



AMARANTACEAE

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67788



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草 科

[illegible]

藜 科

[illegible]

商陸科

科之記載	0.01	0.05	0.11	0.22	0.31	0.35	0.38	0.42	0.51	0.57	0.61	0.67	0.72	0.75	0.78	0.81	0.84	0.87	0.90	98
屬之記載	0.03	0.08	0.13	0.21	0.33	0.37	0.40	0.45	0.55	0.60	0.64	0.69	0.74	0.77	0.80	0.83	0.86	0.89	0.92	98
種之記載	0.07	0.12	0.18	0.26	0.37	0.42	0.46	0.51	0.62	0.67	0.71	0.75	0.80	0.83	0.86	0.89	0.92	0.95	0.97	100

馬齒莧科

[illegible]

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AMARANTACEAE

By Hsien-Wu Kung

Annual or perennial herbs, rarely undershrubs or climbers. Leaves opposite or alternate, extipulate, simple. Flowers small, usually in terminal simple or paniced spikes, cymes or clusters, sometimes in heads; bracts and 2 bracteoles scarious, the latter sometimes hooked. Sepals 3-5, rigid or scarious, free or nearly so, persistent, imbricate in bud. Petals absent. Stamens mostly 5, opposite with sepals, hypogynous; filaments free or connate below or united at the base into a short tube and often with staminodes between; anthers 1- or 2-celled, open by longitudinal slits. Ovary superior, 1-celled; style short or long; stigmata capitate or 2-3-fid; ovules 1 or more, on basal funicles. Fruit a utricle, rarely a berry or capsule, enclosed in or resting on the persistent perianth. Seed erect, globose or compressed, smooth; testa crustaceous; embryo horseshoe-shaped or annular, surrounding the copious endosperm.

48 genera, chiefly in tropical and subtropical regions. 4 genera found in North China.

Key to Genera

- | | | |
|---|---|--------------------|
| 1 | { Ovary 2-many-ovuled | <i>Celosia</i> |
| | { Ovary 1-ovuled | 2 |
| 2 | { Leaves alternate; ovule erect | <i>Amarantus</i> |
| | { Leaves opposite; ovule suspended from a basal funicle | 3 |
| 3 | { Anthers 2-celled, with staminodes | <i>Achyranthes</i> |
| | { Anthers 1-celled, without staminodes | <i>Gomphrena</i> |

CELOSIA Linn. Gen. n. 289.

Annual herbs, glabrous or pilose, branches terete or angular. Leaves alternate, linear oblong, ovate or obovate, entire or few lobed. Flowers hermaphrodite, in dense terminal and axillary spikes, white or pink, shining. Bracts and 2 bractlets equally large, scarious, subulate. Sepals 5, scarious, oblong or lanceolate, obtuse or acute, striate or ribbed. Stamens 5; filaments subulate or filiform, united below into a cup; anthers short or elongate, 2-celled; staminodes 0. Ovary ovoid,

subglobose or lageniform; styles 0 or short or elongate; ovules 2 or many. Utricles included in sepals or exserted, ovoid or globose, circumscissile, rarely indehiscent or irregularly broken. Seeds usually erect, lenticular; testa crustaceous, shining black; embryo annular; cotyledons linear.

Species 30, tropical Asiatic, African and American; 1 species recorded in North China: *Celosia argentea* Linn.

AMARANTUS Linn. Gen. n. 1060.

Annual rarely perennial herbs, erect or decumbent, glabrous or pubescent, rarely pilose. Leaves alternate, petioled, ovate, lanceolate or linear, apex usually mucronate. Flowers small, in axillary clusters or in a panicle erect or drooping densely or laxly clustered spikes, unisexual, monoecious or polygamous, bracteate. Sepals 5 or 3 (rarely 1-4), oblong, ovate-lanceolate or spatulate-oblong, erect. Stamens 5, rarely 1-3; filaments subulate or filiform, free, rudimentary stamens 0; anthers oblong or linear-oblong, 2-celled. Ovary ovoid, compressed; styles short or 0; stigmata 2-3, subulate or filiform; ovule 1, subsessile, erect. Utricles orbicular or ovoid, compressed, indehiscent or circumscissile, membranaceous or coriaceous, apex entire or 2-3-dentate. Seeds erect, orbicular, compressed; testa crustaceous, shining, margin acute or obtuse; embryo annular, cotyledons linear.

