

### 34. RANUNCULUS Linnaeus, Sp. Pl. 1: 548. 1753.

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Herbs perennial or annual, terrestrial or rarely aquatic. Stems usually leafy. Leaves usually both basal and along stem, lower leaves petiolate, petiole expanded into sheath at base; leaf blade simple, palmately divided, 1- or 2-ternate or, rarely, pinnate. Inflorescence a solitary terminal or leaf-opposed flower, or a simple or compound monochasium. Flowers bisexual, actinomorphic. Receptacle  $\pm$  convex, sometimes forming androgynophore (*Ranunculus angustisepalus*). Sepals (3–)5(–7), usually greenish, occasionally dark reddish or purple, very rarely abaxial sepal appendiculate (*R. angustisepalus*), deciduous or, rarely, persistent. Petals (3–)5(–10), yellow, rarely white, exceptionally red (not in Flora area), base shortly clawed, with foveolate adaxial nectary pit which is sometimes covered by a scale. Stamens numerous or rarely few. Carpels numerous, sessile or rarely stalked (*R. podocarpus*); ovule 1 per carpel, basal; style usually present, with adaxial stigmatic tissue, sometimes absent; distinct stigma usually absent. Fruit aggregate, globose, ovoid, or cylindric, with numerous achenes. Achenes ovoid, obovoid, or slightly to strongly bilaterally compressed, smooth, sometimes tuberculate or spiny, sometimes marginate or winged along sutures, usually greenish, black in *R. melanogynus*. Seeds with a copious endosperm and small embryo.

About 550 species: widespread on all continents except Antarctica, mainly in N temperate regions; 125 species (66 endemic) in China.

Much use has to be made of the form of the leaf blade which varies from simple and entire through to ternately compound. The following terms are used in this account: 3-sect, i.e., divided almost to petiole so as to be almost compound; 3-partite, i.e., divided for half or more of the length of the leaf blade; 3-fid, i.e., divided for less than half of the length of the leaf blade; and 3-lobed, i.e., shallowly and irregularly divided. Some species are very variable and hence have been keyed out several times in the following key.

Species nos. 1–81 in this account belong to *Ranunculus* sect. *Auricomus* (Spach) Tamura, a taxonomically difficult group in which apomixis is known to occur.

#### Key 1

- 1a. Sepals 4, narrowly oblong; base of abaxial sepal appendiculate; androgynophore present . 125. *R. angustisepalus*
- 1b. Sepals 5, ovate or elliptic, rarely suborbicular; sepals not appendiculate; androgynophore absent.
  - 2a. Achenes tuberculate or spiny.
    - 3a. Achenes spiny.
      - 4a. Basal leaves glabrous; stem leaves similar to basal ones, 3-lobed or undivided; achene spines 0.5–1 mm ..... 121. *R. muricatus*
      - 4b. Basal leaves sparsely puberulent; stem leaves 1- or 2-ternate; achene spines up to 2 mm .... 122. *R. arvensis*
    - 3b. Achenes tuberculate.
      - 5a. Basal leaves ternate or, if simple, 3-cleft; achenes flattened.
        - 6a. Achene tuberculate along margin only; basal leaves mostly ternate, a few simple, 3-cleft . 119. *R. sardous*
        - 6b. Achene tuberculate on whole surface; basal leaves all ternate ..... 120. *R. trachycarpus*
      - 5b. Basal leaves simple, undivided; achenes  $\pm$  ovoid.
        - 7a. All stem leaves similar to basal ones, ovate or rhombic; petal nectary pit without a scale; style ca. 0.4 mm ..... 93. *R. ficariifolius*
        - 7b. Upper stem leaves narrowly triangular or lanceolate; petal nectary pit sometimes with a scale; style ca. 0.1 mm ..... 94. *R. triangularis*
    - 2b. Achenes usually smooth, rarely obscurely ridged.
      - 8a. Petals white, 3–5, oblong ..... 95. *R. cheirophyllus*
      - 8b. Petals yellow, usually 5, rarely less or more, usually obovate.
        - 9a. Carpels black; style absent ..... 92. *R. melanogynus*
        - 9b. Carpels greenish; style usually present (absent in *R. sceleratus*).
          - 10a. Achenes bilaterally compressed, flattened, marginate or winged along sutures; petal nectary pit covered by a scale.
            - 11a. Achenes strongly bilaterally compressed, papery, winged along sutures; basal leaves pinnate.
              - 12a. Persistent style slightly curved ..... 123. *R. platyspermus*
              - 12b. Persistent style hooked ..... 124. *R. regelianus*
            - 11b. Achenes thicker, not papery, narrowly marginate along sutures; basal leaves simple or 1- or 2-ternate.
              - 13a. Flowers leaf-opposed; stems often prostrate.

