

中國北部植物圖誌

河北及其鄰省

FLORE ILLUSTRÉE DU NORD DE LA CHINE

HOPEI (CHIH LI) ET SES PROVINCES VOISINES

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Polygonaceae by Kung Hsien-Wu

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PLAN
POLYGONACEAE

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POLYGONACEAE

By H. W. Kung

Annual or perennial herbs, rarely shrubs, more rarely trees. Stem erect, twining, sometimes prostrate, often swollen at the nodes. Leaves simple, alternate rarely opposite or whorled, entire very rarely lobed, the base of the petiole (stipule) often dilated into a membranaceous sheath (ocrea). Inflorescence composed of clusters; clusters springing from sheath (bract), axillary, or in spikes and often forming panicles. Flowers small, regular, hermaphrodite, rarely unisexual; perianth hypogynous, mostly uniform, sepal-like or petal-like, 3-6 parted, imbricate or 2-whorled, persistent, sometimes increased in fruit. Stamens usually 6-9, rarely fewer; disk glandular, or none. Ovary solitary, at the center of the flower, 2-3-angulate, unilocular; styles 3 or 2, free or connate below; ovule single, orthotropous. Fruit an achene, three-sided or biconvex, partly or entirely enclosed by the persistent perianth; embryo more or less excentric or lateral; cotyledons flat rarely conduplicate; albumen copious, mealy.

About 30 genera with more than 700 species, distributed chiefly in the temperate regions of the north hemisphere; 5 genera recorded in Hopei and its neighbouring provinces.

Key to Genera

- 1 { Achene extending wings from the edges 2
 { Achene not winged 3
- 2 { Stem erect, robust; inflorescence in large terminal panicle; achene not
 horned at base *Rheum*
 { Stem trailing, slender; inflorescence in axillary raceme; achene 3-horned
 at base *Pteroxygonum*
- 3 { Perianth in 6 parts, outer 3 unchanged, inner 3 much enlarged and usually
 tubercled; stamens 6, in pairs alternate with inner segments ... *Rumex*
 { Perianth 5- rarely 4- lobed, all of them unchanged or increasing, rarely ex-
 tending wings from outer lobes; stamens usually 8, rarely 5-9 4
- 4 { Herb, rarely woody at base *Polygonum*
 { Erect shrub, much branched; branches rigid, usually with spinous ends
 *Atraphaxis*⁽¹⁾

(1) H. Smith collected from Hsiaowutaishan a species of this genus which has been determined by G. Samuelsson as *A. Aucherii* Jaub. et Spach. (in Acta Horti Gothob. V. p. 3). The genus is well represented in Mongolia and Soongaria, but we have not found it in our collection of North China.

RHEUM Linn. Gen. no. 506.

Perennial herb, bearing thick rootstock; stem erect, robust; leaves radical and caulinary, usually long-petioled; blades mostly large, entire or toothed or divided; ocreae membranaceous-scarious, long and prominent, withering; inflorescence in fascicles, many fascicles forming panicles or racemes; flowers hermaphrodite or unisexual (imperfectly developed), small but numerous, greenish or whitish; perianth 6-parted, arranged in 2 whorls, spreading; segments subequalling or the outer slightly smaller, at length unchanged, withering; stamens usually 9 (sometimes 6-8), 3 of them opposite to the inner segments, the other 6 arranged in pairs opposite to the outer segments of perianth; filaments subulate; anthers ovate or oblong, introrse, longitudinally dehiscent; ovary triangular-ovate; styles 3 (sometimes 2-4), short; stigmas capitate or horse-shoe-shaped; fruits triangular, the edges developed into wings; embryo straight; cotyledons broad; radicle short, superior.

About 30 species, distributed in Asia and eastern Europe; two species found from Hopei and its neighbouring provinces.

Key to species

- 1 { Plant more than 1 m. high; leaves lobed *R. officinale*
 { Plant less than 80 cm. high; leaves entire *R. undulatum*

PTEROXYGONUM Dammer et Diels in Engl.

Jahrb. XXXVI, Beibl. 82, p. 36.