About 45 species, chiefly in tropical and subtropical regions; 8 species found from North China.

Key to species

- | | | |
|---|--|-----------------------|
| 1 | { Sepals 5 | 2 |
| | { Sepals 3 | 4 |
| 2 | { Plant pubescent | <i>A. retroflexus</i> |
| | { Plant glabrous or nearly so | 3 |
| 3 | { Leaves acute; panicle erect; sepals lanceolate | <i>A. paniculatus</i> |
| | { Leaves rather obtuse; panicle drooping with a center spike tail-shaped; sepals obovate | <i>A. caudatus</i> |
| 4 | { Bracts and sepals lanceolate, chiefly exceeding or subequalling the utricle | 5 |
| | { Bracts and sepals oblong, shorter than the utricle | 7 |
| 5 | { Plant with terminal spikes; leaves large, broad-ovate, acute; clusters large and globose; usually cultivated | <i>A. gangeticus</i> |
| | { Plant without terminal spikes; leaves usually less than 3 cm. broad, spatulate, obtuse; clusters small; wild | 6 |

- 6 { Stems whitish; bracts much longer than the sepals *A. albus*
 { Stems light green; bracts shorter than the sepals ... *A. Roxburghianus*
- 7 { Flower-clusters all in slender spikes and forming a terminal panicle
 { Flower-clusters chiefly axillary, sometimes forming a robust terminal
 spike *A. viridis*
 *A. Blitum*

ACHYRANTHES Linn. Gen. n. 288.

Herbs, erect, glabrous or tomentose. Stem articulate or subarticulate; branches opposite, subtrichotomous. Leaves opposite, petioled, ovate, obovate or lanceolate, entire. Flowers hermaphrodite, white or green, in terminal elongated simple or panicle spikes, at length deflexed; bracts and bractioles spinescent. Sepals 4-5, subequal, subulate or lanceolate, acuminate, erect, glabrous or pilose, shining, prominently nerved, coriaceous, at length hardened and strongly ribbed. Stamens 5, rarely 2 or 4; filaments connate below, with as many square staminodes, each of which toothed or with a toothed scale at its back; anthers 2-celled. Ovary oblong, glabrous; style filiform; stigma somewhat capitate; ovule 1, pendulous from a long basal funicle. Utricle included in sepals, ovoid or oblong, membranaceous, indehiscent. Seeds inverse, oblong; testa coriaceous; embryo annular; cotyledons linear, or lanceolate.

Species 15-20, mostly tropical or subtropical; 1 species found in North China: *Achyranthes bidentata* Blume.

GOMPHRENA Linn. Gen. n. 314.

Herbs erect or prostrate, many-branched, with usually thickened nodes. Leaves opposite, sessile or petioled, entire. Flowers capitate rarely spicate, white or coloured; bracts short or elongate, concave, keeled, alate or cristate on the back; sepals 5, within bracts, usually woolly especially at the lower part, lanceolate, acuminate, concave rarely flat and obtuse. Stamens 5; filaments linear, united below into a long tube, cleft at the top, bearing one-celled anther in each cleft, usually without interposed staminodes. Ovary turbinate or subglobose; styles short or long; stigmata 2, very rarely 3; ovule 1, pendulous from a long basal funicle. Utricle ovoid or oblong, compressed, sometimes hardened at base, indehiscent. Seed inverse, lenticular; testa coriaceous, shining; embryo annular.

About 120 species in tropic of America and Australia, of which one commonly cultivated in North China: *Gomphrena globosa* Linn.



荇 科

孔憲武

一年生或多年生草本，稀為小灌木或攀緣植物。葉對生或互生，無托葉，單葉。花小形，通常頂生，為單一或圓錐形之穗狀，聚繖狀，簇狀等花序，又有時為頭狀；苞及二小苞為乾膜質，小苞有時為鉤狀，萼片三至五，剛硬或乾膜質狀，離生或近離生，永存，在芽內為覆瓦狀，花瓣缺如，雄蕊大多數為五，與萼片對生，下生；花絲離生或下部連結，又或基部結合為短筒，常有退化雄蕊生於其間；藥一室或二室，縱裂，子房上生，一室；花柱短或長；柱頭頭狀或為二至三裂；胚珠一個至多數，生於基部珠柄上，果實為胞果，很少為漿果或蒴果，包於花被內或安插於花被上，種子直立，球形或左右扁平，光滑；種皮硬質；胚為馬蹄形或環狀，內包多量胚乳。