- 14a. Sepals spreading; basal leaves ternate or simple ..... 112. *R. diffusus*  
14b. Sepals reflexed; basal leaves all ternate ..... 113. *R. sieboldii*  
13b. Flowers terminal, solitary or 2 or more in monochasium; stems usually erect.  
15a. Basal leaves ternate.  
16a. Receptacle glabrous ..... 96. *R. japonicus*  
16b. Receptacle hairy.  
17a. Stolons present ..... 117. *R. repens*  
17b. Stolons absent.  
18a. Aggregate fruit cylindric ..... 118. *R. chinensis*  
18b. Aggregate fruit globose.  
19a. Flower solitary; carpels 10–17 ..... 111. *R. sinovaginatius*  
19b. Flowers 2–10 in monochasium; carpels many.  
20a. Sepals spreading ..... 108. *R. trigonus*  
20b. Sepals reflexed.  
21a. Persistent style hooked ..... 115. *R. silerifolius*  
21b. Persistent style straight or slightly curved.  
22a. Basal leaves 1-ternate ..... 114. *R. cantoniensis*  
22b. Basal leaves 2-ternate ..... 116. *R. tachiroei*  
15b. Basal leaves simple, palmatipartite or palmatisect.  
23a. Basal leaves 3-sect.  
24a. Receptacle glabrous.  
25a. Rhizomes conspicuous, terete ..... 101. *R. grandifolius*  
25b. Rhizomes very short, inconspicuous.  
26a. Stems spreading hispid; stem leaves simple, 3-partite, rarely 3-sect, segments lobed; style nearly absent or very short, up to 0.2 mm ..... 96. *R. japonicus*  
26b. Stems strigose; stem leaves ternate, or simple, 3-sect, segments dissected; style ca. 0.4 mm, recurved ..... 111. *R. sinovaginatius*  
24b. Receptacle hairy.  
27a. Sepals reflexed; carpels 10–17 ..... 111. *R. sinovaginatius*  
27b. Sepals spreading; carpels many.  
28a. Segments of basal leaves lobed, ultimate lobes ovate or triangular ..... 108. *R. trigonus*  
28b. Segments of basal leaves 2 or 3 × dissected, ultimate lobes linear-lanceolate, rarely ovate.  
29a. Persistent style straight or slightly curved ..... 109. *R. meyerianus*  
29b. Persistent style hooked ..... 110. *R. polyanthemus*  
23b. Basal leaves 3-partite.  
30a. Receptacle hairy.  
31a. Petal 9–10 × 5–9 mm ..... 102. *R. submarginatus*  
31b. Petal 3.2–8 × 1.6–4 mm ..... 108. *R. trigonus*  
30b. Receptacle glabrous.  
32a. Stolons present ..... 103. *R. grandis*  
32b. Stolons absent.  
33a. Basal leaf blades broadly cuneate or truncate at base.  
34a. Basal leaf blades broadly rhombic, base broadly cuneate ..... 107. *R. cuneifolius*  
34b. Basal leaf blades pentagonal, base truncate, subtruncate, or rarely broadly cuneate.  
35a. Stems 20–45 cm, with 2 or 3 stem leaves; basal leaves 1.8–4.5 cm wide; petal 7–10 × 4.5–6 mm ..... 105. *R. kunmingensis*  
35b. Stems ca. 70 cm, with ca. 8 stem leaves; basal leaves ca. 10 cm wide; petal ca. 13 × 8–10 mm ..... 106. *R. changpingensis*  
33b. Basal leaf blades cordate at base.  
36a. Rhizomes conspicuous.  
37a. Rhizomes tuberlike; petals 8–10 mm ..... 98. *R. smirnovii*  
37b. Rhizomes subterete; petals up to 14 mm.  
38a. Basal leaves up to 7.8 cm wide; achenes ca. 2.2 mm ..... 99. *R. distans*  
38b. Basal leaves up to 11 cm wide; achenes ca. 3.5 mm ..... 101. *R. grandifolius*  
36b. Rhizomes very short, inconspicuous.

- 39a. Stems and petioles of basal leaves strigose.
- 40a. Uppermost stem leaf 3-sect, segments linear, other stem leaves not dissected, ultimate lobes ovate or triangular; nearly all carpels maturing into achenes 96. *R. japonicus*
- 40b. Stem leaves 2 or 3 × dissected, ultimate lobes linear; only 1–10 carpels per flower maturing into achenes ..... 100. *R. paishanensis*
- 39b. Stems and petioles of basal leaves spreading hispid.
- 41a. Upper stem leaves abaxially densely silvery strigose ..... 96. *R. japonicus*
- 41b. Stem leaves abaxially sparsely white strigose.
- 42a. Stems solid; basal leaves 2.8(–4) cm wide; flowers 5–8.5 mm in diam.; petals 2.2–5 × 1.6–2.2 mm ..... 97. *R. taisanensis*
- 42b. Stems hollow; basal leaves 5–10(–16) cm wide; flowers 14–24 mm in diam.; petals 7–12 × 5.5–8.5 mm.
- 43a. Styles nearly absent or very short, up to 0.2 mm, straight or slightly recurved; central lobe of basal leaf obovoid-obtrapeziform, not constricted at base ..... 96. *R. japonicus*
- 43b. Styles ca. 0.5 mm, circinate at apex; central lobe of basal leaf rhombic-obovate, slightly constricted at base ..... 104. *R. borealis*
- 10b. Achenes ovoid or obovoid, sometimes slightly bilaterally compressed, but not flattened, neither marginate nor winged along sutures.
- 44a. Carpels and achenes stalked ..... 90. *R. podocarpus*
- 44b. Carpels and achenes sessile.
- 45a. Carpel without a style, with a small stigma at top of ovary; achenes with 2 or 3 inconspicuous transverse wrinkles, somewhat turgid along sutures; aggregate fruit conspicuously elongated, more than 2 × as long as wide ..... 91. *R. scleratus*
- 45b. Carpel ± with a style, without a stigma but with inconspicuous stigmatic tissue on ventral surface of style; achenes smooth, not turgid along sutures; aggregate fruit globose to ovoid, usually less than 2 × as long as broad.
- 46a. Roots tuberous ..... 89. *R. ternatus*
- 46b. Roots fibrous, sometimes thickened at base, but not tuberous.
- 47a. Basal leaves absent after anthesis or, if present, subsessile, linear, linear-lanceolate or narrowly spatulate with tapered base; stem leaves subsessile, entire, lanceolate or lanceolate-linear.
- 48a. Plants conspicuously stoloniferous; basal leaves present after anthesis ..... 88. *R. reptans*
- 48b. Plants ascending, not conspicuously stoloniferous; basal leaves withering at anthesis.
- 49a. Stems ca. 10 mm thick; leaves 7–10 mm wide; flowers 3 or 4 in terminal compound monochasium, 2.7–3.8 cm in diam.; achenes 2–3 mm ..... 86. *R. lingua*
- 49b. Stems slender; stem leaves 3–5(–7) mm wide; flowers solitary, 1–2.5 cm in diam., achenes ca. 1.8 mm ..... 87. *R. amurensis*
- 47b. Basal leaves present after anthesis, clearly petiolate; stem leaves usually palmatifid.
- 50a. Herbs small, annual; stamens 4.
- 51a. Stems leafless, ca. 3.5 cm; petals 3–3.8 mm, with 3 colorless veins; style longer than ovary ..... 80. *R. tetrandrus*
- 51b. Stems 1- or 2-leaved, longer; petals 1.5–2.5 mm, with 3 blue veins; style less than 1/2 as long as ovary ..... 81. *R. muscigenus*
- 50b. Herbs perennial, with short rhizomes; stamens usually many, rarely 4–10.
- 52a. Blade of basal leaf divided ..... Key 2
- 52b. Blade of basal leaf not divided.
- 53a. Basal leaves entire, or (in *R. densiciliatus*, *R. yechengensis*, *R. nephelogenes* and *R. membranaceus*) sometimes 1–2-dentate near apex; flowers solitary, terminal.
- 54a. Leaf blade hairy.