Flowers hermaphrodite or polygamous, acyclic; perianth 5-cleft; stamens generally 8; ovary trigonous; styles 3, connate near the base; ovule basal, erect; fruit three-angled, 3-horned at base, 3-winged at apex; pedicel biwinged; seed trigonous.

Monotypic genus confined to China: *Pteroxygonum Giraldui* Dammer et Diels.

RUMEX Linn. Gen. no. 451.

Perennial or annual herbs, sometimes frutescent or subfrutescent; stems erect, usually striate, simple, rarely branched; leaves radical and caulinary, petioled or sessile, alternate, entire or hastate, sometimes pinnately cleft, flat or crisped; ocreae usually ruptured and falling away early; inflorescence a terminal simple or paniced raceme composed of clusters; flowers hermaphrodite or dioecious or polygamous, on jointed pedicels; perianth 6-parted (rarely 4-parted), in 2 ranges, persistent; the outer 3 not at all accrescent; inner ones enlarging, entire or dentate or fimbriate, usually 1 or 2 or each of them with a tubercle at the base of the outer surface; stamens 6, in 3 pairs, each pair opposite to an outer segment of perianth; filaments slender; anthers basifixed, 2-celled, longitudinally dehiscent; ovaries trigonal (rudimentary in male flowers), 1-celled, bearing 1 ovule; styles 3, capillary, short, deflexed; stigmas multifid, brush

like; fruit an achene, trigonal, with coriaceous pericarp, included in the 3 enlarged inner segments of perianth; albumen floury; embryo curved, lateral.

About 130 species, distributed chiefly in temperate zone of north hemisphere; seven found from North China.

Key to species

- 1 { Flowers unisexual, dioecious *R. Acetosa*
 { Flowers 2-sexual 2
- 2 { Valves entire 3
 { Valves toothed 5
- 3 { Valves with no tubercle; lower leaves ovate, cordate at base *R. aquaticus*
 { Valves bearing tubercles; lower leaves oblong or oblong-lanceolate,
 cuneate or rounded at base 4
- 4 { Valves less than 4 mm. in diameter; achene 2 mm. long; leaves linear-ob-
 long *R. crispus*
 { Valves generally more than 5 mm. in diameter; achene 3 mm. long; leaves
 much larger *R. Palientia*
- 5 { Valves broad; teeth rather broad and short, triangular to subulate
 *R. dictyocarpus*
 { Valves narrow or minute; teeth very narrow and long, needle-like 6
- 6 { All of the three valves bearing 3 pairs of needle-like teeth *R. dentatus*
 { Only one of the three valves bearing 2 pairs of needle-like teeth, others den-
 tate *R. amurensis*

POLYGONUM Linn. Gen. n. 495.

Annual or perennial herb, rarely woody; stems erect, prostrate, ascending or twining, rarely floating, usually conspicuously swollen at the nodes; leaves alternate, simple, often entire, attached to the stipular sheaths (ocreae); ocreae membranaceous, usually tubular, entire or ciliate; flowers hermaphrodite, sometimes dimorphic, small or minute, clustered, rarely solitary; clusters bracteate, axillary or in spiciform, capitate or paniced racemes; pedicels short, subtended by the bractlets, usually jointed; bracts and bractlets membranaceous, or hyaline; perianth 5 lobed, rarely 3-6 lobed, usually petal-like and frequently persistent in fruit; segments subequal or the outer 3 larger; disk usually present, glandular; fruiting perianth unchanged or increased or winged, sometimes succulent; stamens mostly 8 (usually 3 of them inserted at the perianth-base and opposite to the surfaces of the achene, the other 5 alternate with the perianth-lobes and attached at the outer parts) rarely fewer, perigynous; filaments filiform or dilated below; anthers oblong or ovate; ovary compressed or 3-gonous; styles 2 or 3, free or combined below the middle; stigmas terminal, capitate rarely subfimbriate; ovule usually stipitate; fruit an achene, lenticular or triangular, enclosed entirely in the persistent perianth or exserted; embryo lateral; radicle long; cotyledons flat, rarely conduplicate.

