slightly pubescent while young, then glabrous.

As Pax's type (Henry's 5313) is a young flowering specimen with leaves and flowers still not fully unfolded, more material from the same locality is necessary to show the special characters of this species. Var. lobulatum differs by having lobulate leaves, but in certain specimens lobulate and unlobulate leaves are found on the same tree. It seems advisable to reduce the variety to the species.

Acer tetramerum Pax var. betulifolium

(Maximowicz) Rehder in Sargent, Pl. Wilson. I. (1911) 95; in Journ. Arnold Arb., VII. (1926) 223; IX. (1928) 91.- Schneider, Illustr. Handb. Laubh. II. (1912) 1029. - Léveillé, Cat. Illustr. Pl. Seutchouen. (1918) 179, MSS.- Chung in Mem. Sci. Soc. China, I. (1924) 150 (Cat. Trees & Shrubs China).- Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 182.-

Acer betulifolium Maximowicz in

Act. Hort. Petrop. XI.

(November 1889) p. 108 no.

265 (Pl. Chin.)- Wesmael

in Bull. Soc. Roy. Bot.

Belg. XXIX. (1890) 45.-

Graf von Schwerin in Gartenfl.,

XLII. (1893) 230.- Pax

in /

in Engler & Prantl,
 Pflanzenfamilien, III. pt. 5
 (1896) 272; ^{ex Sieb} in Engler, Bot.
 Jahrb. XXIX. (1900) 449 (Fl.
 Centralchina); XXXVI. beibl
LXXXII. (1905) 73;
 in Engler, Pflanzenreich, Heft
 8 (IV. 163). (1902) 10.-
 Bretschneider, Hist. Euorp.
 Bot. Disco. China. (1898) 781,
 1027.- Veitch in Journ. Roy.
 Hort. Soc. XXIX. pt. 3 (1904)
 354.- Rehder in Sargent,
 Trees & Shrubs, (1905) 181.-
 Hemsley in Journ. Linn. Soc.
XXXVI. (1905) 451.- Schneider,
 Illustr. Handb. Laubh. II.
 (1907) 245.-

Acer tetramerum var. betulifolium

f. latialatum Rehder in
 Sargent, Pl. Wilson. I. (1911)
 95.- Léveillé, Cat. Illustr.
 Pl. Seutchouen, (1918) 179,
 MSS.-

HONAN: "Pei-la-hia," E. Licent, April 27, 1919,
 no. 5136 (in Kew).

SHENSI: "Qua-in-san," G. Giraldi, July 1898,
 no. 2118 (in Berol., Bres. & Firen.); "Kin-qua-san,"
 G. /

G. Giraldi, September 9, 1898, no. 2119 (in Berol. & Firen.); "Ngo-san," G. Giraldi, July 1899, no. 2120 (in Berol. & Firen.); "in montibus Tsin-ling-san," G. Giraldi, July 10, 1900, no. 7137 (in Firen.); "Kin-tou-san," G. Giraldi, July 14, 1907, sine no. (in Firen.); Mt.Kan-y-san, Hugh Scallan, July 1899, sine no. (in Arn. & Brit.); Yen-an-fu, Wm. Purdom, May 1910, no. 348 (in Arn. & Kew); valley leading to Tai-pei-shan, alt. 2100 m., Wm. Purdom, July 2, 1910, no. 438 (in Arn., Edinb. & Kew); "in saltu pr. Lungdungwan in latere merid. montis Tai-pei-schan, 1800 m., "G. Fenzel, August to September 5, 1934, no. 907 (in Vind.).-

KANSU: Tow River, alt. 2700 m., Wm. Purdom, in 1910, no. 793 (in Arn., Edinb. & Kew); Min-chow, alt. 2100 m., Wm. Purdom, in 1911, no. 1073 (in Arn., Edinb. & Kew); Chi-shan, near Cheng-hsien, F. N. Meyer, October 1, 1914, no. 1778 (in Arn., & Kew); Hsia-mo-kou, near Lichen, alt. 2000-2300m., R. C. Ching, July 7-8, 1923, no. 323 (in Arn., Edinb., Paris & Vind.); vicinity of Choni, alt. 3100-3300 m., R.C. Ching, September 7-15, 1923, no. 1008 (in Arn., ex Rehder); Lian-hwa-shan, southwest of Ti-two-chow, alt. 3000-3300 m., R. C. Ching, September 20-21, 1923, no. 1010 (in Arn., ex Rehder); Tao River basin, beyond Kadjaku near Lupassu, J.F. Rock, August 1925, no. 13166 (in Arn., ex Rehder); Tatsuto to Kadjaku, J.F. Rock September to October 1925, no. 13542 (in Arn., ex Rehder); Lower Tebbu country, along Wantsang stream,
J. /

J.F. Rock, August 31, 1926, no. 14656 (in Arn., ex Rehder); forests of Wantsang, J.F. Rock, August 31, 1926, no. 14665 (in Arn., Berol., Edinb., Kew & Paris); Lower Wantsang Valley, J.F. Rock, September 1926, no. 14830 (in Arn., ex Rehder); Pezhu, J.F. Rock, October 1926, no. 14949 (in Arn., ex Rehder); forests of Ngongo to Pezhu, J.F. Rock, September to October 1926, no. 14984 (in Arn., ex Rehder); Valley of Tsaoshiku, J.F. Rock, September to October 1926, no. 14997 (in Arn. & Paris); forests of Wantsang, J.F. Rock, September to October 1926, no. 15032 (in Arn., Edinb. & Kew); Mayku near Zhega, J.F. Rock, September to October 1926, no. 15051 (in Arn., ex Rehder); Lien-hoa-shan, Shan-shen-miao, J.F. Rock, October to October 1925, no. 13489 (in Arn., ex Rehder); banks of the river Lumbu, south of Mt. Chagolo, G.N. Potanin, July 11, 1885, sine no. (type of Acer betulifolium in Lévl.; cotype in Berol., Kew & Paris); eastern Kansu, E. Licent, July 7, 1918, no. 4456 (in Brit.); Changse, E. Licent, April 27, 1919, no. 5136 (in Brit & Kew); "Tsching-lung-schan et Matsche-ling (3200 m.) pr. Lamtschou," G. Fenzel, June 11-18, 1935, no. 2131 (in Vind); "inter Tao-tschou et Min, 2400-2700 m," G. Fenzel, August 16-18, 1935, no. 2661 (in Vind.); "in conf. prov. Schensi et Kansu, in silva montis Kwan-schan pr. Lung ad 2000 m., "G. Fenzel, May 27-29, 1935, nos. 1866 & 1892 (in Wien).

SZECHUAN: Cheng-kou-hsien, R.P. Farges, no. 140bis (in Paris); Ping-wu-hsien, W.C. Cheng, August

20, 1931, no. 3010 (in Kew & Sci. & Sin); Sungpan-hsien, E.H.Wilson, August 1910, no. 4511 (in Arn & Kew); same locality, W.P.Fang, & S.F.Chang, August 11, 1928, no. 4156 (in Arn., Fan, Paris, Sci. & Sin); southeast of Sungpan-hsien, E.H.Wilson, August 1910, no. 4104 (type of f. latialatum in Arn.); south of Sungpan-hsien, E.H.Wilson, August 1910, no. 4512 (in Arn. & Kew); Wa-suu country, Wen-chuen-hsien, E.H.Wilson September to October 1910, nos. 1901 & 1902 (in Arn. & Kew); Yen-yuan-hsien, C. Schneider, June 1914, no. 1082 (in Berol.); "inter Oti et Yenyuan prope Sanssiao-tung," C.Schneider, June 14, 1914, no. 3533 (in Edinb. & Kew).

SIKANG: South of Chu-lung-hsien, W.C.Cheng, May 23, 1930, no. 999 (in Sci.).

YUNNAN: "Choung-nien pres Kiao-kia-hsien," F.Ducloux, February 12, 1909, no. 1033 (in Edinb.); "San-kia pres Kiao-kia-hsien," F.Ducloux, May 1909, no. 1034 (in Edinb.); mountains east of Yungning, lat. $27^{\circ} 48' N.$, long. $101^{\circ} E.$, alt. 3300-3700m., thickets in side valleys, shrub of 7-10 metres high, G.Forrest, June 1922, no. 21246 (in Edinb.); eastern flank of the Lichiang Range, lat. $27^{\circ} 20' N.$, alt. 3200-3700 m., in forests, shrub or tree of 7-14 metres high, flowers yellowish-green, G. Forrest, June 1910, no. 5740 (in Brit. & Edinb.); Lichiang Range, in open thickets, shrub or tree of 7-15 metres high, flowers pale yellow, G.Forrest, June 1913, no. 10200 (in Edinb. & Kew);
Lichiang /