- 55a. Basal leaves ovate, elliptic, or suborbicular, abaxially glabrous, adaxially sparsely puberulent, margin densely appressed ciliate; stems and leaves drying blackish ..... 53. *R. densiciliatus*
- 55b. Basal leaves linear, oblong, or lanceolate, hairy or adaxially glabrous, margin not ciliate; stems and leaves not drying blackish ..... 57. *R. membranaceus*
- 54b. Leaf blade glabrous.
- 56a. Petal apex rounded; leaf blade of basal leaf ovate, narrowly ovate, oblong, or linear-lanceolate ..... 56. *R. nephelogenes*
- 56b. Petal apex emarginate.
- 57a. Petal 9–11 × 6.5–8.5 mm; blade of basal leaf obovate or cuneate, 5–14 × 4–11 mm, margin 1-denticulate on each side; receptacle conic, ca. 2 mm high; stems 3–5 cm ..... 54. *R. yechengensis*
- 57b. Petal 5.5–7 × 3.5–4 mm; blade of basal leaf ovate, orbicular-ovate, or elliptic, 2.5–5 × 2–3 mm, margin entire; receptacle hemispheric, ca. 0.5 mm high; stems 1.5–2 cm ..... 55. *R. humillimus*
- 53b. Basal leaves with 3 or more teeth at margin.
- 58a. Carpels and achenes puberulent.
- 59a. Basal leaves spatulate or subtrapeziform or obovate, base cuneate, 3–5-dentate at apex or 3–5-crenate on each side
- 60a. Basal leaf margin rounded-dentate to crenate near apex; flowers 2 or 3 in a monochasium; petals 5–10 × 4–7 mm ..... 66. *R. yunnanensis*
- 60b. Basal leaf margin dentate; flower solitary; petals ca. 4 × 2.5 mm ..... 65. *R. wangianus*
- 59b. Basal leaves suborbicular or flabellate, base broadly cuneate, rounded, subtruncate, or subcordate; flowers solitary, terminal.
- 61a. Leaf blade leathery, suborbicular, base rounded or broadly cuneate, margin 5-crenate ..... 73. *R. pseudolobatus*
- 61b. Leaf blade papery.
- 62a. Basal leaves flabellate or obovate, margin 5–7-dentate ..... 64. *R. felixii*
- 62b. Basal leaves ovate.
- 63a. Stems 3–10 cm; blades of basal leaves with base rounded or broadly cuneate, apex acute, margin ciliate, each side 1–3-denticulate ..... 52. *R. kunlunshanicus*
- 63b. Stems 8–36 cm; blades of basal leaves with base truncate or subcordate at base, apex obtuse or rounded, margin glabrous, each side 2–5-dentate ..... 77. *R. indivisus*
- 58b. Carpels and achenes glabrous.
- 64a. Blades of basal leaves longer than broad, spatulate or ovate.
- 65a. Petals 7; blades of basal leaves spatulate, cuneate, or cuneate-obovate ..... 67. *R. altaicus*
- 65b. Petals 5(or 6); blades of basal leaves broadly ovate, trapeziform-ovate, ovate, elliptic, or obovate
- 66a. Petals narrowly oblong or oblong-oblong-oblanceolate, 8 × 2 mm ..... 74. *R. hetianensis*
- 66b. Petals obovate.
- 67a. Stems 15–20 cm; blades of basal leaves ovate, elliptic, or obovate, base broadly cuneate or cuneate, 1–3-denticulate on each side ..... 51. *R. pulchellus*
- 67b. Stems 4–8.5 cm; blades of basal leaves broadly ovate or trapeziform-ovate, base rounded or truncate, 3–5-dentate at or near apex ..... 76. *R. lobatus*
- 64b. Blades of basal leaves broader than long, obovate, subreniform, orbicular-ovate, or depressed deltoid.
- 68a. Basal leaves up to 1.6 cm wide; flower 0.8–1.4 cm in diam.
- 69a. Stems 5–11.5 cm, puberulent; basal leaves papery; stem leaves 3-lobed to 3-sect; flower 0.8–1.2 cm in diam.; carpel not winged ..... 78. *R. nyalamensis*
- 69b. Stems 1.5–5 cm, glabrous; basal leaves leathery, glabrous; stem leaves undivided; flower 1.2–1.4 cm in diam.; carpel winged along sutures .... 79. *R. similis*
- 68b. Basal leaves up to 3–3.5 cm wide, glabrous; flower 1.5–2.8 cm in diam.
- 70a. Sepals abaxially yellowish puberulent ..... 60. *R. albertii*
- 70b. Sepals abaxially black-brown puberulent.