About 350 species growing in all regions; 30 found from North China.

Key to species

- 1 { Style persistent, hooked at the tip; inflorescence slender, 15-35 cm. long ... *P. virginianum*
 { Style usually deciduous, never hooked at tip; inflorescence short usually branched or thick 2
- 2 { Stem prostrate or ascending; leaves small, usually less than 3 cm. in length; flower-fascicles in axils of nearly all the leaves 3
 { Stem mostly erect or climbing; leaves usually larger; flower-fascicles usually not axillary 4
- 3 { Achenes more than 2 mm. long *P. aviculare*
 { Achenes less than 1.5 mm. long *P. plebeium*
- 4 { Stem armed with recurved prickles 5
 { Stem not armed with recurved prickles 10
- 5 { Ocreae with herbaceous wings at the top, at least some of them being so . 6
 { Ocreae without herbaceous wings at the top 8
- 6 { Achene triangular or lenticular; petioles winged *P. Thunbergii*
 { Achene globose; petioles not winged 7
- 7 { Leaves peltate *P. perfoliatum*
 { Leaves not peltate *P. senticosum*
- 8 { Leaves cuneate at base *P. Bungeanum*
 { Leaves sagittate at base 9
- 9 { Flowers in slender spikes *P. dissitiflorum*
 { Flowers in heads *P. sagittatum*
- 10 { Stem twining; three outer segments of the perianth enlarged and expanding into wings in fruit (except *P. convolvulus*) 11
 { Stem not twining; perianth unchanged in fruit 15
- 11 { Plant definitely herbaceous; inflorescences in axillary clusters or racemes 12
 { Plant woody at base; inflorescences in large panicles 14
- 12 { The three outer segments of perianth not at all winged or only slightly winged in fruit *P. Convolvulus*
 { The three outer segments of perianth evidently winged in fruit and in flower 13
- 13 { Achene less than 3 mm. long *P. dumetorum*
 { Achene 4 mm. or more long; wings dentate *P. scandens* var. *dentato-alatum*
- 14 { Branches rather woody; leaves usually in fascicles; achene 4 mm. long *P. Auberti*
 { Branches herbaceous; leaves not fascicled; achene 2-2.5 mm. long *P. multiflorum*
- 15 { Leaves triangular-hastate to triangular-cordate; surfaces of the achene dull pale-black 16
 { Leaves ovate to lanceolate; surfaces of the achene smooth and shining ... 18

16	{ Stem slender; edges of the achene expanded into denticulate wings <i>P. odontopterum</i>	
	{ Stem rather stout; edges of the achene not denticulate 17	
17	{ Perianth pink or white, about 3 mm. long; surface of the achene flat <i>P. Fagopyrum</i>	
	{ Perianth usually greenish, not more than 2 mm. long; surfaces of the achene grooved <i>P. tataricum</i>	
18	{ Plant bearing a thick rootstock; stem usually simple; inflorescence a terminal solitary spike 19	
	{ Plant without rootstock; stem branched; inflorescences in heads or panicles or formed by several spikes (except <i>P. amphibium</i> sometimes with simple stem and solitary spike) 22	
19	{ Spike bearing bulbils <i>P. viviparum</i>	
	{ Spike not bearing bulbils 20	
20	{ Petioles not winged <i>P. suffultum</i>	
	{ Petioles winged 21	
21	{ Leaves lanceolate <i>P. Bistorta</i>	
	{ Leaves orbicular-oblong <i>P. honanense</i>	
22	{ Inflorescences in large panicles 23	
	{ Inflorescences in spikes or heads 24	
23	{ Leaf-blades slightly hastate at base; branches of the panicle few and long, usually subequal in length; achene black, included in the perianth <i>P. sibiricum</i>	
	{ Leaf-blades tapering at base; branches of the panicle copious; achene greenish brown, long exerted from the perianth <i>P. divaricatum</i>	
24	{ Inflorescence capitate 25	
	{ Inflorescence spiciform 26	
25	{ Leaves finely ciliate, not punctate, and usually (at least some of them) bearing 2 lobes at petiole <i>P. runcinatum</i> var. <i>sinese</i>	
	{ Leaves not ciliate, punctate, only narrowly winged at petiole <i>P. nepalense</i>	
26	{ Stem densely pubescent; the top of the ocreae (at least when young) with an herbaceous limb; leaves ovate and very large <i>P. orientale</i>	
	{ Stem glabrous or nearly so; ocreae without herbaceous limb; leaves lanceolate or oblong 27	
27	{ Spike cylindrical to ovoid, densely flowered 28	
	{ Spike slender, laxly flowered 29	
28	{ Plant perennial, amphibious; spike solitary or paired <i>P. amphibium</i>	
	{ Plant annual, not amphibious; spikes many, arranged in panicles <i>P. lapathifolium</i>	
29	{ Perianth conspicuously punctate <i>P. Hydropiper</i>	
	{ Perianth not punctate 30	
30	{ Plant erect, with excurrent stem <i>P. excurrens</i>	
	{ Plant prostrate or spreading or suberect, stem deliquescent <i>P. caespitosum</i> var. <i>longisetum</i>	