Lichiang Range, by stream in shady mixed forests, shrub of 7 metres high, G.Forrest, June 1913, no. 10248 (in Berol., Edinb., Kew & Vind.); Yu-lung-shan, Mt. Satseto, alt. 3700 m., tree 8-10 metres high, flowers yellow, J.F.Rock, June to August 1932, no. 24923 (in Edinb.); Io-chow (Yao-an-hsien), E.E.Maire, nos. 3315 & 7201 (in Berol.); mountains in the northeast of the Yangtze bend, lat. $27^{\circ} 45'$ N., alt. 3300-3700m., in open thickets, shrub of 8-12 metres high, G.Forrest, July 1913, no. 10510 (in Edinb. & Kew); Langkong-Hoching divide, lat. $26^{\circ}25'$ N., alt. 2400 m., open situations by stream, shrub of 7-10 metres high, flowers greenish yellow, G.Forrest, May 1913, no. 10013 (in Edinb. & Kew); north end of the Hoching Valley, lat. $26^{\circ}45'$ N., alt. 2500 m., in thickets, shrub of 3-7 metres high, flowers green, G.Forrest, May 1913, no. 10027 (in Edinb. & Kew); alpine meadows north of Chungtien in Tonwa Territory, J.F.Rock, April to May 1932, no. 24695 (in Edinb.); on the Li-ti-ping, lat. $27^{\circ}12'$ N., alt. 3300-3700 m., in open thickets, shrub of 2-4 metres high, flowers olive yellow, G.Forrest, June 1917, no. 13906 (in Edinb. & Kew); Tali Range, G.Forrest, September 1917, no. 15596 (in Edinb.); on Ka-gwi-pu, Mekong-Salween divide, lat. $28^{\circ}35'$ N., alt. 3000-3300m., in open thickets, shrub of 6-9 metres high, flowers green-yellow, G.Forrest, June 1918, no. 16549 (in Edinb.); on Doker-la, Mekong-Salween divide, lat. $28^{\circ}28'$ N., alt. 3000 m., open mixed forests, shrub or small tree of 10-17 metres high, G.Forrest, October 1918 /

October, 1918, no. 17281 (in Edinb.); southeast of Atuntze, Pei-ma-shan, Mekong-Yangtze divide, in forests, tree 5 metres high, J.F.Rock, May to June 1932, no. 22784 (in Edinb.); Pei-ma-shan, alt. 4000 m., in forests, tree 5 metres high, J.F.Rock, September 1932, no. 23382 (in Edinb.); lower mixed forests of Pei-ma-shan, alt. 4000-4400 m., spreading medium tree, leaves just appearing, full bloom, F. Kingdon Ward, June 1, 1913, no. 318 (in Edinb.); Chien-chuan-Mekong divide, lat. $26^{\circ} 40'$ N., long. $99^{\circ} 40'$ E., alt. 3700 m., in thickets and mixed forests, shrub or 10-12 metres high, G. Forrest, October 1922, no. 22591 (in Edinb. & Kew); Chienchuan-Mekong divide, lat. $26^{\circ} 30'$ N., long. $99^{\circ} 20'$ E., alt. 3000-3300 m., in open mixed thickets and deciduous forests, shrub or tree of 7-14 metres high, flowers yellow, G. Forrest, May 1923, no. 23461 (in Edinb.); Chien-chuan-Mekong divide, lat. $26^{\circ} 30'$ N., long $99^{\circ} 20'$ E., alt. 2700-3000 m., in open thickets, shrub of 7-10 metres high, flowers yellow, G. Forrest, June 1923, no. 23584 (in Edinb.); without precise locality, F. Kingdon Ward, in 1913, no. 40 (in Edinb.); without precise locality, G. Forrest, nos. 28596, 29080 & 30462 (in Edinb.).

This is quite a distinct variety distinguished from the type by its broadly cuneate leaves, usually 3-nerved at the base and more coarsely serrate on the margin with obtuse or acutish teeth. The length of the inflorescences and breadth of the wings are very variable. I do not like to keep f. latialatum as a distinct form. If/

If f. latialatum is recognized as a distinct form, then more forms must be made to meet the situation. For instance, Forrest's 15596 has fruits with nutlets and wings 4.5 cm. long, 1.5 cm. broad, spreading nearly horizontally; Forrest's 17281 has inflorescences up to 13 cm. long and fruits with nutlets and wings 4.5-5 cm. long, 1.5-1.8 cm. broad, spreading at obtuse angles.

Key to species.

- A. Leaves deeply 3-lobed, lobes oblong-ovate, nearly entire or rarely toothed with a few obtuse teeth; flowers in fascicled inflorescence76, A. pilosum.
- AA. Leaves shallowly 3-5-lobed, lobes ovate- or triangular-ovate, remotely serrate with coarse teeth or nearly entire; flowers in raceme or corymbose raceme.
- B. Flowers yellowish green; fruits usually with deciduous style77, A. Francheti.
- BB. Flowers purple; fruits usually with persistent style.....78, A. sinopurpurascens.

76. Acer pilosum Maximowicz in Bull. Acad. Sci. St.-Petersb. XXVI. (1880) 436; 445; XXVII. (1881) 560. t. 27 figs. 1 - 5; in Mel. Biol. X. (1880) 590, 604; XI. (1881) 350, t. fig. 1-5; in Act. Hort. Petrop. XI. (1889) 105 (Pl. Chin.); Forbes & Hemsley in Journ. Linn. Soc. XXIII. (1886) 141. (Ind. Fl. Sin.)- Pax in Engler, Bot. Jahrb. VII. (1886) 187; in Engler & Prantl, Pflanzenfamilien, III. pt. 5 (1896) 270; in Engler, Pflanzenreich, Heft 8 (lv.163). (102) 12. - Wesmael in Bull. Soc. Roy. Bot. Belg. XXIX. (1890) 32.- Graf von Schwerin in Gartenfl., XLII. (1893) 258.- Bretschneider, Hist. Europ. Bot. Discov. China, (1898) 996.- Rehder in Sargent, Trees & Shrubs, I. (1905) 181; in Journ. Arn. Arb. VII. (1926) 224; Manual Cult. Trees & Shrubs, (1927) 575.- Schneider, Illustr. Handb. Laubh. II. (1907) 240, fig. 169 e.- Chung in Mem.Sci. Soc. China, I. (1924) 150 (Cat. Trees & Shrubs c China). -

Small tree. Bark brownish grey. Branchlets slender, brownish grey or yellowish grey. Leaves coriaceous, subtruncate or subcordate at base, 3-lobed; lobes oblong-ovate or lanceolate, nearly entire or rarely with few obtuse teeth; upper surface deep green, glabrous or slightly pilose; lower surface yellowish or pale green, reticulate, pilose especially on the nerves; petioles 2-3 cm. long, pilose. Flowers and fruits the writer never found. In the original description and figure the flowers usually 2 or 3 in corymbose inflorescence, from leafless lateral buds on branchlets of 2 or 3 years old, and the fruits with pilose nutlets and erect wings.

KANSU: /

KANSU: in the plain towards the south, Piasezki, June 15, 1875, sine no. (in Iénin. ex Maximowicz); road to Siku from Minchow, Wm. Purdom, no. 764 (seeds only, plants raised in Arnold Arboretum; specimen in Arn.).

This species is near Acer stenolobum in the leaf-shape, but it differs easily by its short inflorescence arising from 2 or 3 years old branchlets while Acer stenolobum has longer inflorescence terminal on annual leafy branchlets.

77. Acer Francheti Pax in Hooker Icon. Pl. XIX. (1889) under t. 1897; ex Diels in Engler, Bot Jahrb. XXIX. (1900) 450 (Fl. Central-china); in Engler, Pflanzenreich, Heft 8 (IV.163). (1902) 71. - Graf von Schwerin in Gartenfl., XLIII (1893) 325.- Bretschneider, Hist. Europ. Bot. Discov. China (1898) 781.- Henry in Gard. Chron. ser. 3. XXXIII. (1903) 100 (Chin. Maples).- Veitch in Journ. Royl Hort. Soc. XXIX. pt. 3. (1904) 353, 360, fig. 88.- Hemsley in Journ. Linn. Soc. XXXVI. (1905) 452.- Rehder in Sargent, Trees & Shrubs, I. (1905) 175, t. 87;- in Sargent, Pl. Wilson. I. (1911) 97; in Journ. Arn. Arb. VII. (1926) 224; Manual Cult. Trees & Shrubs, (1927) 575.- Schneider, Illustr. Handb. Laubh. II. (1907) 240, figs. 166 c-e & 167d.- Léveillé, Cat. Illustr. Pl. Seutchouen, (1918) 178, MSS.- Hers in Journ. N. China Branch. Roy. As. Soc. LIII. (1922) 106; Liste Ess. Lign. Honan Sept. (1922) 1.- Chung in Mem. Sci. Soc. China, I. (1924) 149 (Cat. Trees & Shrubs China).- W.W. Smith & etc. in notes Roy. Bot. Gard. Edinb., XIV. (1924) 258 & 367; XVII. (1929) 26, (1930) 196, 201.- Handel-Mazzetti in Anz. Akad. Wiss. Wien. Math-Nat. nr.10 (1924)(Pl. Nov. Sin. Forts. 25 p. 5); Symb. Sin. VII. (1933) 643.- Bean. Trees & Shrubs hardy Brit. Isl. I. (1929)/

(1929) 142.- Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot Ser. VII. (1932) 185; VIII. (1932) 179.-

Acer villosum Forbes & Hemsley (non Wallich)

in Journ. Linn. Soc. XXIII. (1886) 142
(Ind. Fl. Sin.).- Pax ex Diels in
Engler, Bot. Jahrb. XXIX. (1900) 450
(Fl. Central-china).- Léveillé, Cat.
Illustr. Pl. Seutchouen, (1918) 179,
MSS.- Chung in Mem. Sci. Soc. China, I.
(1924) 151 (Cat. Trees & Shrubs China).