本科共四十八屬，多生熱帶及亞熱帶，在中國北部共得四屬。

屬之檢索表

- | | |
|----------------------|------|
| 1. { 子房內含二至多數胚珠..... | 青葙屬 |
| 子房內含一個胚珠..... | 2 |
| 2. { 葉互生；胚珠直生..... | 寬葉屬 |
| 葉對生；胚珠倒懸於底生之珠柄上..... | 3 |
| 3. { 藥二室，有退化雄蕊..... | 牛膝屬 |
| 藥一室，無退化雄蕊..... | 千日紅屬 |

青 葙 屬

一年生草本，光滑或具稀毛，枝條圓形或具角稜，葉互生，狹長橢圓形，卵形或倒卵形，全緣或具少數裂片，花兩性，為頂生或腋生之密穗狀花序，白色或淡紅，光亮。萼片五，為乾膜質狀，長橢圓形或披針形，先端鈍或尖銳，有緣紋或肋條，雄蕊五個；花絲細線形或絲形，下部結合成杯狀；藥短或稍長，二室；無退化雄蕊。子房卵形，近球形或瓶頸狀；花柱缺如或短又或稍長；胚珠二個或多數，胞果包於花被內或凸出，呈卵形或近球形，環狀開裂，很少為不裂開或不規則裂開；種子通常直立，兩面凸形；種皮硬質，光亮，黑色；胚為環狀，子葉線形。

此屬約三十種，多生於亞洲之熱帶，非洲及美洲；只一種見於中國北部：青葙。

莧 屬

一年生草本，直立或斜向上，光滑或具密軟毛，稀有具稀長毛者。葉互生，有葉柄，卵狀披針形或線形，先端通常具微尖，花小形，簇生，其花簇或直達生於葉腋，或聚為直立或下垂或疏或密之圓錐狀花穗，單性，雌雄同株，或為雜性，有苞。萼片五或三（很少為一至四），長橢圓形，卵狀披針形或長狀長橢圓形，直立。萼齒五個稀為一至三個；花絲細線形或帶形，分離，退化雄蕊；藥為長橢圓形或細長橢圓形，有二室。子房卵形，左右扁平；花柱短或缺如；柱頭二至三，細線形或絲形；胚珠一箇，幾無柄，直立，胞果球形或卵形，左右扁平，不開裂或環狀開裂，膜質或革質，先端全緣或具二至三個齒牙。種子直立，球形，左右扁平；種皮硬脆，光亮，邊緣銳或鈍；胚環狀，子葉線形。

本屬約四十五種，多生於熱帶及亞熱帶；在中國北部採得八種。

種之檢索表

1. { 萼片五.....2
 萼片三.....4
2. { 植物具毛.....反枝莧
 植物無毛或近無毛.....3
3. { 葉先端尖銳；圓錐花序直立；萼片披針形.....繁穗莧
 葉先端較鈍；圓錐花序下垂，中央之穗呈尾狀；萼片倒卵形.....尾穗莧
4. { 莖及萼片為披針形，通常較胞果為長或略相等.....5
 苞及萼片為長圓形，較胞果為短.....7
5. { 植物具頂生花穗；葉大，圓卵形；花萼大而或球形；通常最精之.....莧
 植物無頂生花穗；葉通常闊不及三分，闊形；花萼小形；野生.....6
6. { 莖帶白色；苞葉長於萼片.....白莧
 莖淡綠色；苞短於萼片.....羅氏莧
7. { 花簇均稀為細穗更合成一頂生圓錐花序.....綠莧
 花簇大部簇生，有時形成一粗聚頭穗.....野莧

牛膝屬

草本，直立，光滑或具軟毛，莖有節或近有節；枝對生，略呈三叉狀，葉對生，具葉柄，卵形，倒卵

形或披針形，全緣，花兩性，色白或綠，葉爲頂生細長單純或分枝之穗狀花序，成長後倒向外方或下垂；莖及小苞呈針狀，萼片四五，略相等，鐘狀或披針形，狹尖，直立，光滑或具稀毛，光亮，有顯明之中脈，革質，成長後變堅硬，雄蕊五個，稀爲二或四個；花絲下部結合，其間生同數之退化雄蕊；退化雄蕊方形，緣部具小齒或具縱狀裂片；藥二室，子房長橢圓形，光滑；花柱絲狀；柱頭頭狀；胚珠一個，倒懸於基生之珠柄上，胞果包於萼片內，卵形或長橢圓形，膜質狀，不裂開，種子側生，長橢圓形；種皮革質；胚爲環狀；子葉線形或披針形。