蓼 科

孔 憲 武

一年生或多年生草本，稀為灌木，甚稀為喬木。莖直立或纏繞有時為平臥，節部通常膨脹。葉為單葉，互生稀為對生或輪生，全緣甚稀有具缺刻者，葉柄之基部(托葉)概擴張為膜狀之鞘(葉鞘)。花序由簇生之花組成；花簇由鞘(苞)發出，生於葉腋，或排列為穗狀，或再集合而為圓錐狀。花小形，整齊，兩性，稀為單性；花被下生，概為同形，萼片狀或花瓣狀，分裂為三至六片，排列為覆瓦狀或為二輪，宿存，有時隨果實而增大。雄蕊通常六至九個，稀有較少者；花盤腺狀，或缺花盤；子房單一，位於花之中心，具二至三稜，一室；花柱三個或二個，分離或下部結合；胚珠一個直生。果實為瘦果，具三稜或兩面凸而呈扁豆形，一部分或全體由宿存之花被包裹之；胚多少偏於一側或側生；子葉扁平，稀為褶疊；胚多量，呈粉狀。

本科約三十屬，種數在七百以上，大多數生於北半球之溫帶地方；在河北及其鄰省見於記載者有五屬

屬 之 檢 索 表

- | | | | |
|---|---|--|---------------------|
| 1 | { | 瘦果之角稜擴張而成翼..... | 2 |
| | | 瘦果不具翼..... | 3 |
| 2 | { | 莖直立，粗壯；花序為大形頂生之圓錐花序；瘦果之基部不具角狀物..... | 大黃屬 |
| | | 莖蔓延，細弱；花序為腋生之穗狀花序；瘦果基部具三個角狀物..... | 翼蓼屬 |
| 3 | { | 花被六片，外三片無變化，內三片隨果實而增大且常具小瘤；雄蕊六個，排列成對而與內被片互生..... | 酸模屬 |
| | | 花被五裂稀為四裂，無變化或增大，稀有外片擴張成翼者；雄蕊通常八，稀有五至九者..... | 4 |
| 4 | { | 草本，稀有基部為木質者..... | 蓼屬 |
| | | 直立灌木，分枝甚多；枝剛硬，先端常變為針狀..... | 針枝蓼屬 ⁽¹⁾ |

(1) H. Smith 氏由小五台山採得此屬一種，經 G. Samuelsson 氏之鑑定，認為 *Atraphaxis Aucheri*。但此屬在蒙古及新疆為常見，在華北吾等未曾採得。