Acer Schoenermarkiae Pax in Engler, Pflanzenreich,

Heft 8 (IV.163). (1902) 71, fig. 13.-
Rehder in Sargent, Trees & Shrubs, I.
(1905) 181.- Hemsley in Journ. Linn.
Soc. XXXVI. (1905) 452.- Schneider,
Illustr. Handb. Laubh. II. (1907) 241,
fig. 169 f.- Léveillé, Cat. Pl. Yunnan,
(1917) 252.- Chung in Mem. Sci. Soc.
China, I. (1924) 150 (Cat. Trees &
Shrubs China).- Sym. Nov.

Acer schoenermarkiae Pax, var. oxycolpum Handel-

Mazzetti in Sitzgsanz. Akad. Wiss.
Wien. Math.- Nat. LVII. (1920) 269
(Pl. Nov. Sin. Forts. 7 p.4); LXI. (1924)
85.-

Tree usually 10 to 15 metres high. Bark dark brown. Branchlets stout, those of the present year brownish green or brownish yellow, pubescent, those of more than one year old reddish brown or dark brown, glabrous. Winter-buds dark brown; scales numerous, ciliate/

ciliate on the margin, accrescent scales ovate or lanceolate, densely pilose outside. Leaves deciduous, chartaceous, 12-20 cm. long, 14-23 cm. broad, cordate or subcordate rarely rounded at base, usually 3 lobed, occasionally with 2 basal lobes, rarely lateral lobes obsolete, irregularly and remotely toothed; middle lobe ovate, acute; lateral lobes acute forwardly directed; Upper surface deep green; lower surface pale green, reticulate; pubescent on both surfaces, densely so on the nerves while young, then glabrous, sometimes with tufts of hairs at the axils of nerves or rarely slightly pubescent below; petioles 8-20 cm. long, pubescent while young, then glabrescent. Flowers yellowish green, dioecious, on pendulous, pubescent slender racemes or paniculate racemes from leafless lateral buds of 2 or 3 years old branchlets, appearing usually before rarely with leaves; sepals 5, ovate-oblong, about 4.5 mm. long, 2 mm. broad, slightly pubescent outside; petals 5, as long as the sepals; disk glabrous; stamens usually 8, rarely 10, about 6 mm. long, rudimentary in pistillate flower, filaments glabrous, anthers yellow; ovary densely pubescent, rudimentary in staminate flower; pedicels 1-2 cm. long, pubescent. Fruits stout, 5 to 8 on pendulous fruiting inflorescence, yellowish green while young, then changing to deep yellow during matured; nutlets 8-10mm. in diameter, convex, globose, reticulate, pilose; wings with nutlets 4.5-5 long, 1.8-2cm. broad, strongly veined, spreading at right angles or erectly; pedicels 2-3 cm. long, stout, more or less pubescent.

SHENSI: Tai-pei-shan, Wm. Purdom, in 1910, no. 950 (in Arn., Edinb. & Kew); near Kwang-yin-tang, F.N. MEYER/,

F. N. Meyer, September 15, 1914, no. 1672 (in Arn., ex Rehder); "Tsing-ling-schan" Nanwu-tai, pr. Hsingan, in silva templi, 1500-1700 m., "G. Fenzel, in 1933, no. 47 (in Vind.).

HONAN: Sung-hsein, San-kuan-miao, alt. 1200m., J. Hers, May 24, 1919, no. 523 (in Kew & Paris); without precise locality, J. Hers, in 1918, no. 46 (in Arn., ex Rehder).

HUPEH: Fang-hsein, tree 4 metres high, A. Henry, no. 6456 (type in Berol.; cotype in Bres. Brit. Edinb., Kew, Paris & Vind.) & 6894 (in Brit. & Kew); Fang-hsein, E. H. Wilson, June and November 1907, nos. 337 (in part) & 1888 (all in Berol., Brit. Edinb. Kew, Firen. Kew, Paris & Vind.); Hsing-shan-hsein, E. H. Wilson, June and November 1907, no. 337 (in part) (in Brit., Kew & Vind.); north and south Ichang, E.H. Wilson, October 1907, no. 337 (in part) (in Edinb. & Vind.); near Huen-tsao, W.Y. Chun, August 31, 1922, no. 4169 (in Kew); Patung-hsein, A. Henry no. 525 (in Kew); Patung-hsein, E. H. Wilson, shrub 3 metres high, E. H. Wilson, May and October 1907, nos. 91, 91A & 337 (in Berol., Kew, Paris & Vind.); Chang-lo-hsein, W E.H. Wilson, May 1907, no. 337 (in part) (in Brit. & Edinb.); Chang-yang-hsein, tree 4 metres high, E.H. Wilson, May 1901, no. 688 (in Berol.).

HUNAN: Supu, Tseching, alt. 700 m., tree 6 metres high, S.S.Sin, September 1929, no. SH553 (in Berol.).

SZECHUAN: South of Wu-shan-hsein, E.H. Wilson, May 1907, no. 337 (in part) (in Brit., Edinb., Firen. & Kew); "District de Tchen-keou-tin" (Cheng-kou-hsien), R.P. Farges, /

Farges, nos. 399 Bis & 1208 (in Paris); Chiu-ting-shan, E. H. Wilson, May 1908, no. 337 (in part) (in Edinb.); Nanchuan-hsein, C. Bock & A.v. Rosthorn, in 1891, no. 336 (in Berol.); Nanchuan-hsein, Mount of the Golden Buddha, C. Y. Hwang, August 18, 1926, no. 146 (in Arn., Berol. & Sci.); same locality, W. P. Fang, May 27-29, 1928, nos. 984 & 1127 (all in Arn., Berol., Edinb., Fan, Kew, Paris & Sci.); same locality, S.F. Chang, April 26, 1930, no. 222 (in Sci.); same locality, T.H.Tu, May 19-23, 1932, nos. 3030 & 3125 (in Fan & Sci.); Ma-pien-shein, W.P. Fang, May to June 1930, nos. 479, 498, 1553 & 3924 (all in Edinb., Fan, Kew, Sci. & Sin.); Opian-hsein, T.T.Yu, May 3-5, 1932, nos. 620, 634, & 660 (all in Fan & Sci.); "Sosoliangse im Daliang-schan e von Ningyuen," H. Handel-Mazzetti, April 25, 1914, no. 1685 (type of Acer schoenermarkiae var. oxycolpum in Wien; cotype in Bres., Edinb., Kew, Paris, & Vind.); "Lololand, zwischen Alami und Ssu-queh-pa, am bach, Baun 8:0.2m.," C. Schneider, April 21, 1914, no. 929 (in Berol.); "Oestlich von Ningyuen-fu im Lolo-land, offene stellen im Urwalde bei Langpa, bis 8m. Baum," C. Schneider, April 25, 1914, no. 1030 (in Berol. & Kew); "Lololand Urwald bei langpa waldrand, Baum bis 10:0.4m.," C. Schneider, April 25, 1914, no. 1067 (in Berol.); "inter Kalapa und Liuku," C. Schneider, May 17, 1914, no. 1252 (in Kew); "Ober Djifangkou am Lungschuschan, bei Huili," H. Handel-Mazzetti, September 17, 1914, no. 5216 (in Bres., Edinb., & Wien); "Ober Niutschang se von Yengyuen," H. Handel-Mazzetti, September 30, 1914, no. 5392 (in Vind. & Wien); without precise locality, T.T.T. Yu & T.H.Tu, nos. 446 & 451 (in Sci.).

SIKANG:/

SIKANG: south of Lu-ting-hsein, W.C. Cheng, April 20, 1930, no. 695 (in Sci.).

KWEICHOW: Fan-ching-shan, K.K.Ho., July 28, 1931, no. 51415 (in Sci.); Fan-ching-shan, Chin-liang-tze, A.N. Steward, C. Y. Chiao & H. C. Cheo, October 1931, no. 531 (in Brit. & Vind.); Tung-zen-hsein, Fan-ching-shan, T.T. Tu, September 8-13, nos. 3810 & 3817 (in Fan & Sci.).