- 71a. Blades of basal leaves papery, indistinctly 3-lobed, margin glabrous 61. *R. transiliensis*  
 71b. Blades of basal leaves thinly leathery, unlobed, margin ciliate ..... 62. *R. fraternus*

## Key 2

- 1a. Basal leaves 3-lobed.  
 2a. Petals abaxially puberulent ..... 63. *R. hamiensis*  
 2b. Petals glabrous.  
 3a. Petal nectary pit with a scale ..... 75. *R. xinningensis*  
 3b. Petal nectary pit without scale.  
 4a. Carpels and achenes puberulent.  
 5a. Fibrous roots subequally thick.  
 6a. Basal leaves 1(-3), blade thinly papery, reniform, rarely orbicular-ovate, 2-5 cm wide, base usually cordate; stem leaves 3-7-sect; style shorter than ovary ..... 59. *R. monophyllus*  
 6b. Basal leaves ca. 4, blade leathery, suborbicular or orbicular-ovate, 0.8-1.4 cm wide, base subcordate; stem leaves 3-lobed or 3-sect; styles 2 × as long as ovary ..... 73. *R. pseudolobatus*  
 5b. Fibrous roots thickened at base.  
 7a. Blade of basal leaves flabellate or flabellate-ovate, base subtruncate to cuneate ..... 64. *R. felixii*  
 7b. Blade of basal leaves pentagonal or reniform, base cordate.  
 8a. Stem leaves 3-sect; style 0.6-1 mm ..... 71. *R. dielsianus*  
 8b. Stem leaves 3-lobed; style ca. 0.4 mm ..... 72. *R. limprichtii*  
 4b. Carpels and achenes glabrous.  
 9a. Leaves glabrous.  
 10a. Plants aquatic; petals 2.5-4.2 mm; style up to 0.1 mm.  
 11a. Stems 10-40 cm, glabrous; receptacle puberulent; aggregate fruit 5-6 mm in diam. .... 84. *R. natans*  
 11b. Stems 3-5 cm, subglabrous or sparsely puberulent; receptacle glabrous; aggregate fruit 3-4 mm in diam. .... 85. *R. intramongolicus*  
 10b. Plants of alpine meadows or grassy slopes; petals 5.5-13 mm; style 0.5-0.7 mm.  
 12a. Blade of basal leaves up to 3-3.5 cm wide, lateral lobes with 3-6 rounded teeth; petals 9-17 mm wide.  
 13a. Sepals abaxially yellowish puberulent ..... 60. *R. albertii*  
 13b. Sepals abaxially black-brown puberulent ..... 61. *R. transiliensis*  
 12b. Blade of basal leaves up to 1.4 cm wide, lateral lobes entire; petals 2.5-8.5 mm wide.  
 14a. Petal apex emarginate ..... 54. *R. yechengensis*  
 14b. Petal apex rounded.  
 15a. Stem leaves undivided, lanceolate, 3-sect sometimes only in *R. nephelogenes* var. *geniculatus* ..... 56. *R. nephelogenes*  
 15b. Stem leaves 3-partite or 3-sect.  
 16a. Blades of basal leaves trapeziform-ovate, 0.8-2 cm wide, base subtruncate or truncate-cordate, ..... 43. *R. popovii*  
 16b. Blades of basal leaves ovate or narrowly obovate, 0.5-0.9 cm wide, base broadly cuneate or rounded ..... 51. *R. pulchellus*  
 9b. Leaves puberulent.  
 17a. Basal leaf blade bases cuneate.  
 18a. Basal leaf blade broadly cuneate or obovate, up to 1.5 cm; flowers solitary ..... 48. *R. yaoanus*  
 18b. Basal leaf blade narrowly oblong or lanceolate-linear, 2-6 cm; flowers solitary or 2 or 3 in a terminal monochasium ..... 57. *R. membranaceus*  
 17b. Basal leaf blade bases cordate, rounded, or broadly cuneate.  
 19a. Basal leaf blade bases cordate.  
 20a. Stems 19-24 cm; basal leaves 1.6-2.4 cm wide, adaxially sparsely puberulent, abaxially glabrous; receptacle puberulent; petals obovate, 5-6.5 × 4.5-7 mm ..... 68. *R. menyuanensis*  
 20b. Stems 5.5-8.5 cm; basal leaves 0.6-1 cm wide, adaxially glabrous, abaxially strigose; receptacle glabrous; petals flabellate or broadly obovate, 6-7.5 × 6-9.5 mm 70. *R. zhungdianensis*  
 19b. Basal leaf blade bases rounded or broadly cuneate.  
 21a. Lateral lobe of basal leaf with up to 4 obliquely triangular locules ..... 44. *R. pectinatilobus*