本屬有十五至二十種，多生於熱帶及亞熱帶；中國有二種，僅一種見於北部：牛膝。

千 日 紅 屬

直立或如草本，分枝甚多，通常有肥大之節。葉對生，無葉柄或具葉柄，全緣。花葉生呈頭狀，稀爲穗狀花序，白色或帶彩色；苞短或稍長，內面凹陷，有隆脊，背部有翅狀或雙冠狀片；萼片五，包於苞內，下部通常具長軟毛，披針形，狹尖，內面凹陷，稀有不平並鈍圓者。雄蕊五；花絲帶狀，下部結合爲筒，上部分裂，各裂片頂端具一室之藥，通常無退化雄蕊繼於其間，子房倒圓錐形或略呈球形，花柱短或長；柱頭二，甚稀爲三；胚珠一個，懸於基生之珠柄上，胞果卵形或長橢圓形，左右扁平，有時基部硬化，不開裂，種子側生，爲兩面凸形；種皮革質，光亮；胚環狀。

本屬約有一百二十種，生於美洲及澳洲之熱帶，其中之一種普遍栽培於中國各地：千日紅。



CELOSIA ARGENTEA Linn.

Celosia argentea Linn. Sp. Pl. 205; Moq. in DC. Prodr. XIII, 2, p. 242; Hook. f. Fl. Brit. Ind. IV. p. 714.

Celosia linearis Sweet Hort. Brit. 569.

Celosia margaritacea Linn. Sp. Pl. ed. II. 297.

Annual erect herb, 60-80 cm. high; stem slender, usually with upright branches, rarely single, striate, green or tinged with red, glabrous; leaves lanceolate or oblong, acuminate at apex, narrowed into a long or short slender indistinct petiole at base, entire, green and glabrous on both sides, sometimes spotted with red, 5-7 cm. long, 1-2 cm. broad; veins pinnate, inconspicuous; flower-spikes cylindrical or pyramidal, generally 3-6 cm. long, solitary, terminating the stem and each branch, dense-flowered, long-peduncled; bract and 2-bractlets 3-4 mm. long, scarious, like sepals but much shorter; sepals 5, imbricate, lanceolate, scarious and hyaline, white, sometimes pink in young stage, glistening, 8-10 mm. long, upright after blooming; stamens 5; filaments filiform, united below; anthers oblong, usually pink; style elongate, filiform, sometimes pink; utricle globose, included in calyx, circumscissile; seeds many, lenticular, shining black, ripe in August and September.

Locality: among cultivated fields, not common in North China (Shantung).

Observation: In North China there is a commonly cultivated form, chiefly characterized by the expended and crested spikes. It may be referred to *var. cristata* Kuntze (*Celosia cristata* Linn.), for those characters of the spikes sometimes are reduced in half wild state.

Plate I: 1. Entire plant (nat. size); 2. A flower with bracts ($\times 5$); 3. A young utricle with 5 stamens ($\times 5$); 4. A seed ($\times 5$).

Plate II: 1. A flowering branch (nat. size); 2. A flower with bracts ($\times 5$); 3. Stamens and pistil ($\times 5$); 4. A pistil ($\times 5$); 5. Longitudinal section of a pistil ($\times 3$); 6. An utricle dehiscent ($\times 5$).

青 菰

青菰(神農本草經),雞冠苳(本草綱目)。

一年生直立草本,高六十至八十公分;莖細弱,通常有向上之枝條,稀為不分枝,具條紋,綠色或帶紅,光滑;葉為披針形或長圓形,先端細尖,基部漸狹,延而為界限不清之葉柄,全緣,上下兩面均絨而無毛,有時具紅色斑點,長五至七公分,闊一至二公分;葉脈為羽狀,不甚顯明;花穗圓柱形或圓錐形,長約三至六公分,單生於莖頂及各小枝之末端;花稠密,具長花軸;苞及二小苞長三至四公厘,乾膜質狀,似萼片而短;萼片五,呈覆瓦狀排列,披針形,乾膜狀,透明,色白,幼時常帶粉紅色,發亮光,長八至十公厘,花後向上直立;雄蕊五;花絲線形,下部結合;藥長圓形,普通粉紅色;花柱延長,線形,有時粉紅色;胞果圓球形,包於萼內,環狀開裂;種子多數,扁豆形,光亮而黑,成熟在八九月間。