大 黃 屬

多年生草本，具肥大木質之根；莖直立粗壯；葉有根出葉及莖生葉，通常具長葉柄；葉片概為大形，全緣或有齒叉或深裂；葉鞘為較乾之薄膜狀，長而發達，萎枯而不脫落；花序由簇生之花所組成，多數花簇集合面為圓錐花序或穗狀花序；花兩性或單性（發育不完全所致），形小，而數極多，淡綠色或淡白色；花被六片排列為二輪，開張；各片略相等或外部者較小，花後無變化，萎枯而不脫落；雄蕊通常九個（有時為六至八個），其中之三與內層三片花被對生，其他六個合為三對與外層三片花被對生；花絲錐形；花藥卵形或長圓形，內向，縱裂；子房三角狀卵形；花柱三個（有時為二至四），短；柱頭頭狀或馬蹄鐵形；果實三角形，其稜角延伸而成翅；胚直伸；子房闊；幼根短，位於上部。

本屬約三十種，分布於亞洲，及歐洲之東部；在河北及其鄰省僅見二種。

種 之 檢 索 表

- 1 { 植物高在一公尺以上；葉具掌狀裂片.....藥用大黃
植物高不及一公尺；葉全緣.....波葉大黃

翼 蓼 屬

花兩性或雜性，螺旋狀排列；花被五裂；雄蕊通常八個；子房三角形；花柱三個，近基部處結合；胚珠底生，直立；果實具三稜，基部有三個角狀突起，先端具三個翅；果柄扁平；種子三角形。

本屬只一種，生於中國：翼蓼。

酸 模 屬

多年生或一年生草本，有時呈灌木狀或亞灌木狀；莖直立，通常具線溝，分枝多或少；葉有根出葉及莖生葉，有葉柄或無柄，互生，全緣或呈戟形，有時羽狀分裂，平坦或邊緣波狀起伏；葉鞘通常易破且脫落甚早；花序由簇生之花所組成，為頂生單純或集為圓錐狀之總狀花序；花兩性，或單性而雌雄異株，又或雜性，生於有節之花梗上；花被六片（稀有四片者），排列為二層，宿存；外層三片不增長；內層者花後增大，全緣或有齒叉或具細裂，通常其中之一片或二片又或每片於其外面基部生一瘤狀突起；雄蕊六個，排列成三對，每對與外層花被相對生；花絲細弱；花藥為底着藥，二室，縱裂；子房具稜（雄花

內之子房發育不完全),一室,含一個胚珠;花柱三,毛管狀,短,向下彎曲;柱頭細裂,毛刷狀;果實爲瘦果,具三稜,有革質之外皮,由增大之三片內花被包覆之;胚乳粉狀;胚彎曲,位於一側。

本屬約一百三十種,多生於北半球之溫帶地方;七種見於中國北部。

種 之 檢 索 表

- | | | | |
|---|---|---------------------------------------|-------|
| 1 | { | 花單性,雌雄異株..... | 酸模 |
| | { | 花兩性..... | 2 |
| 2 | { | 果被全緣..... | 3 |
| | { | 果被具齒..... | 5 |
| 3 | { | 果被不具瘤狀突起;下部之葉卵形,具心臟形之基部..... | 水生酸模 |
| | { | 果被具瘤狀突起;下部之葉長圓形或長圓狀披針形,具楔形或圓形之基部..... | 4 |
| 4 | { | 果被之直徑不足四公厘;瘦果長二公厘;葉爲狹細長圓形..... | 繡葉酸模 |
| | { | 果被之直徑大過五公厘;瘦果長三公厘;葉較大..... | 巴天酸模 |
| 5 | { | 果被闊;齒短..... | 綱果酸模 |
| | { | 果被狹或甚小;齒長,針形..... | 6 |
| 6 | { | 三片果被皆具三對針形之齒..... | 齒果酸模 |
| | { | 三片果被中僅一片生二對針形之齒,他二片邊緣牙齒狀..... | 阿穆爾酸模 |