- 21b. Lateral lobe of basal leaf undivided or 2-lobed.
- 22a. Stems and leaves drying blackish; basal leaves densely appressed ciliate at margin 53. *R. densiciliatus*
- 22b. Stems and leaves not drying blackish; basal leaves not ciliate or with sparse spreading hairs.
- 23a. Lateral lobes of basal leaves unequally 2-lobed ..... 43. *R. popovii*
- 23b. Lateral lobes of basal leaves usually undivided ..... 69. *R. dongrergensis*
- 1b. Basal leaves 3-partite, 3-sect, or ternate.
- 24a. Basal leaves ternate.
- 25a. Carpels and achenes puberulent.
- 26a. Stems 20–30 cm; leaflets 2 or 3 × dissected, ultimate lobules subfiliform; flowers 2 or 3 in a monochasium ..... 50. *R. nematolobus*
- 26b. Stems 4.5–16 cm; leaflets with ultimate lobules ovate, narrowly ovate, or oblong; flowers solitary.
- 27a. Receptacle puberulent; petals broadly obovate, 8–12 × 6–10 mm ..... 31. *R. gelidus*
- 27b. Receptacle glabrous; petals narrowly obovate or cuneate, 5.8–6.5 × 2.6–4 mm.
- 28a. Basal leaves abaxially sericeous, central leaflet 3-lobed ..... 35. *R. stenorrhynchus*
- 28b. Basal leaves adaxially glabrous, central leaflet 3-partite or 3-sect ..... 39. *R. polii*
- 25b. Carpels and achenes glabrous.
- 29a. Stolons present, ca. 20 cm, strigose; flowers 2 in terminal monochasium ..... 40. *R. yanshanensis*
- 29b. Stolons absent; flowers solitary, terminal or leaf-opposed.
- 30a. Sepals completely or partly dark purple.
- 31a. Sepals uniformly dark purple; longest petiole 6–8.5 cm; leaf blade glabrous ..... 32. *R. rufosepalus*
- 31b. Sepals with purple margins; longest petiole 2–5 cm; leaf blade sparsely pubescent ... 33. *R. adoxifolius*
- 30b. Sepals greenish.
- 32a. Petals 3 or 4, cuneate or cuneate-obovate; leaflets 1 or 2 × dissected, ultimate lobules lanceolate-linear; ..... 49. *R. jingyuanensis*
- 32b. Petals 5; leaflets not as dissected, ultimate lobules ovate or narrowly ovate.
- 33a. Stamens 5–14.
- 34a. Fibrous roots thick at base; stamens 7–14 ..... 34. *R. mainlingensis*
- 34b. Fibrous roots uniformly thick; stamens 5 ..... 48. *R. yaoanus*
- 33b. Stamens many.
- 35a. Petiole 8–15 cm; basal leaves ca. 2.
- 36a. Leaf blade appressed puberulent, terminal segment irregularly 3-fid; petals 7–12 × 6–10 mm, obovate-orbicular ..... 36. *R. formosa-montanus*
- 36b. Leaf blade glabrous or nearly so, terminal segment pinnatifid; petals 9–12 × 4–6 mm, narrowly obovate ..... 38. *R. morii*
- 35b. Petiole 2–6.5 cm; basal leaves 3–8.
- 37a. Stem very slender, trailing and rooting from upper nodes; basal leaves ca. 3 ..... 37. *R. matsudae*
- 37b. Stem erect, not rooting from upper nodes; basal leaves 4–8, ..... 39. *R. polii*
- 24b. Basal leaves 3-partite or 3-sect.
- 38a. Basal leaves 3-sect.
- 39a. Carpels and achenes puberulent.
- 40a. Flowers in a monochasium.
- 41a. Blades of basal leaves up to 4 cm wide; central segment 3-lobed, lobes ovate ..... 25. *R. hirtellus*
- 41b. Blades of basal leaves up to 2(–3.4) cm; central segment usually 2 × dissected, ultimate lobules linear-lanceolate ..... 47. *R. tanguticus*
- 40b. Flowers solitary.
- 42a. Petals puberulent adaxially near nectary pit ..... 3. *R. polyrhizos*
- 42b. Petals glabrous.
- 43a. Stems 20–26 cm, mostly glabrous, sparsely puberulent only near apex; basal leaf 1 59. *R. monophyllus*
- 43b. Stems 5–14 cm, puberulent; basal leaves 3–5.
- 44a. Leaf hairs 0.8–1 mm; flower ca. 1 cm in diam. .... 25. *R. hirtellus*
- 44b. Leaf hairs 0.3–0.6 mm; flower 1.7–2 cm in diam. .... 31. *R. gelidus*
- 39b. Carpels and achenes glabrous.
- 45a. Leaves all basal; scape 4.5–7 mm ..... 30. *R. oreionannos*