YUNNAN: "San-kia pres Kiao-kia," Ducloux, May 1909, no. 1035 (in Edinb.); mountains southeast of Yung-ning, lat. $27^{\circ} 40' N.$, Long. $100^{\circ} 48' E.$, in mixed forests in side valleys, shrub or tree of 8-14 metres high, G. Forrest, July 1922, no. 21444 (in Arn., Edinb., & Kew); Lichiang Range, lat $27^{\circ} 30' N.$, in mixed forests, tree of 20 metres high, G. Forrest, May 1913, no. 10058 (in Brit., Edinb. & Kew); northwestern flank of the Lichiang Range, lat $27^{\circ} 30' N.$, long. $100^{\circ} 10' E.$, Alt. 4000 m., in open thickets, G. Forrest, October 1922, no. 22974 (in Edinb. & Kew); western slopes of Lichiang Snow Range, Yangtze watershed, J. F. Rock, May 1923, no. 8528 (in Arn. & Edinb.); Chung-tien plateau, lat. $27^{\circ} 40' N.$, alt. 3300-3700 m., in mixed and pine forests, tree of 10-14 metres high, G. Forrest, July 1918, no. 16463 (in Edinb. & Kew); Mekong-Yangtze divide, lat $27^{\circ} 40' N.$, alt. 3300 m., in mixed forests, tree of 14-17 metres high, G. Forrest, 11 July 1914, no. 12841 (in Edinb. & Kew); Mekong-Salween divide, lat. $28^{\circ} 10' N.$, alt. 3000 m., in mixed forests, tree of 10-17 metres high, G. Forrest, September 1914, no. 13367 (in Edinb.); Mekong-Salween divide, lat. $28^{\circ} 12' N.$, alt. 3300 m., in open thickets in side valleys, shrub or tree of 8-14 metres high, flowers precocious, olive-green, G. Forrest, April 1918, no. 16396 (in/

(in Edinb. & Kew); Li-ti-ping, lat $27^{\circ} 12' N.$, alt. 3300 m., in mixed forests, tree of 14-17 metres high, G. Forrest, June 1917, no. 13898 (in Edinb.); Chien chuan-Mekong divide, lat $26^{\circ} 30' N.$, long $99^{\circ} 20' E.$, Alt. 3300 m., (in Edinb.); on the Shui-lu-shan, west of Weihsi, lat. $27^{\circ} 12' N.$, long $99^{\circ} 12' E.$, alt. 3300 m., in open thickets, shrub of 7-10 metres high, G. Forrest, June to October 1924, nos. 25451 & 25951 (in Edinb.); Shweli-Salween divide, north of Ho-tsu, lat $25^{\circ} 50' N.$, long $98^{\circ} 45' E.$, alt. 3300 m., in mixed forests, tree of 10-14 metres high, flowers dull brownish-green, G. Forrest, May 1925, no. 26353 (in Edinb. & Kew); hills north of Lung-fan, lat $25^{\circ} 54' N.$, long $98^{\circ} 33' E.$, alt. 3300 m., in thickets and open forests in side valleys, shrub of 7-10 metres high, G. Forrest, June 1925, no. 26799 (in Edinb. & Vind.); without precise locality, G. Forrest, nos. 27762, 290983 & 30491 (in Edinb.); - Mengtze, mountainous forests, alt. 2400 m., tree 5 metres high, A. Henry, no. 10497 (type of Acer Schoenermarkiae in Berol.; cotype in Bres., Edinb. & Kew).

This species is easily distinguished from other species by its 3-lobed leaves remotely serrate on the margin, and by its yellowish green flowers in racemose or paniculate-racemose inflorescence.

Professor Pax considers Acer Schoenermarkiae to be distinguishable from Acer Francheti by its capitate-racemose inflorescence. I saw the type of Acer Schoenermarkiae in Herb. Berol. There are two inflorescences. One is a young short raceme. The other is a capitate raceme with some flowers near the apex of the peduncle and the flowers below seem to have fallen away /

away. I have also carefully examined the specimens mentioned above, and found that the inflorescence is variable, usually from raceme to paniculate raceme.

Therefore I consider Acer Schoenermarkiae synonymous with Acer Francheti.

78. Acer Sinopurpurascens Cheng in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1931) 62, fig. 2. - Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 185; VIII. (1932) 179. -

Tree usually up to 10 metres high. Bark grey, nearly smooth. Branchlets slender, those of the present year greenish and slightly pilose while young, then glabrescent, those of more than one year old grey and fissured. Winter-buds ovoid, brown or dark brown; scales numerous, ciliate on the margin. Leaves deciduous, charatceous, subcordate or truncate at base, 5-lobed rarely 3-lobed; middle lobe oblong-ovate, acuminate, entire or remotely toothed with a few coarse teeth; lateral lobes triangular-ovate, entire or remotely toothed; basal lobes acute; deep green above, pale green below, both surfaces pubescent while young, then slightly pubescent with tufts of hairs at the axils of nerves; petioles 4-8.5 cm. long, slender, pubescent while young, then glabrescent. Flowers dioecious, purple, in pendulous racemes or corymbose racemes from lateral leafless buds appearing usually before the developing of leaves; in staminate flower sepals usually 5, rarely 6, obovate, glabrous, about 5 mm. long; stamens 8, glabrous, about 5.5mm. long, inserted inside of the lobed disk; ovary rudimentary; in pistillate flower sepals 5, rarely 4, oblong-ovate, about 5mm. long; petals as the same size as sepals; stamens rudimentary; ovary pubescent, style/

style short, stigma 2-lobed. Fruits brownish yellow; nutlets about 10 mm. in diameter, pubescent; wings 2.5-2.7 cm. long, 1cm. broad, spreading nearly erectly.

CHEKIANG: W. Tien-mu-shan, S.S. Chien, August 16, 1929, no. 845 (in Fan & Sci.); same locality, W.C. Cheng, April 23, 1931, nos. 2424 & 2429 (in Sci.); same locality, W. C. Cheng, July 1, 1932, no. 3697 (in Sci.); Tien-tai-shan, S. Chen, June 7, 1932, no. 520 (9 in Sci.).

This species differs from Acer Francheti Pax in its light brown branchlets, its usually 5-lobed leaves with spreading ovate-oblong and triangular acuminate lobes, its purple flowers and its shorter fruits with usually persistent style.

Sect. VIII. Trifoliata Pax.

Key to species.

- A. Leaves usually with 4-7 leaflets on each petiole; leaflets narrowly lanceolate, usually 1-2 cm. broad, entire79, A. pentaphyllum.
- AA. Leaves usually with 3 leaflets on each petiole; leaflets ovate or ovate-lanceolate, usually 3-6 cm. broad, serrate.
- B. Inflorescences glabrous; nutlets glabrous.
- C. Inflorescences compound, containing many flowers; stamens nearly two times longer than the petals, exerted.....80, A. sutchuenense.
- CC. Inflorescences simple, containing few flowers; stamens nearly as long as petals, not exerted (~~ex. Maximowicz~~).....81, A. mandshuricum.
- BB. Inflorescences pubescent; nutlets pubescent.
- C. Leaves slightly pilose on the midrib below, occasionally papillose...82, A. triflorum
- CC. Leaves with the whole lower surface pubescent, not papillose.
- D. Leaflets oblong-lanceolate, 7-14 cm. long; nutlets with wings usually 5-6 cm. long, lessly pubescent83, A. nikoense
- DD. Leaflets elliptic-oblong, 4-6 cm. long, distinctly toothed with 2-3 bluntish teeth; nutlets with wings 3-3.5 cm. long, densely pubescent84, A. griseum

79. Acer pentaphyllum Diels in Notizbl. Bot. Gart. Mus. Berlin-Dahlem, XI. (1931) 212.-

Trees 10 metres high (according collector). Branchlets brown or brownish yellow, slender, widely spreading or slightly pendulous. Leaves subcoriaceous, deciduous, leaflets digitate, 4-7 usually 5 or 6 leaflets on each petiole, cuneate or broadly cuneate at the base, narrowly lanceolate or lanceolate, obtusish or obtusish acuminate at the apex 5-8 cm. long, 1.5-2 cm. broad; upper surface deep green, glabrous, with midrib slightly impressed; lower surface white glaucous, with prominent midribs and slightly elevated lateral nerves; petiolules 5-8 mm. long, purplish yellow, glabrous; petioles 6-8 cm. long, brownish yellow, glabrous. Flowers unknown. Fruits yellowish yellow, in corymbose fruiting inflorescences; nutlets about 5mm. in diameter, strongly convex, puberulous; wings included nutlets 2.3-2.5 cm. long, 8mm. broad, spreading at right angles; pedicels 1-2 cm. long, slender, glabrous; peduncles 3-5 cm. long, glabrous.

SIKANG: between Baurong and Kulu, west of Yalung River, near Muli, J. F. Rock, July 1929, no. 17819, (type in Berol.; cotype in Brit., Edinb., Kew, Paris & Vind.).

This very distinct species is easily recognized by its small digitate leaflets and by its small fruits with wings spreading at right angles. As its flowers are unknown the right position of this species is still doubtful. It is temporarily placed in the section Trifoliata on account of its terminal corymbose inflorescences. But it differs from this section by its 4-7 leaflets on each petiole.