蓼 屬

一年生或多年生草本,稀帶木質;莖直立,平臥,斜上或纏繞,稀漂浮水上,通常節部顯明膨脹;葉互生,單葉,多爲全緣,接連於托葉所變之葉鞘上;葉鞘膜質狀,通常呈筒形,全緣或具緣毛;花兩性有時爲二形花 小形或極小,簇生,稀爲單生;花簇具苞,腋生或集爲穗狀,頭狀,圓錐狀等之總狀花序;花梗短,基部有小苞圍繞之,通常具關節;苞及小苞爲膜質狀或透膜狀;花被五裂,稀爲三至六裂,通常呈花瓣狀,概宿存,各片大小約相等或外部三個較大;花盤通常發達,具蜜腺;結果後之花被或無變化或增大又或生翅,有時多含水分;雄蕊概爲八個(通常三個生於花被之基部而與瘦果之三面相對,其他五個與花被之裂片互生而其着生之位置較在前三個之外方),稀較少,位於子房之周圍;花絲線形或下部擴張;花藥長圓形或卵形;子房左右扁平或三角形;花柱二或三個,分離或中部以下相結合;柱頭頂生,頭狀稀爲近似繖狀;胚珠通常有柄;果實爲瘦果,兩面凸形或三角形完全包於宿存之花被內或突出於

外；胚位於一側；幼根長；子葉扁平，稀摺疊。

本屬約三百五十種，生於地球之各處；中國北部見者有三十種。

種 之 檢 索 表

- 1 { 花柱宿存，先端鉤狀彎曲；花序細弱，長十五至三十五公分，.....勿爾吉尼蓼
- { 花柱通常脫落，先端決不作鉤狀彎曲；花序短通常分歧或較肥厚..... 2
- 2 { 莖平臥或斜上；葉小形，通常長不及三分公分；花簇腋生，幾每葉腋均生之..... 3
- { 莖通常直立或上升；葉較大；花簇概非直接生於葉腋..... 4
- 3 { 瘦果長在二公厘以上.....烏蓼
- { 瘦果長不過一·五公厘.....習見蓼
- 4 { 莖上生有逆鉤形之刺..... 5
- { 莖上不生逆鉤形之刺.....10
- 5 { 葉鞘之頂端具葉質之翅，至少亦須有數個如此..... 6
- { 葉鞘之頂端不生葉質之翅..... 8
- 6 { 瘦果三角形或兩面凸形；果柄具翅.....藏氏蓼
- { 瘦果球形；果柄不生翅..... 7
- 7 { 葉爲橢形.....貫葉蓼
- { 葉不呈橢形.....刺蓼
- 8 { 葉之基部爲楔形.....本氏蓼
- { 葉之基部爲箭形..... 9
- 9 { 花排列爲細弱之穗狀花序.....稀花蓼
- { 花排列爲頭狀花序.....箭葉蓼
- 10 { 莖纏繞；結果後外部三片花被增大且延伸而爲翅（卷旋蓼爲例外）.....11
- { 莖不纏繞；結果後花被不變化..... 5
- 11 { 植物顯然爲草本；花序爲腋生之花簇或穗狀花序.....12
- { 植物基部爲木質；花序爲大形之圓錐花序.....14
- 12 { 花被之外部三片不具翅或僅結果後略生小翅.....卷旋蓼
- { 花被之外部三片不論在結果後或開花時均有顯明之翅.....13
- 13 { 瘦果長不及三分公分.....籬蓼
- { 瘦果長四公厘或過之；翅有齒.....纏繞蓼，齒翅變種
- 14 { 枝帶木質；葉多簇生；瘦果長四公厘.....奧氏蓼
- { 枝爲草質；葉非爲簇生；瘦果長二至二·五公厘.....多花蓼