- 45b. Leaves basal and stem; stems taller.
- 46a. Basal leaves leathery, glabrous, or only adaxially puberulent.
- 47a. Petals flabellate-obovate or broadly obovate, 10–16 mm; central segment of basal leaf long elliptic or oblanceolate, undivided ..... 15. *R. chuanchingensis*
- 47b. Petals obovate or broadly obovate, up to 7–10 mm; central segment of basal leaf rhombic, obovate, or ovate, usually 3-lobed.
- 48a. Lateral segments of basal leaf blade oblong, undivided ..... 26. *R. banguoensis*
- 48b. Lateral segments of basal leaf blade oblique flabellate, unequally 2-cleft.
- 49a. Stems 3.5–15 cm; flowers solitary, or 2 in a monochasium; petals obovate, 5–10 × 4–12 mm ..... 16. *R. glareosus*
- 49b. Stems 1.5–3.7 cm; flowers solitary; petals broadly obovate, 5.5–7 × 4–6.5 mm ..... 28. *R. glabricaulis*
- 46b. Basal leaves papery or herbaceous.
- 50a. Basal leaf blade segments linear, undivided.
- 51a. Stems prostrate, rooting adventitiously near base, up to 27 cm; basal leaves glabrous, base cuneate, lateral segments spreading at an acute angle to central segment ..... 56. *R. nephelogenes*
- 51b. Stems erect, 5–6 cm; basal leaves adaxially glabrous, abaxially appressed puberulent, base subtruncate, lateral segments spreading at a right angle to central segment ..... 58. *R. hejingensis*
- 50b. Basal leaf blade segments not linear, usually divided.
- 52a. Inflorescence a 2- or 3-flowered monochasium.
- 53a. Basal leaf blade base broadly cuneate; flower 1–1.7 cm diam. .... 41. *R. potaninii*
- 53b. Basal leaf blade base deeply cordate; flower ca. 2.5 cm diam. .... 24. *R. balikunensis*
- 52b. Inflorescence 1-flowered.
- 54a. Basal leaf blade base broadly cuneate ..... 41. *R. potaninii*
- 54b. Basal leaf blade base cordate or cordate-truncate.
- 55a. Basal leaf blade base cordate-truncate ..... 45. *R. brotherusii*
- 55b. Basal leaf blade base cordate.
- 56a. Stems prostrate, filiform, up to 20 cm ..... 19. *R. pegaeus*
- 56b. Stems erect.
- 57a. Fibrous roots conspicuously thickened at base ..... 14. *R. pseudopygmaeus*
- 57b. Fibrous roots subequally thick, in *R. hirtellus* above slightly thickened.
- 58a. Segments of basal leaf 1–3 × dissected, ultimate lobules lanceolate-linear ..... 47. *R. tanguticus*
- 58b. Segments of basal leaf not dissected, ultimate lobules ovate or narrowly ovate.
- 59a. Sepals dark red ..... 23. *R. rubrocalyx*
- 59b. Sepals greenish.
- 60a. Receptacle yellow puberulent; sepals persistent ..... 20. *R. glacialiformis*
- 60b. Receptacle glabrous, subglabrous or sparsely white puberulent only in *R. songoricus*; sepals deciduous.
- 61a. Basal leaves 2–4.4 cm wide; receptacle subglabrous or sparsely puberulent; stamens ca. 70; stems 7–30 cm ..... 1. *R. songoricus*
- 61b. Basal leaves less than 2 cm wide; receptacle glabrous; stamens fewer than 35; stems usually less than 10 cm.
- 62a. Petals oblong, 4–5.2 mm ..... 18. *R. micronivalis*
- 62b. Petals obovate.
- 63a. Central segment of basal leaf undivided, obovate or obovate-oblong.
- 64a. Stems puberulent; basal leaves appressed yellowish pubescent . 25. *R. hirtellus*
- 64b. Stems and basal leaves glabrous ..... 29. *R. pedicellatus*
- 63b. Central segment of basal leaf 3-lobed, rhombic-obovate
- 65a. Stems 5–12(–20) cm; basal leaves 4–14(–22) mm wide; stem leaves 2; ovary as long as styles ..... 17. *R. petrogeiton*
- 65b. Stems 1–2.5 cm; basal leaves up to 4 mm wide; stem leaf 1; ovary 3 × longer than styles ..... 27. *R. dingjieensis*
- 38b. Basal leaves 3-partite.
- 66a. Petals hairy.
- 67a. Stems 5–18 cm; basal leaves 0.7–1.8 × 1–3.2 cm, base cordate, rarely subtruncate; petals obovate, adaxially puberulent near nectary pit, abaxially glabrous; achenes puberulent ..... 3. *R. polyrhizos*