80. Acer sutchuenense Franchet in Journ. de Bot. VIII. (1894) 294.- Bretschneider, Hist. Europ. Bot. Discov. China, (1898) 924.- Bois in Journ. Soc. Nat. Hort. France, ser. 4, I. (1900) 199.- Pax ex Diels in Engler, Jahrb. XXIX. (1900) 449 (Fl. Centralchina); in Engler, Pflanzenreich, Heft 8 (IV.163).(1902) 29.- Henry in Gard. Chron. ser. 3. XXX. (1903) 100 (Chin. Maples).- Veitch in Journ. Roy. Hort. Soc. XXIX. pt. 3, (1904) 353, figs. 93 & 96.- Hemsley in Journ. Linn. Soc. XXXVI. (1905) 452.- Rehder in Sargent Trees & Shrubs, I. (1905) 181; II. (1907) 25 figs. 112; in Sargent, Pl. Wilson. I. (1911) 97; Manual Cult. Trees & Shrubs, (1927) 577.- Schneider, Illustr. Handb. Laubh. II. (1907) 212, figs. 139a, 140 p-q.- Léveillé, Cat. Illustr. Pl. Seutchouen, (1918) 179, MSS.- Chung in Men. Sci. Soc. China, I. (1924) 150 (Cat. Trees & Shrubs China).- Bean, Trees & Shrubs hard. Brit. Isl. I. (1929) 159.-

Tree or shrub usually about 5 or 7 metres high. Branchlets slender, those of the present year purplish, glabrous, those of the more than one year old greyish brown or dark brown. Winter-buds small; scales slightly ciliate. Leaves deciduous, chartaceous, with 3 leaflets on each petiole, leaflets oblong-lanceolate, 8-12 cm. long, 2-4 cm. broad, acute on the apex, middle leaflet acute or cuneate at the base, lateral leaflets oblique or round, remotely dentate on the margin; upper surface deep green, glabrous; lower surface glaucous, sparingly pubescent on the midrib and with tufts of hairs at the axils of nerves; petioles 6-10 cm. long, densely pilose near the articulation of petiolules, middle petiolules 1.5-2 cm. long, glabrescent, lateral petiolules 5-8 mm. long, glabrescent. Flowers andro-dioecious, staminate/

staminate flowers 8-12 in glabrous corymbs; sepals 5, ovate or lanceolate, 5 mm. long, about 1 mm. broad; petals 5, yellowish white, obovate or obovate-oblong, 6-7 mm. long, 2-3 mm. broad; stamens 12-16, exserted, 8-10 mm. long, filaments glabrous, anthers yellow and ellipsoid; disk glabrous, extrastaminal; pedicels 1-1.5. cm. long, slender, glabrous; ovary rudimentary and left a tuft of hairs in the middle of disk; pistillate flowers never found. Fruits purplish or brownish; nutlets 6-7 mm. long, 5-6 mm. broad, strongly convex; wings with nutlets 20-22 mm. long, 7 mm. broad, spreading erectly and slightly inwardly curved.

HUPEH: Fang-hsein, E. H. Wilson, May and June 1907, nos. 1886 & 1887 (in Arn.).

SZECHUAN: south of Wu-shan-hsien, tree 4 m. high, E. H. Wilson, May 1902, no. 639 (in Berol. Brit., Edinb., Paris & Vind.); "District de Tchen-keou-tin" (Cheng-kou-hsien), R.P. Farges, no. 955 bis (type in Paris); southeast of Sungpan-hsien, E.H. Wilson, no. 1886 (in Part) (in Arn.).

This species is characterized by its lanceolate leaflets which are coarsely serrate on the margin, and its glabrous inflorescences with numerous flowers having exserted stamens.

81. Acer Mandshuricum Maximowicz in Bull. Acad. Sci. St. Petersb. XII. (1867) 228; XXVI. (1880) 450; XXXI. (1887) 26; in Mel. Biol. VI. (1867) 371; X. (1880) 610; XII. (1886) 434.- Pax in Engler Bot. Jahrb. VII. (1886) 253; XI. (1889) 80; in Engler & Prantl. Pflanzenfamilien, III. pt. 5, (1896) 271; in Engler, Pflanzenreich, Heft 8 (IV. 163). (1902) 29.- Wesmael in bull. Soc. Roy. Bot. Belg. XXIX. (1890) 65.- Graf von Schwerin in Gartenflora, XLIII. (1893) 168.- Bretschneider, Hist. Europ. Bot. Discov.

China/

China, (1898) 590.- Komarov. in *Agt. Hort. Petrop.* XXII.
 (1904) 722 (*Fl. Mansh.* II. no. 1050 (4))- Rehder in *Sargent, Trees & Shrubs*, I. (1905) 181;- *Manual Cult. Trees & Shrubs*, (1927) 577.- Schneider, *Illustr. Handb. Laubh.* II. (1907) 213, figs. 139 d, 140e.- Nakai in *Journ. Coll. Sci. Imp. Univ. Tokyo*, XXVI, (1909) 132 (*Fl. Kor.* Ⅰ); *Tokyo Bot. Mag.* XXVI. (1912) 2; XXIX. (1915) 28; *Fl. Sylv. Kor.* I. (1915) 16, fig. 10.- Dunn in *Journ Linn. Soc.* XXXIX. (1911) 413.- Yabe, *Enum. Manch. Pl.* (1912) 88.- Wilson in *Journ. Arn. Arb.* I. (1920) 37.- Chung in *Mem. Sci. Soc. China*, I. (1924) 149 (*Cat. Trees & Shrubs China*).- Bean, *Trees & Shrubs hard. Brit. Isl.* I. (1929) 147.- Fang in *Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser.*, VII. (1932) 186; VIII. (1932) 180.-

Negundo mandshuricum Nicholson in *Gard. Chron.* n. ser. XVI. (1881) 815.-

Trees usually 10 metres high, rarely up to 30 metres high. Branchlets glabrous, those of the present year glabrous, purplish yellow or purplish brown, those of the more than one year old, rough, grey or dark grey. Winter-buds small; scales glabrous. Leaves deciduous, chartaceous, with 3 leaflets on each petiole, leaflets oblong, oblong-ovate or oblong-lanceolate, 5-10 cm. long, 2-3 cm. broad, the middle leaflet cuneate on slender petiolule up to 1 cm. long, lateral leaflets rounded or oblique and on very short petiolules, obtusely serrate with very small teeth on the upper parts of the leaflets; upper surface green, glabrous; lower surface glaucous, with barbate hairs on the midrib; petioles 7-10 cm. long, greenish yellow or purplish red. Flowers the writer never saw. Fruits yellowish/

yellowish brown; nutlets strongly convex, globose, about 5 mm. long and broad; wings with nutlets 3-3.5 cm. long, 1 cm. broad, spreading at acute angles or nearly erectly.

KIRIN: Port May, Maximowicz, September 17, 1860, sine no. (in Berol., Brit., Munch, Firen., Paris & Vind.); "Via inter Ninguta et Omoso," V. Komarov, July 21, 1896, sine no. (Mat. Fl. Mansh. II. no. 1050(4)) (in Paris & Vind.); Harbin, C. S. Sargent, April 7, 1904 and August 31, 1903, sine no. (in Berol.); Kirin, S.S. Swen, April 1926, no. 6 (in N.B.); Kirin, F.H. Chen, August 25, 1931, no. 410 (in Brit., Fan & Sci.); Kirin, F. H. Chen, September 3, 1931, no. 549 (in Brit., Fan, & Sci.).-

COREA: "Fluvium Jalu, Districtus Samsu", V. Komarov, July 7, 1897, sine no. (Mat. Fl. Mansh. II. no. 1050 (4)) (in Berol.); north of Heian, Taiyudi, in forests, alt. 660-1000 m., tree 33 m. high, bark smooth and pale grey, trunk straight and clear of branches for half height, wood soft, E. H. Wilson, June 6, 1917, no. 8647 (in Berol. & Kew); Hogen, Hongo-san, above Makaen-an, in woods, tree 20 m. high, E.H. Wilson, July 11, 1918, no. 10536 (in Berol., Brit. & Kew).-

This species is characterized by its glabrous petioles and leaflets, its few-flowered inflorescences, and its globose veined nutlets.

82. Acer triflorum Komarov in Act. Hort. Petrop XVIII. (1901) 430; XXII. (1904) P. 728, No. 1052 (6), fig. 15 (Fl. Manshur. II).- Pax in Engler, Pflanzenreich, Heft 8 (VI. 163). (1902) 29 (under Acer mandshuricum Maximowicz).- Hemsley in Journ. Linn. Soc. XXXVI. (1905) 452.- Rehder in/

in Sargent, Trees & Shrubs, I. (1905) 181; Manual Trees & Shrubs, (1927) 859.- Schneider, Illustr. Handb. Laubh. II. (1907) 213, figs. 139 c^I 140 o.- Nakai in Tokyo, Bot, Mag. XXII. (1908) 103; XXIX. (1915) 28; in Journ. Coll. Sci. Imp. Univ. Tokyo XXVI. (1909) 133 (Fl. Kor.); Fl. Sylv. Kor. I. (1915) 17, fig. II.- Yabe, Enum. Manchur. Pl. I. (1912) 88.- Wilson in Journ. Arn. Arb. I. (1920) 37.- Chung in Mem. Sci. Soc. China, I. (1924) 151 (Cat. Trees & Shrubs, China).- Fang in Contrib. Sci. Soc. China, Bot. Ser. VII. (1932) 186; VIII. (1932) 180.-

Tree usually about 10 metres high, rarely up to 20 or 25 metres high. Branchlets slender, sparingly pilose soon glabrous, those of the present year purplish or purplish red, those of the more than one year old dark red or dark brown. Winter-buds small; scales ciliate. Leaves deciduous, membranaceous or chartaceous, with 3 leaflets on each petiole, leaflets oblong-ovate to oblong-lanceolate or oblong-obovate, 7-9 cm. long, 2.5-3.5 cm. broad, entire or remotely serrate with a few coarse teeth, middle leaflets cuneate on slender, sparingly pilose petioles 5-10 mm. long, lateral leaflets oblique and very shortly stalked; upper surface deep green, sparingly pilose, soon glabrescent; lower surface pale green, glabrescent, with densely pilose midrib; petioles 4-6 cm. purplish, sparingly pilose. Flowers the writers never saw. Fruits greenish yellow; nutlets subglobose, 14-16 mm. long, 10-12 mm. broad, densely pubescent, wings included nutlets 3-3.5 cm. long, 1.3-1.5 cm. broad, subparallel, spreading at right angles.