產地:生於農田內,中國北部不常見(山東)。

註錄:中國北部有一栽培種,其花穗擴張呈雞冠狀,普通名之曰雞冠。此可認為青菰之變種,因其在半野生狀態下其廣圓之花穗有時被縮而不彰。

圖版一:1,植物全形(自然大);2,具萼之花(放大五倍);3,幼嫩胞果及五個雄蕊(放大五倍);4,種子(放大五倍)。

圖版二:1,具花之枝(自然大);2,具苞之花(放大五倍);3,雄蕊及雌蕊(放大五倍);4,雌蕊(放大五倍);5,雌蕊縱剖面(放大五倍);6,裂開之胞果(放大五倍)。



AMARANTUS RETROFLEXUS Linn.

Amarantus retroflexus Linn. Sp. Pl. ed. 1. p. 991; Moq. in DC. Prodr. XIII. 2. p. 258; Ledeb. Fl. Ross. III. p. 856.

Annual herb, about 1 m. high, robust; stem stout, branched or only with axillary branchlets, pubescent, light green, sometimes marked with purplish stripes; leaves 7-12 cm. long, 4-6 cm. broad, ovate or elliptic, apex acute or notched, apiculate, base cuneate, margin entire, slightly undulate, upper surface green, lower surface silvery-greenish, pubescent on both sides especially along the prominent veins beneath; petioles 3-5 cm. long, pubescent, grooved above; flower-clusters squarrose, in dense terminal and axillary panicles; bracts subulate, awned, much exceeding the sepals, margin hyaline, with a fleshy green keel at the back; sepals 5, somewhat unequal in length, oblong or oblanceolate, notched or apiculate or awned, hyaline, usually with a green keel along middle rib; stamens 5; stigmata 2 or 3; utricle orbicular, compressed, membranous, circumscissile; seed vertical, orbicular-ovate, lentiform, shining-black, about 1 mm. across, ripe in August and September.

Locality: Border of fields or waste places, very common in North China.

Observation: This weed is easily recognized by the erect stout form, the pubescent leaves and the squarrose spikes.

Plate III: 1. Entire plant (nat. size); 2. A male flower ($\times 10$); 3. Stamens ($\times 10$); 4. A female flower ($\times 10$); 5. An utricle ($\times 10$); 6. A seed ($\times 10$).



反枝苋 (一)

一年生草本，高約一公尺，粗壯；莖健壯，分枝或僅葉腋內生小枝，有細毛，淡綠色，有時具淡紫色條紋；葉長七至十二公分，闊四至六公分，卵形或橢圓形，先端尖銳或凹入，具小尖頭，基部呈楔形，全緣，略呈波狀，上面綠色，下面灰綠色，兩面均有毛，下面尤甚；葉柄長三至五公分，有毛，上面具溝槽；花叢多毛刺，集為稠密之頂生及腋生圓錐狀花穗；苞葉狀具針芒，遠長於萼片，邊緣部無色透明，背部具綠色多齒之隆起；萼片五，長短不甚整齊，長圓形或倒披針形，先端或凹缺或具小尖頭又或具針芒，透膜狀，通常具綠色凸隆之中肋；雄蕊五個；柱頭二或三；胞果圓形而扁，膜質狀，環狀開裂；種子直立，圓卵狀，兩面凸，光亮而黑，圓約一公厘，成熟期在八月及九月間。

產地：生於農田之旁或廢地，中國北部甚多。

註釋：此雜草由其粗壯直立之形，有毛之葉及多毛刺之花穗，極易與他種區別。

圖版三：1. 植物全形(自然大)；2. 雄花(放大十倍)；3. 雄蕊(放大十倍)；4. 雌花(放大十倍)；5. 胞果(放大十倍)；6. 種子(放大十倍)。

(一) *Mogon* 氏謂 "Rami juniores retrorcurati, dein ascendentes" 即用此名。



AMARANTUS PANICULATUS Linn.

Amarantus paniculatus Linn. Sp. Pl. ed. II, p. 1406; Moq. in DC. Prodr. XIII, 2, p. 237; Hook. f. Fl. Brit. Ind. IV, p. 718.

Amarantus sanguineus Linn. Sp. Pl. ed. II, p. 1407.