- 67b. Stems 20–30 cm; basal leaves larger, 2.5–4 × 2–4 cm, base truncate; petals ovate, adaxially glabrous, abaxially puberulent; achenes glabrous ..... 63. *R. hamiensis*
- 66b. Petals glabrous.
- 68a. Carpels and achenes puberulent.
- 69a. Fibrous roots thickened at base.
- 70a. Basal leaf blade base broadly cuneate ..... 64. *R. felixii*
- 70b. Basal leaf blade base cordate ..... 71. *R. dielsianus*
- 69b. Fibrous roots subequally thick, not thickened at base.
- 71a. Stems mostly glabrous, sparsely puberulent only below flower; receptacle glabrous.
- 72a. Basal leaves ca. 10, herbaceous ..... 6. *R. franchetii*
- 72b. Basal leaf 1, papery ..... 59. *R. monophyllus*
- 71b. Stems puberulent throughout; receptacle puberulent.
- 73a. Stems densely brownish puberulent; basal leaf blades abaxially puberulent, adaxially glabrous ..... 43. *R. popovii*
- 73b. Stems sparsely white puberulent; basal leaf blades glabrous on both surfaces.
- 74a. Basal leaf blade base subtruncate ..... 13. *R. nankotaizanus*
- 74b. Basal leaf blade base cordate.
- 75a. Stems (10–)15–25 cm; basal leaf blade with lateral segments pectinately 4- or 5-cleft, white puberulent; flowers 1.4–1.9 cm in diam. .... 4. *R. pedatifidus*
- 75b. Stems 7–14 cm; basal leaf blade with lateral segments unequally 2 or 3-lobed, yellowish strigose; flowers 0.9–1.1 cm in diam. .... 25. *R. hirtellus*
- 68b. Carpels and achenes glabrous.
- 76a. Fibrous roots thickened at base.
- 77a. Stems 0.8–5 cm; basal leaf blade 3–8 mm wide, adaxially glabrous or sparsely puberulent, abaxially glabrous; receptacle glabrous ..... 14. *R. pseudopygmaeus*
- 77b. Stems ca. 40 cm; basal leaf blade 12–20 mm wide, adaxially glabrous, abaxially puberulent; receptacle puberulent ..... 71. *R. dielsianus*
- 76b. Fibrous roots subequally thick, not thickened at base.
- 78a. Basal leaf blades with base truncate, rounded, broadly cuneate, or cuneate (*R. chuanchingensis*, *R. trautvetterianus*, and *R. brotherusii*) sometimes cordate-truncate.
- 79a. Plants aquatic ..... 82. *R. radicans*
- 79b. Plants of alpine meadows or on slopes.
- 80a. Receptacle puberulent.
- 81a. Lateral lobes of basal leaves pectinately 4- or 5-cleft, lobules sublinear ..... 5. *R. rigescens*
- 81b. Lateral lobes not pectinate-cleft.
- 82a. Basal leaf blades up to 4 cm wide, base truncate-cuneate or cordate-truncate; central lobe obovate or cuneate, 3-lobed ..... 2. *R. trautvetterianus*
- 82b. Basal leaf blades up to 1.4–3.3 cm wide, base broadly cuneate or rounded; central lobe linear or oblong-oblongate, usually undivided.
- 83a. Basal leaf blades broadly cuneate at base; central lobe linear or oblong, undivided or 1- or 2-lobulate, lateral lobes oblique lanceolate, undivided, or oblique cuneate, 2- or 3-lobulate ..... 46. *R. furcatifidus*
- 83b. Basal leaf blades rounded at base; central lobe oblong, undivided, lateral lobes ovate, undivided ..... 69. *R. dongrergensis*
- 80b. Receptacle glabrous.
- 84a. Petals 6–8, broadly oblong-oblongate or narrowly obovate, 6–8 ..... 21. *R. luoergaiensis*
- 84b. Petals usually 5, obovate or elliptic (in *R. junipericola* sometimes oblong, then petals 5).
- 85a. Leaf blades abaxially densely pubescent ..... 57. *R. membranaceus*
- 85b. Leaf blades abaxially glabrous or sparsely puberulent.
- 86a. Petals broadly obovate or flabellate-obovate ..... 15. *R. chuanchingensis*
- 86b. Petals obovate, narrowly obovate, or oblong.
- 87a. Basal leaf blades leathery, base rounded, all lobes undivided, entire .... 26. *R. banguoensis*
- 87b. Basal leaf blades papery or herbaceous, all or at least lateral lobes divided.
- 88a. Basal leaf blades 2.1–4.5 cm wide.



- 89a. Basal leaf blade subpentagonal or rhombic-ovate, base broadly cuneate, lateral lobes unequally 3-partite ..... 41. *R. potaninii*
- 89b. Basal leaf blade rhombic or cuneate, base cuneate, lateral lobes unequally 2-lobed or undivided ..... 42. *R. cangshanicus*
- 88b. Basal leaf blades up to 2.2–2.8 cm wide.
- 90a. Basal leaf blade with central lobe and lobules of lateral lobes rounded or obtuse, and apiculate at apex ..... 12. *R. junipericola*
- 90b. Basal leaf blade with lobes and lobules acute or slightly acute, and not apiculate at apex.
- 91a. Basal leaf blade 3-partite slightly beyond middle, lateral lobes oblique cuneate or oblique oblong, unequally 2-lobed or 2-cleft, glabrous or abaxially puberulent, base rounded, broadly cuneate, or subtruncate at base ..... 43. *R. popovii*
- 91b. Basal leaf blade 3-partite nearly to base, lateral lobes oblique flabellate, unequally 2-partite, puberulent, base cordate-truncate or truncate . 45. *R. brotherusii*
- 78b. Basal leaf blade base cordate.
- 92a. Petals 8, oblong ..... 22. *R. chinghoensis*
- 92b. Petals 5 (sometimes 6 in *R. petrogeiton*, *R. songoricus*, and *R. trautvetterianus*).
- 93a. Receptacle glabrous.
- 94a. Petals cuneate, oblong, or long elliptic.
- 95a. Stems slender, prostrate, up to 20 cm, glabrous, rooting at nodes ..... 19. *R. pegaeus*
- 95b. Stems erect, 4.2–5 cm tall, usually puberulent, not rooting.
- 96a. Basal leaf blade puberulent on both surfaces or only adaxially; petals cuneate, apex truncate; ovary longer than style ..... 10. *R. minor*
- 96b. Basal leaf blade glabrous; petals long elliptic, apex obtuse; ovary shorter than style ..... 18. *R. micronivalis*
- 94b. Petals obovate or broadly obovate, sometimes oblong-obovate in *R. petrogeiton*.
- 97a. Basal leaf blades up to 3 cm wide, 3-partite slightly beyond middle, glabrous 11. *R. munroanus*
- 97b. Basal leaf blades smaller, up to 1.8–2 cm wide, 3-partite nearly to base, often hairy.
- 98a. Basal leaves yellowish strigose ..... 25. *R. hirtellus*
- 98b. Basal leaves glabrous or white puberulent on one or other surface.
- 99a. Petal apex emarginate ..... 9. *R. platypetalus*
- 99b. Petal apex not emarginate.
- 100a. Basal leaves leathery, glabrous or adaxially puberulent ..... 16. *R. glareosus*
- 100b. Basal leaves papery, glabrous or abaxially sparsely puberulent ..... 17. *R. petrogeiton*
- 93b. Receptacle puberulent.
- 101a. Plants aquatic.
- 102a. Basal leaf blade 3-partite; central lobe 3-lobed or undivided, ultimate lobules ovate ..... 82. *R. radicans*
- 102b. Basal leaf blade 3-sect; central lobe 1 or 2 × dissected, ultimate lobules narrowly ovate to linear-lanceolate ..... 83. *R. gmelinii*
- 101b. Plants terrestrial.
- 103a. Lateral lobes of basal leaf pectinately 4- or 5-cleft, glabrous ..... 5. *R. rigescens*
- 103b. Lateral lobes of basal leaf not pectinately cleft.
- 104a. Leaf blade leathery; sepals persistent.
- 105a. Receptacle densely yellow puberulent ..... 20. *R. glacialiformis*
- 105b. Receptacle white puberulent ..... 8. *R. balangshanicus*
- 104b. Leaf blade papery; sepals deciduous.
- 106a. Basal leaf blade up to 4–4.4 cm wide.
- 107a. Basal leaves cordate at base, 3-partite nearly to base ..... 1. *R. songoricus*
- 107b. Basal leaves truncate-cordate at base, 3-partite slightly beyond middle 2. *R. trautvetterianus*