MANCHURIA:

MANCHURIA: Kirin, "Districtus Omioso, Vallis, J-cre-sum-che," V. Komarov, August 3, 1896, sine no. (Mat. Fl. Manch. no. 1051 (5) (in Berol. & Brit.)); "Fluvium Jalu super, circa Schi-sida-jou," V. Komarov, July 12, 1897, sine no. (Mat. Fl. Mansh. no. 1051(5)) (in Firen.); Kirin, Swen Si Suan, April 1926, no. 4 (in N. F.); Kirin, F. H. Chen, August 12, 1931, no. 403, (in Arn. Brit. Fan & Sci.); S.E. Manchuria, G. Fenzel, June 2, 1930, no. 70 (In Vind.); Mudken, F. N. Meyer, June 27, 1906, no. 18 (in Kew).

COREA: "Fluvium Jalu super. Districtus Samsu. Circa Sang-su," V. Komarov, June 4, 1897, sine no. (Mat. Fl. Mansh. II. no. 1051(5) (in Berol. & Paris); "Fluvium Jalu Trajectus czaschinzan," V. Komarov, August 31, 1897, sine no. (Mat. Fl. Mansh. 1051(5) (in Brit.)); Mt. Ouen-san, U. Faurie, September 4, 1901, no. 169 (in Vind.); same locality, U. Faurie, July 1906, no. 471 (in Berol., Brit. & Edinb.); Kei-ki, Karyo, moist woods, tree 23 metres high, bark loose papery, grey-brown, branchlets fairly stout, abundant, E. H. Wilson, June 6, 1917, no. 8749 (in Berol., Brit. & Edinb.); N. Heian, tree 7-16 m. high, E.H. Wilson, September 8, 1917, no. 9103 (in Brit. & Kew); Kogan, Hyokunji, Kongo-san, tree 20 m. high, autumn tints orange to red, common, E. H. Wilson, October 14, 1917, no. 9303 (in Berol., Brit., & Edinb.); Kogen, Kongo-san, tree up to 18 m. high, E.H. Wilson, July 11, 1918, no. 10527 (in Brit. & Kew); Kogen, round hyokunji, Kongo-san, tree 20 m. high, common, E. H. Wilson, July 11, 1918, no. 10627 (in Berol.). -

JANPAN: Magasaki, Maximowicz, in 1863, sine no. (in Berol.); without precise locality, U. Faurie, July 1905, no. 6735 (in Berol.).

This/

This species is characterized by its lanceolate leaflets entire or slightly serrate with 1 to 3 coarse teeth, its 3-flowered inflorescences and its globose densely pubescent nutlets.

Acer triflorum Komarov var. subcoriacea Komarov in Act. Hort. Petrop. XXII. (1904) 730 (Fl. Mansh. II.).- Nakai in Tokyo Bot. Mag. XXIX. (1915) 29; Fl. Sylv. Kor. I. (1915) 17.-

This variety differs from the type by the leaves being sparingly papillose on both surfaces.

Acer triflorum Komarov var. leiopodum Handel-Mazzetti, in Oesterr. Bot. Zeitch. LXXXIII. (1934) 233.

SHENSI: "Tsinling-schan, Manwutai suedlich von Hsingan (Si-an), im Tempelwald, 1500-1700 m.," G. Fenzel, in 1933, no. 37 (in Vind.).

This variety differs from the type species by its small leaflets distinctly glaucous below as well as only slightly pilose or nearly glabrous on the nerves and petioles, while its nutlets have a short pubescence. It may be judged deserving of specific rank when flowering specimens come to hand.

83. Acer nikoense Maximowicz in Bull. Acad. Sci. St. Petersb. XII. (1867) 227; XXVI. (1880) 450; in Mel. Biol. VI. (1867) 370; X. (1880) 609; Miquel, Arch. Neerl II. (1867) 472, 478.- Franchet & Savieter, Enum. Pl. Japon. I. (1875) 90.- Pax in Engler, Bot. Jahrb. VII. (1886) 205; in Gartenfl. XLI. (1892); 149, fig. 29.- Engler & Prantl. Pflanzenfamilien, III. pt. 5, (1896) 271; Engler, Pflanzenreich, Heft 8 (IV. 163) (1902) 29.- Wesmael in Bull./

Bull. Soc. Roy. Bot. Belg. XXIX. (1890) 41.- Koehne,
 Deutsch. Dendr. (1893) 378.- Graf von Schwerin in Gartenfl.
 XLII. (1893) 168. Sargent, Gard. & For. VI. (1893) 154,
 fig. 26.- Bretschneider, Hist. Europ. Bot. Discov. China,
 (1898) 595, 604.- Veitch in Journ. Roy. Hort. Soc. XXIX.
 pt. 3 (1904) 338, fig. 81.- Shirasawa, Icon. Ess. For.
 Jap. I. (19) 110, t.68.- Rehder in Sargent, Trees &
 Shrubs I. (1905) 181; In Sargent, Pl. Wilson. I. (1911)
 98; Manual Cult. Trees & Shrubs, (1927) 576.- Léveillé
 in Bull. Soc. Bot. France LIII. (1906) 591.- Schneider,
 Illustr. Handb. Laubh. II. (1907) 211, figs. 139c. 140 i-n.-
 Koidzumi in Journ. Coll. Sci. Imp. Univ. Tokyo, XXXII.
 art. I. (1911) 56, tab. 30.- (Rev. Acer. Jap.).- Bean,
 Trees & Shrubs, hard. Brit. Isl. I. (1929) 150.

Acer Maximowiczianum Miquel, Arch. Neerl. II.

(1881) 472, 478.-

Negundo nikoense Nicholson in Gard. Chron. n. ser.

XVI. (1881) 815.-

Acer nikoense Maximowicz var. Franchet in Journ.

de Bot. VIII. (1894); 294.- Hemsley

in Journ. Linn. Soc. XXXVI. (1905) 452.-

Acer nikoense Maximowicz var. megalocarpum

Rehder in Sargent, Pl. Wilson. I. (1911)

98.- Chung in Mem. Sci. Soc. China, I.

(1924) 149 (Cat. Trees & Shrubs China.).

Trees usually from 15 to 20 metres high. Branch-
 lets slender, those of the present year purplish, densely
 pubescent, those of the more than one year old, dark
 purplish, or dark brown, glabrescent. Winter-buds conical;
 scales 5 pairs, pubescent. Leaves deciduous, subcoriaceous,
 with 3 leaflets on each petiole. Leaflets oblong-
 elliptical /

elliptical or oblong-lanceolate, 7-14 cm. long, 3-6 cm. broad, acute, or rarely acuminate on the apex, the middle leaflet cuneate or blunt at the base with a densely pubescent petiolus 1-2 cm. long, lateral ones oblique at the base, very shortly stalked or sessile, the margin of the leaflets entire or remotely and shallowly serrate with obtuse dentates; upper surface deep green with midribs sparingly pubescent and with 12-14 pairs of lateral nerves usually depressed; lower surface pale green, pilose and densely so on the nerves, less so when matured; petioles 3-5 in a cyme; in pistillate flowers sepals 5, green yellow, obovate, 8 mm. long, 3 mm. broad; stamens 8, glabrous, 1 mm. long; disk glabrous, extrastaminal; ovary densely pubescent, style glabrous, 4mm. long, stigmas widely spreading; pedicels 1.5-2 cm. long, densely pilose. Staminate flowers never seen. Fruits yellowish brown; nutlets flat, 1-1.5 cm. long, 8 mm. broad, pubescent; wings with nutlets 3.5-4 or 6 cm. long, 1.2 cm. broad, curved inward and spreading at right angles.

ANHWEI: Yellow Mountain, F.T. Wang, in 1932, sine no. (in Fan & Sci.). same locality, W. C. Cheng, October 1933, no. 4142 (in Brit. & Sci.).

HUPEH: Hsing-shan-hsien, E.H. Wilson, May and November 1907, Veitch. Exped. no. 638 (in part) (in Arn., Be rol., Firen., Kew & Vind.); north and south of Ichang, E. H. Wilson, May 1907, Veitch. Exped. no. 638 (in part) (in Brit. & Kew); Patung-hsien, tree 10 m. high, A. Henry, no. 6599 (in Kew); same locality, tree 7m. high, E. H. Wilson, April 1900, no. 368 (in Kew).

JAPAN:/

JAPAN: without precise locality, V. Faurie, July 1905, no. 6735 (in Edinb.).

This species is characterized by its densely pubescent petioles subsessile or short-pediceled leaflets with pubescent under surface, and by the incurved large samara with broad, convexed pubescent nutlets. The Hupeh specimens, considered by Rehder as variety megalocarpum, are probably forms of this species. The Anhwei plants have fruits 5-5.3 cm. long, 2-2.5 cm. broad.