15. { 葉爲三角狀之戟形或三角狀之心臟形；瘦果表面爲粗糙無光之灰黑色.....16
 葉爲卵形至披針形；瘦果之表面平滑而光亮.....18
16. { 莖細弱；瘦果之角稜擴伸而成有齒之翅.....齒翅蓼
 莖較粗壯；瘦果之角稜不具齒翅.....17
17. { 花被淡紅或白色，長約三公厘；瘦果之表面平展.....蕎麥
 花被通常帶綠色，長不過二公厘；瘦果之表面有溝.....糙薔麥
18. { 植物具肥厚之根莖；莖通常不分歧；花序爲單純頂生之穗狀花序.....19
 植物不具根莖；莖分歧；花序爲頭狀或圓錐狀或由數個花穗而成（惟兩棲蓼有時具不分歧之莖及單純之穗狀花序）.....22
19. { 花序上生珠芽.....珠芽蓼
 花序上不生珠芽.....20
20. { 葉柄不具翅.....支柱蓼
 葉柄具翅.....21
21. { 葉爲披針形.....拳蓼
 葉爲近似圓形之長圓形.....河南蓼
22. { 花序爲大形之圓錐花序.....23
 花序爲穗狀或頭狀花序.....24
23. { 葉片基部略呈戟形；花序之分枝數少而長，其長度約相等；瘦果黑色，包於花被之內.....西伯利亞蓼
 葉片基部漸狹；花序之分枝甚多；瘦果綠褐色，遠突出於花被之外.....叉分蓼
24. { 花序呈頭狀.....25
 花序呈穗狀.....26
25. { 葉具細緣毛，無小點，通常（至少須有數葉）葉柄具二小葉片.....缺腰葉蓼，中國變種
 葉不具緣毛，有小點，葉柄上僅有狹翅.....尼泊爾蓼
26. { 莖被密軟毛；葉鞘之頂端（最低限度在幼時）具一綠色之緣邊；葉卵形而大.....東方蓼
 莖無毛或近無毛；葉鞘無綠色緣邊；葉爲披針形或長圓形.....27
27. { 花穗圓柱狀至卵圓形；花之排列極密.....28
 花穗細弱；花之排列通常甚疎.....29
28. { 植物爲多年生；水陸兩棲；花穗單生或對生.....兩棲蓼
 植物爲一年生；非水陸兩棲；花穗多數相集而爲圓錐狀.....酸模葉蓼
29. { 花被有顯明之小點.....水蓼
 花被無小點.....30
30. { 植物直立，莖位於中央.....中軸蓼
 植物平臥或分散或半直立，無中央之主莖.....叢枝蓼，長鬚糙蓼

RHEUM OFFICINALE Baillon

Rheum officinale Baillon in Mém. de l'Assoc. Franç. pour. l'Avanc des Sc. Bordeaux 1872, p. 514 t. 10.

Perennial herb; root thick, up to 1 m. long, and 7 cm. in diameter at the thickest end, yellow in color inside; stem stout, shortly branched, 1-2 m. high, 1-2 cm. in diameter at base, slightly pubescent, hollow; leaves large, long-petioled, alternate; petioles more than 20 cm. long in basal ones, and gradually shorter in the upper, stout, hirsute; leaf-blades orbicular, slightly cordate, 5-veined at base, palmately lobed, glabrous above, hirsute especially along the veins beneath, generally 20-30 cm. in length and width; ocreae broad, membranaceous, cleft to the base, glabrous or finely hairy; bracts short, soon becoming dusky; flowers pale-green, aggregated in raceme at the branchlets of inflorescence; pedicels slender, articulate below the middle; achene three-winged, orbicular-oblong, cordate at base, slightly notched at apex, 8 mm. long, 6 mm. broad, red, smooth and glabrous.

Locality: Growing on mountain slope of Funewshan, rarely found from other region of North China.

Observation: This species is an important medicinal plant, for the root yields a cathartic.

Plate I: 1, A fruiting branch (Nat. size); 2, A basal leaf (Nat. size); 3, A fruit ($\times 3$); 4, An embryo ($\times 3$).

藥 用 大 黃

多年生草本；根肥厚，長達一公尺，最肥處直徑約七公分，內部黃色；莖粗狀，具短枝，高一至二公尺，基部直徑一至二公分，略有軟毛，內空；葉大形，具長葉柄，互生；葉柄在基部者長可超過二十公分，漸上則漸短，粗壯，有毛；葉片圓形，稍呈心臟形，基部有五脈，掌狀分裂，上面無毛，下面有毛尤以沿葉脈為甚，長及闊通常皆為二十至三十公分；葉鞘廣闊，膜質，分裂至基部，無毛或具小短毛；苞短，易變暗黑色；花灰綠色，在花序之小枝上排列而為總狀；花梗細弱，關節在中部之下；瘦果具三翅，為近似圓形之長圓形，基部心臟形，先端略有缺口，長八公厘，闊六公厘，紅色，平滑無毛。

產地：生於伏牛山上，此外在中國北部甚少見。

註錄：此為重要之藥用植物，其根為著名之瀉藥。

圖版一：1，有果之枝(自然大)；2，基部之葉(自然大)；3，果實(放大三倍)；4，胚(放大三倍)，

RHEUM UNDULATUM Linn.