Annual erect herb, 1.2 m. high; stem stout, branched or not, smooth or scabrous, somewhat pubescent when young, green, sometimes tinged with pink, striate; leaves ovate-oblong or ovate-lanceolate, acute at both ends, entire, light green, glabrescent, general 15 cm. long, 7 cm. broad, veins prominent and usually pinkish beneath; petioles about as long as the blade, light green or pinkish, glabrous; panicles large, composed of many spikes which are erect or becoming pendulous in later, squarrose, red or yellowish-green; bracts subulate, keeled, red or greenish, sharply pointed, subequal with sepals; sepals 5, oblong or oblong-obovate, with apex pointed-acute or rounded, slightly shorter than utricle; stamens 5; stigmata 3, serrulate; utricle elliptic, circumscissile; seeds vertical, lenticular, brown, shining, 1.2 mm. across, ripe in September.

Locality: Originating in North America; cultivated or half wild in North China.

Observation: This species is usually cultivated for its edible vegetation or seeds. It is easily recognized by its big form which is often taller than all the others in the genus of this country.

This species may be divided into 2 forms in North China: 1, Red form, panicle and leaf-veins red; 2, Green form, panicle and leaf-veins green.

Plate IV: 1, Entire plant (nat. size); 2, A male flower ($\times 10$); 3, A female flower ($\times 10$); 4, An utricle ($\times 10$); 5, A seed ($\times 10$).

繁穗苣

獨盤(四川俗)，西方穀(東三省俗)。

一年生直立草本，高一至二公尺；莖粗肥，分枝或不分枝，光滑或稍圓，幼時略有軟毛，綠色，有時染有淺紅，具條紋；葉卵狀長圓形，或卵狀披針形，兩端均尖銳，全緣，淡綠色，近光滑，普通十五公分長，七公分寬，下面葉脈凸出且常帶淺紅色；葉柄約與葉片同長，淡綠色或淺紅，無毛；圓錐花穗甚大，由多數直立或日後下垂之小穗合成，多毛刺，紅色或黃綠色；苞錐狀，具腺香，紅色或淡綠色，有銳尖，與萼片略等長；萼片五，長圓形或長卵形，先端銳尖或鈍圓，略短於果胞；雄蕊五；柱頭三，具細齒；胎果橢圓形，環狀開裂；種子直立，扁豆形，棕褐色，光亮，闊一、二公厘，熟期在九月間。

產地：原產北美，中國北部多栽培之或為半野生。

註錄：此種通常栽培而食其莖葉或種子，中國北部所見之苣屬植物以此為最高大，由此點易與他種區別。

此種在中國北部見者可分為二變型：一，紅色變型，其花穗及葉脈為紅色；二，綠色變型，其花穗及葉脈為綠色。

圖版四：1.植物全形(自然大)；2.雄花(放大十倍)；3.雌花(放大十倍)；4.胎果(放大十倍)；5.種子(放大十倍)。

AMARANTUS CAUDATUS Linn.

Amarantus caudatus Linn. Sp. Pl. p. 990; Moq. in DC. Prodr. XIII, 2, p. 255; Hook. f. Fl. Brit. Ind. IV, p. 719.

Annual erect, herb, tall to 1.5 m.; stem robust, striate, pubescent when young, becoming glabrescent, light green, usually tinged with pink, more or less branched; leaves variable in size, the larger ones about 12 cm. long and 7 cm. broad, elliptic or ovate, apex acute or obtuse, apiculate, cuneate at base, entire, light green above, whitish green beneath, glabrous on both surfaces, veins prominent beneath; petioles $\frac{2}{3}$ as long as the blade, hairy or scabrous, usually pink; panicles terminal, composed of many or few slender spikes which always drooping; center spike much longer than the others, tail-shaped; bracts acicular, longer than the sepals, light pink; sepals 5, broad obovate, mucronate, pink, shorter than the utricle; stamens 5, free; stigmata 3, serrulate; utricles ovate, apex pink; seeds lenticular, vertical, white, center part subtransparent, ripe in September to October.

Locality: Originating in tropical regions; commonly cultivated in North China, usually used as ornament.