84. Acer griseum (Franchet) Pax in Engler, Pflanzenreich, Heft 8 (IV. 163) (1902) 30, fig. 5.- Henry in Gard. Chron. ser. 3, XXXIII. (1903) 100.- Veitch in Journ. Roy. Hort. Soc. XXIX, pt. 3 (1904) 354, 360, fig. 98.- Rehder in Sargent, Trees & Shrubs, I. (1905) 181; in Sargent, Pl. Wilson. I. (1911) 97; III. (1917) 427; in Journ. Arn. Arb. VII. (1926) 224; Manual Cult. Trees & Shrubs, (1927) 577.- Schneider, Illustr. Handb. Haubh. II. (1907) 211, figs. 139 3, 140 e-h.- Dunn in Journ. Linn. Soc. XXXIX. (1911) 413.- Léveillé, Cat. Illustr. Pl. Seutchouen, (1918) 178.- Hers in Journ. N. China Branch. Roy. As. Soc. LIII. (1922) 106; Liste Ess. Lign. Honan Sept. (1922) 1.- Chung in Mem. Sci. Soc. China, I. (1924) 149 (cat. Trees & Shrubs China).- Bean, Trees & Shrubs, hard. Brit. Isl. (1929) 143.- Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser. VII. (1932) 186.-

Acer nikoense Maximowicz var. grisea Franchet
in Journ. de Bot. VIII. (1894) 294.-
Pax ex Diels in Engler, Bot. Jahrb.
XXIX./

XXIX. (1900) 449 (Fl. Central
China).-

Trees usually about 10 metres high. Branchlets slender, those of the present year purplish or purplish yellow, pubescent. Those of the more than one year old dark purple or dark brown, the pubescence persistent on the branchlets for 2 or 3 years. The old branches and trunk usually scaly with thin papery flakes. Winter-buds small; scales sparingly pubescent. Leaves chartaceous, deciduous, with 3 leaflets on each petiole, leaflets elliptic or elliptic-oblong, 4-6 cm. long, 2-3 cm. broad; acute; the middle leaflets cuneate coarsely toothed with 2 or 3 large bluntish teeth, on petiolule 5-8 cm. long, pubescent; the lateral ones oblique, subsessile or shortly stalked, the inner margin entire or rarely with one or two bluntish teeth, the outer margin with 3 or 4 bluntish teeth; upper surface deep green, pubescent while young, then glabrescent; lower surface glaucous, pubescent and densely so on the nerves; petioles 2-4 cm. long, densely pilose. Flowers androdioecious, usually 3 in small pilose cymes; sepals 5, greenish yellow, ovate-oblong, 6 mm. long, 2-3 mm. broad; petals 5, greenish yellow, obovate-oblong, 7-8 mm. long, 5 mm. broad; stamens 10, glabrous, 10-12 mm. long, densely pilose; peduncles 1-1.5 cm. long, densely pilose. Fruits yellowish brown; nutlets 8-10 mm. long, 6-8 mm. broad. globose, densely pubescent; wings with the nutlets 3.2-3.8 cm. long, 1.4 cm. broad, spreading at right angles or nearly erectly.

HONAN: Sung-hsien, San-kuan-miao, alt. 1200 m.,
J. Hers, May 24 and September 27, 1919, nos. 544 & 1299
(in Arn., Paris & Kew); Lu-shih, Hiung-eul-shan, alt.
1400 m.,/

1400 m., J. Hers, October 10, 1919, no. 926 (in Arn.);
 Lu-shih, Lao-kou-shan, J. Hers. September 21, 1919, no.
1223 (in Arn.); Tsi-yuan-hsien, Tien-tan-shan, J. Hers,
 September 20, 1921, no. 1722 (in Arn., Kew & Paris).

SHENSI: Hua-shan, J. Hers, October 31, 1924,
 nos. 3051 & 3068 (in Arn.); "Tsin-ling, in sibilis ad
 flumen Hei-schui-ho, alt. 150⁰ m.," G. Fenzel, August
 22 to September 5, 1934, no. 930 (in Vind.).-

HUPEH: Hsing-shan-hsien, E.H. Wilson, October,
 and Novemebr 1907, no. 340 (in Berol., Brit. Edinb.,
 Firen., Kew & Vind.); north and south of Ichang, E.H.
Wilson, in 1907, no. 719 (in Brit. Edinb. Firen & Kew);
 Five-finger-mountain, Y. Chen, October 6, 1919, no.
2039 (in Vind.); Patung-hsien, tree 5 to 13 m. high,
 bark scaly, E.H. Wilson, May 1907, Veitch Exped. no.
1883 (in Berol. Brit. & Kew.).

SZECHUAN: "Heou-pin pres Tchen-keou-tin"
 (Cheng-kou-hsien), R.P. Farges, April 22, 1892, no.
955 (type of this species, in Paris); Wu-shan-hsien,
A. Henry, no. 6599 (in Berol. ex Pax); Nanchuan-hsien,
C. Bock & A.V. Rosthorn, in 1891, no. 2268 (in Berol.
 & Bres.);

This very distinct species is characterized
 by its leaves usually having 3 cuneate, coarsely serrate
 leaflets, each with 2 to 4 pairs of blunt teeth, and by
 its brown bark separating in thin papery flakes.

Sect. IX Negundo (Ludw.) K.Koch

- 85 Acer Henryi Pax in Hooker Icon. Pl. XIX.
 (1889) t. 1896; Pax & Prantl, Pflanzenfamilien, III.
 pt. 5, (1896) 271; ex Diels in Engler, Bot. Jahrb.
 XXIX. (1900) 448 (Fl. Centralchina); XXXVI. Beih.
 LXXXII. (1905) 73; in Engler, Pflanzenreich, Heft
 8 (IV. 163). (1902) 30.- Graf von Scwerin in Gartenfl.,
 XLII. (1893) 167.- Bretschneider, Hist. Europ. Bot.
 Discov. China, (1898) 781.- Henry in Gard. Chron.
 ser. 3, XXXIII. (1903) 100 (Chin. Maples).- Veitch
 in Journ. Roy. Hort. Soc. XXIX. pt. 3, (1904) 360.-
 Hemsley in Journ. Linn. Soc. XXXVI. (1905) 452.- Rehder
 in Sargent, Trees & Shrubs, I. (1905) 181; in Sargent,
 Pl. Wilson. I. (1911) 97; III. (1917) 426; in Journ.
 Arn. Arb. VII. (1926) 225; VIII. (1927) 164; Manual
 Cult. Trees & Shrubs, (1927) 577.- Schneider, Illustr.
 Handb. Laubh. II. (1907) 210, figs. 139 d & 140 a.-
 Chun, Chin. Econ. Trees, (1921) 227; in Chun & Hu,
 Icon. Pl. Sin. I. (1927) 34, t. 34.- Hers in Journ. N.
 China Branch. Roy. As. Soc. LIII. (1922) 1.- Chung in
 Mem. Sci. Soc. China, I. (1924) 149 (Cat. Trees & Shrubs
 China).- Hu in Science, Sci. Soc. China, IX. (1924) 840.-
 Liu in Bull. Pek. Soc. Nat. Hist. II. (1927-28) 127.-
 Bean, Trees & Shrubs, hardy Brit. Isl. I. (1929) 143.-
 Fang in Contrib. Biol. Lab. Sci. Soc. China, Bot. Ser.
 VII. (1932) 186.- Handel-Mazzetti, Symb. Sin. VII.
 (1932) 643.-

Acer sutchuenense Veitch (non Franchet) in
 Journ. Roy. Hort. Soc. Soc. XXIX.
 pt./

pt. 3 (1904) figs. 93 (h) & 96,

Acer Henryi Pax var. serrata Pampanini in
Nuov. Gior. Bot. Ital. n. ser.
XVII. (1910) 421 (Pi. Vas. Hupe). -
Schneider, Illustr. Handb. Laubh.
II. (1912) 1028. - Fang in Contrib.
Biol. Lab. Sci. Soc. China Bot.
Ser. VIII. (1932) 187; VIII. (1932)
180. - Syn. nov.

Acer Henryi Pax form intermedium Fang in
Contrib. Biol. Lab. Sci. Soc. China,
Bot. Ser. VII. (1932) 187; VIII.
(1932) 180. - Syn. nov.

Acer stenobatrys Franchet Mss. in Herb. Paris.-

Tree usually 10 metres high. Branchlets
slender, those of the present year purplish or purplish
green, pubescent; those of the more than one year
old green or dark green, glabrous. Winter-buds small;
scales ovate, pubescent. Leaves deciduous, chartaceous,
leaflets 3 on each petiole, elliptical or oblong-
elliptical, 6 - 12 cm. long, 3-5 cm. broad, acuminate,
cuneate, entire or remotely dentate, pubescent on
both surfaces especially on the nerves of the lower
surfaces while young, then glabrescent and only with
tufts of hairs on the axils of the nerves of the lower
1 surface; petioles 3-7 cm. long, pubescent; petiolules
5-10 mm. long, pubescent. Flowers andro-dioecious, on
pendulous pubescent racemes, up to cm. long and usually
from 2 or 3 years old branchlets; sepals 4, ovate, 1.5 mm.
long, /

long, 1 mm. broad; ciliate on the margin; petals wanting; stamens 4, glabrous, about 2 mm. long, rudimentary in pistillate flower; disk wanting; ovary glabrous, rudimentary in pistillate flower; style glabrous, stigmas revolute; pedicels subsessile or sessile. Fruits purplish at first, then change to yellowish brown, on pendulous racemes; nutlets convex, oblong, 10 mm. long, 5 mm. broad; wings included nutlets 2.5 cm. long, 5 mm. broad, spreading at right angles or erectly; pedicels about 2 mm. long.