Rheum undulatum Linn. Sp. p. 531; Ledeb. Fl. Ross. III, p. 496; DC. Prodr. XIV, p. 33.

Perennial herb; root thick; stem stout, erect, glabrous, finely striate, usually simple, 40-60 cm. high, about 8 mm. in diameter; basal leaves petioled; petioles 12-16 cm. long, semiterete, rather robust; blades ovate to orbicular or reniform, usually cordate at base, generally 12-18 cm. in diameter, undulate, glabrous or puberulus beneath, 5-nerved; cauline leaves smaller, with short petioles or sessile; ocreae broad, dark brown, persistent; panicles fastigate, 20-25 cm. long, densely flowered; bracts fleshy, usually rudimentary, bearing 3-5 flowers; flowers pediceled, ebracteolate; pedicels articulate below the middle; perianth 6-parted, 2-3 mm. in diameter; segments ovate or orbicular, the outer 3 thicker and smaller, recurved at length; stamens 9; ovary triangular-ovate; styles 3, recurved, very short; stigmas dilated, sublobate; achene three-angled, winged, notched at apex, cordate at base, 10 mm. in length, 9 mm. in width.

Locality: On mountain-slopes, common in Hopei and its neighbouring provinces.

Observation: This is a common species of *Rheum* in the mountains of North China. The following various names have been given as *R. Emodii* Wall., *R. Rhaponticum* Linn., *R. Franzenbachii* Münt. and *R. undulatum* Linn. The name *R. undulatum* is preferable according to the recent rees.

It is also used for medicinal purposes.

Plate II: 1, A fruiting branch (Nat. size); 2, A part of stem with one leaf (Nat. size); 3, A sketch of a basal leaf (Nat. size); 4, A flowering branch (Nat. size); 5, A flower ($\times 10$); 6, A pistil ($\times 10$); 7, A mature fruit ($\times 2$).

波 葉 大 黃

多年生草本；根肥厚；莖粗壯，直立，無毛，具細溝紋，通常不分歧，高四十至六十公分，直徑約八公分；基部之葉具葉柄；葉柄長十二至十六公分，半圓柱形，頗壯硬；葉片卵形至圓形或腎臟形，通常具心臟形之基部，普通直徑為十二至十八公分，邊緣呈波狀，無毛或下面稍有毛，具五條大脈；莖上之葉形較小，具短柄或幾無柄；葉鞘廣闊，暗褐色，不脫落；圓錐花序具直立之枝，長二十至二十五公分，生稠密之花；苞肉質，通常破壞而不完全，內具三至五個花；花有花梗，具小苞；花梗在中部之下有關節；花被六片，直徑二至三公厘；被片卵形或圓形，外部之三片較厚而小，花後向背面彎曲；雄蕊九個；子房呈三角狀卵形；花柱三個，向後彎曲，甚短；柱頭擴張，略呈圓片形；瘦果具三稜，有翅，先端具缺口，基部心臟形，長十公分，闊九公分。

產地：生於山坡。在河北及其鄰省尚稱普通。

註錄：此為中國北部大黃屬中最普通之一種，其所用之學名變化不一，如 *R. emodii* Wall, *R. Rhaponticum* Linn., *R. Franzenbachii* Münt. 及 *R. undulatum* Linn. 惟最後之名較為妥善，此亦為藥用植物。

圖版二：1，有果之枝（自然大）；2，莖之一段上有一葉（自然大）；3，基部葉之概形（自然大）；4，有花之枝（自然大）；5，花（放大十倍）；6，雌蕊（放大十倍）；7，成熟之果實（放大二倍）。