Observation: This species is related to *A. paniculatus* Linn., and in some states these two species are very difficult to distinguish. But in typical forms they may be differentiated by the following terms:

A. caudatus

1. Spikes pendulous, not squarrose.
2. Leaves obtuse.
3. Sepals obovate, shorter than the utricle.

A. paniculatus

1. Spikes erect, squarrose.
2. Leaves acute.
3. Sepals lanceolate, subequalling the utricle.

Plate V: 1. A branch (nat. size); 2. Flowers, center one male, lateral 2 female ($\times 10$); 3. An utricle with sepals and bract ($\times 10$); 4. An utricle ($\times 10$); 5. A seed ($\times 10$).

尾穗莧

老鐘穀（龍沙紀略）。

一年生直立草本，高達一、五公尺；莖粗狀，具稜紋，幼時具軟毛，漸變為光滑，淡綠，時染粉紅色，分枝或多或少；葉之大小不一，其大者長十二公分闊七公分，橢圓形或卵形，先端尖或鈍，具微尖，基部楔形，全緣，上面淡綠色，下面白綠色，兩面均光滑；下面葉脈凸出；葉柄長為葉片三分之二，具毛或細齒，通常淡紅色；圓錐花序頂生，由多數或少數之細穗合成，向下垂懸，中心之穗特長，呈尾狀；苞針形，較萼片長，淡淺紅色；萼片五，闊卵形，具微尖，淡紅，短於胞果；尊蓋五，分離；柱頭三，具細齒；胞果卵形，頂端淺紅色；種子扁豆形，直立，白色，中央半透明，成熟在九月至十月間。

產地：原產熱帶地方；華北各省多栽植之以點綴園景。

註釋：此種與繁穗莧相近似，有時此二種區別甚難，但在核範形下可用下列幾點區別之。

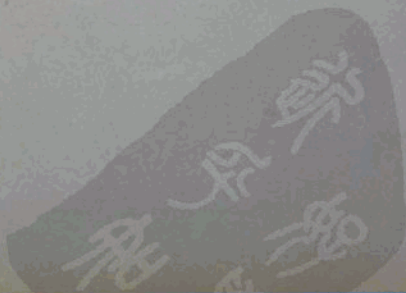
尾穗莧

1. 花穗下垂，毛刺不顯明。
2. 葉先端鈍。
3. 萼片倒卵形，較胞果為短。

繁穗莧

1. 花穗直立，多毛刺。
2. 葉先端尖銳。
3. 萼片披針形，與胞果等長。

圖版五：1，植物之一枝（自然大）；2，花，中央之一為雄花，兩側者為雌花（放大十倍）；3，具萼及苞之胞果，（放大十倍）；4，胞果（放大十倍）；5，種子（放大十倍）。



AMARANTUS GANGETICUS Linn.

Amarantus gangeticus Linn. Syst. ed. X. 12 68; Moq. in DC. Prodr. XIII, 2, 261; Hook. f. Fl. Brit. Ind. IV, p. 716.

Amarantus tristis Linn. Sp. Pl. 989; Moq. in DC. Prodr. XIII, 2, p. 260.

Amarantus tricolor Linn. Sp. Pl. 959.

Amarantus melancholicus Linn. Sp. Pl. 989; Moq. in DC. Prodr. XIII, 2, p. 262.

Annual erect herb, tall to 1.5 m.; stem stout, striate, glabrous or slightly pilose, red or green, usually branched; leaves large, generally 15 cm. long, 10 cm. broad, ovate to broad ovate, sometimes triangular, acutish and slightly notched at apex, abruptly acute at base, margin entire or slightly undulate, thin, glabrous, rugose, variable in color; petioles glabrous, about $\frac{1}{2}$ as long as the blade; flower-clusters large, globose, densely flowered, axillary and in terminal interrupted spikes; bracts subulate to ovate, hyaline, with a thick green or red keel at the back, awned, equal in length to sepals or slightly shorter; sepals 3, oblancoolate or narrow-obovate, midrib thick, green or red, awned, margin hyaline; stamens 3; stigmata 3, reflexed, filiform and hairy; utricle ovate-oblong, membranous, circumscissile; seeds lenticular, shining black, 1.5 mm. across, margin obtuse, ripe in September.

Locality: Originating in tropical regions; widely cultivated in North China, used as vegetable for cooking, or grown for ornament.

Observation: There is a wild state of this species in Peiping. It is usually smaller in size, green in colour and seems to have escaped from cultivation.

Plate VI: 1. A flowering branch (nat. size); 2. A male flower ($\times 10$); 3. A female flower ($\times 10$); 4. A seed ($\times 10$).