HONAN: Mien-chih, J. Hers, November 1, 1919, no. 78 (in Arn., ex Rehder); Lao-kiun-shan, J. Hers, October 8, 1918, no. 133 (in Paris); Teng-feng-hsien, Yu-tai-shan, J. Hers, June 17, 1919, no. 273 (in Arn., ex Rehder); Sung-hsien, San-kuan-miao, J. Hers, May 24, 1919, no. 526 (in Kew & Paris); Sung-hsien, Shih-tze-miao, J. Hers, May 26, 1919, no. 580 (in Arn., ex Rehder); Luhsih, Tungho, J. Hers, September 30, 1919, no. 1347 (in Kew); Tsi-yuan-hsien, J. Hers, Spet September 21, 1921, nos. 1738 & 1766 (in Kew & Paris); without precise locality, J. Hers, in 1918, no. 21 (in Arn., ex Rehder).

SHENSI: "Ko-kou-san, presso Zulu," G. Giraldi, September 3, 1897, no. 2141 (in Berol. & Firen.); "Lao-y-san," G. Giraldi, sine no. (in Firen.); "Mt. Ngo-san," Hugh Scallan, August 1899, (in Arn. & Brit.); Lung-chow, Kuan-shan, J. Hers, July 3, 1922, no. 2364 (in Arn., ex Rehder); Hua-shan, J. Hers, October 31, 1924, no. 3078 (in Arn., ex Rehder); "Tsing-ling-schan,/"

ling-schan, Nan-wu-tai, pres Hsingan, in silva templi., 1500-1700 m., "G.Fenzel, in 1933, no. 53 (in Vind.); without precise locality, E. Licent, August 16, 1936, no. 2586 (in Paris & Vind.).

CHEKIANG: Mokan-shan, F.N.Meyer, July 21, 1915, no. 1594 (in Berol., Kew & Paris); W. Tien-mu-shan, W.C. Cheng, August 18, 1924, no. 5062 (in Berol., Edinb., Kew, Paris, & Sci.); same locality, tree 10 metres high, T. Tang & W.Y. Hsia, August 4, 1927, no. 449 (in Berol., Fan. & Sci.); same locality, S.S. Chien, August 10, 1929, no. 707 (in Sci.); same locality, K.K.Tsoong, April 20-29, 1929, nos. D94, 106, & 151 (in Sci.); same locality, W.C.Cheng, April 16-23, 1931, nos. 2319 & 2417 (in Arn., Brit. & Sci.); same locality K.Ling, August 15, 1931, no. 3538 (in N.B.); Tien-tai-shan, R.C. Ching, May 9, 1924, no. 1499 (in Berol., Edinb., Kew & Sci.); west of Tsar-peo-ling, 60 li west of Chang-hwa, R.C. Ching, September 22, 1925, no. 3366 (In Sci); Siu-an-hsien, S. Chen, October 9, 1933, no. 2305 (in Sci.).

KIANGSU: Pao-hwa-shan, Chu-yong-hsien, Shuh-tse, April 12, 1918, sine no. (in N.F.); same locality, without name of collector, May 13, 1922, nos. 548 & 549 (in N.F.); same locality, A.N.Steward May 5, 1923, no. 890 (in N.B.); same locality, K. Ling, October 1923, no. 546 (in N.F.); same locality, Shih Tse, October 2, 1928, sine no. (in N.F.); same locality, Chun & Teng, April 18, 1931, nos. 149 & 194 (in Sci. Sin & Vind.); same locality, Y. Tsiang, May 8, 1932, no. 9749 (in Sci. Sin. & Vind.); same locality, C. P'ei, June 9, 1932, no. 3129 (in Sci.); same locality, W.C.Cheng, October 21, 1932, no. 2501 (in Sci.); south of I-shing-hsien, Lung-ge, Hai-wei, in woods among bamboo/

bamboo forests, small tree 8 metres high, R.C.Ching & C.L. Tso, May 16, 1926, no. 488 (in Berol. & Sci.); Ox-head-hill, south of Nanking, W.C.Cheng, September 29, 1929, no. 479 (in Sci.); without precise locality and name of collector, April 5, 1922, no. 3443 (in N.F. no. 547).

ANHWEI: Wu-yuan-hsien, tree 10 metres high, R.C.Ching, August 18, 1925, no. 3255 (in Arn., Berol. Edinb., Kew & Sci.).

HUPEH: "Zan-lan-scian," C. Silvestri June 1913, no. 6018 (in Firen.); "Monte Tien-pong-scian, a 30 km. a W.E. di Chang-kin," C. Silvestri, October 1907, nos. 1372, 1372A & 1372B (type of Acer Henryi var. serrata in Firen.; cotype in Kew); Chien-shih-hsien, tree 10 metres high, A. Henry, no. 5644B (type in Berol.; cotype in Brit., Edinb., & Kew); Chien-shih-hsien, tree 4 metres high, E.H.Wilson, May 1900, no. 548 (in Berol., Edinb. Kew Paris & Vind.). Fang-hsien, E.H.Wilson, May to June 1907, no. 424 (in Berol., Brit. Edinb., Firen., & Kew); Hsing-shan-hsien, E.H.Wilson, May to November 1907, nos. 424 & 424A (in Berol., Brit. Edinb., & Kew); north and south of Ichang, E.H.Wilson, May 1907, no. 424 (in Kew); Changyang-hsien, E.H.Wilson, May to June 1907, no. 424 (in Berol., Brit., Edinb., Kew & Vind.); Liang-sungkou, W.Y.Chun, August 8, 1922, no. 3767 (in Kew & Cent.); Tsu-kwei-hsien, shrub 4 metres high, fruits purplish green, H.C.Chow, May 29, 1934, no. 363 (in Edinb. & Wuhan); Patung-hsien, shrub 8 m. high, fruits green, H.C.Chow/

H.C.Chow, July 13, 1934, no. 808 (in Edinb., & Wuhan); without precise locality, W.Y. Chun, in 1922, no. 4249 (in Cent.).-

SZECHUAN: south of Wu-shan-hsien, tree 7 metre high, A. Henry, no. 5644 (para-type in Berol., Edinb. & Kew); same locality, tree 7 metres high, E.H.Wilson, May 1900, no. 656, (in Berol.); "District de Tchen-keou⁴in" (Cheng-kou-hsien), R.P.Farges, no. 938 (Acer stenobotrys Franchet Mss. in Paris.)

HUNAN: "im wtp. Laubhochwalde des Yunschan bei Wukang, Tonschiefer, 1000-1300 m.," Handel-Mazzetti, June 7, 1918, no. 12053 (in Berol. Bres., Vind. & Wien.); Wukang-hsien, Yun-shan, alt. 1000 m., tree 3 metres high, S.S.Sin, September 8, 1928, no. SH592 (in Berol.).

KWEICHOW: Fan-ching-shan, K.K. Ho, July 14, 1931, no. 51139 (in Sci.); Tuyun-hsien, Y. Tsiang, July 12, 1930, no. 5777 (in Arn., Berol., Brit., Edinb., Fan, Kew, Sci. & Sin.).

This species is closely related to Acer cissifolium K. Koch. From that species it is easily distinguished by its sessile pedicels. Var. serrata and form intermedium are distinguished by the serrations of the leaves. This is a very variable character, for the different stages of serrations, as well as entire leaflets are usually found on the same tree. Therefore it is more convenient to merge the variety and form to the type species.

DOUBTFUL OR EXCLUDED SPECIES.

Acer pedunculatum Hao in Fedde Repert. Nov. Spec. Reg. Veg. XXXVI. (1934) 196; in Contrib. Bot. Nat. Acad. Peiping, II. no. 7 (1934) 178.-

A very near ally of Acer griseum Pax described by Mr. Kinshen Hao. I have not seen the type-specimen but there is little difference between the two species judging from the original description.

Acer Mairei Léveillé in Fedde, Repert, Spec. Nov. Reg. Veg. XII. (1913) 185.

I have not found the type-specimen in Léveillé's Herbarium in Edinburgh. The type-specimen has either been destroyed or placed by Léveillé into some other genus. As Maire described the plant as climbing shrub, it is possibly not an Acer.

Acer ovatifolium Koidzumi in Journ. Coll. Sci. Imp. Univ. Tokyo. XXXII. art. 1 (1911) 16, t. 6.

I have not found the type specimen. By description and tables it is very near or identical with Acer Kawakami Koidzumi.

Acer serrulatum Hayata in Journ. Coll. Sci. Imp. Univ. Tokyo, XXX, art. 1 (1911) 70 (Mat. Fl. Formos.).-

FORMOSA: Shintiku, Taihei, T. Kawakami & Y. Shimada, September 1907, no. 5648 (type in Tokyo); Funkiko, B. Hayata, January 19, 1912, sine no. (in Tokyo).

This species in my possession (on loan from Tokyo) is in leaf only. I cannot ascertain its real position/

position until the flowering and fruiting specimens come to hand. Hayata mentioned it near Acer palmatum Thunberg. In my opinion, if it is really an Acer, its deeply 5-lobed leaves coarsely serrate on the margin show that it is nearer to Acer sinense var. longilobum Fang than to Acer palmatum Thunberg.

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