106b. Basal leaf blade up to 2.4 cm wide.

108a. Petals narrowly obovate or oblong, 1.4–2 mm wide ..... 7. *R. yinshanicus*

108b. Petals obovate or broadly obovate, 4–11 mm wide.

109a. Stems 2–12 cm; basal leaves 0.7–1.2 cm wide; petal apex emarginate 9. *R. platypetalus*

109b. Stems 19–24 cm; basal leaves 1.6–2.4 cm wide; petal apex rounded 68. *R. menyuanensis*

**1. *Ranunculus songoricus*** Schrenk, Enum. Pl. Nov. 2: 67. 1842.

新疆毛茛 xin jiang mao gen

?*Ranunculus songoricus* var. *lasiopetalus* Maximowicz. Herbs perennial. Roots fibrous, subequally thick. Stems 7–30 cm, glabrous below, puberulent above, simple or branched. Basal leaves several; petiole 3.5–8 cm, glabrous; blade 3-sect or 3-partite, cordate-pentagonal, 1.4–3 × 2–4.4 cm, papery, glabrous, base cordate, central segment rhombic or rhombic-obovate, 3-lobed, incised-dentate; lateral segments obliquely flabellate, unequally 2-partite. Lower stem leaves similar to basal leaves or absent, upper stem leaves short petiolate or sessile, palmatisect, segments narrowly lanceolate or linear. Flowers solitary, terminal, 1.6–2.6 cm in diam. Receptacle puberulent. Sepals 5, elliptic, 5–7 mm, abaxially yellow sericeous. Petals 5 or 6, broadly obovate or obovate, 7–12 × 5–10 mm, nectary pit without a scale, apex truncate-rounded or rounded. Stamens numerous; anthers oblong. Aggregate fruit ovoid or subglobose, 5–7 mm in diam. Achene slightly bilaterally compressed, obovoid, 2.2–2.8 × 1.8–2 mm, glabrous; style persistent, ca. 0.8 mm, hooked. Fl. May–Sep.

Meadows, scrub, gravelly slopes; 1900–4400 m. C and W Xinjiang [Kazakhstan].

The authors have seen no material of var. *lasiopetalus*; its status needs proper investigation.

**2. *Ranunculus trautvetterianus*** Regel ex Ovczinnikov, Fl. URSS. 7: 403. 1937.

毛托毛茛 mao tuo mao gen

*Ranunculus songoricus* Schrenk var. *partitus* Ruprecht, Sert. Tianschan. 37. 1869.

Herbs perennial. Roots fibrous, subequally thick. Stems 1 to several, 7.5–15 cm, glabrous or sparsely puberulent below, puberulent above, simple or 1-branched. Basal leaves several; petiole 2–4 cm, glabrous or sparsely puberulent; blade 3-cleft slightly beyond middle, reniform-pentagonal, 1–2.5 × 1.5–4 cm, papery, glabrous or adaxially sparsely appressed puberulent, base truncate-cuneate or truncate-cordate, central lobe cuneate or obovate, 3-lobed or 3-dentate; lateral lobes obliquely flabellate, unequally 2-lobed. Stem leaves 1 or 2, short petiolate or sessile, palmatisect, segments narrowly lanceolate or linear. Flowers solitary, terminal, 1.5–2.2 cm in diam. Receptacle sparsely puberulent. Sepals 5, elliptic-ovate, 5–7 mm, abaxially densely appressed yellowish puberulent. Petals 5 or 6, broadly obovate, 7–10 × 8–11 mm, nectary pit without a scale, apex rounded. Stamens numerous; anthers

narrowly oblong. Aggregate fruit ovoid, ca. 7 mm.

Achene obliquely obovoid, 1.5–2 mm, glabrous; style persistent, short, slightly recurved. Fl. Jun.

Alpine meadows or by streams; 1700–4500 m. W Xinjiang [Kazakhstan].

**3. *Ranunculus polyrhizos*** Stephan ex Willdenow, Sp. Pl. 2: 1324. 1799.

多根毛茛 duo gen mao gen

Herbs perennial. Roots fibrous, subequally thick. Stems 1–3, 5–18 cm, glabrous below, sparsely puberulent above, simple. Basal leaves 4–7; petiole 1.5–5 cm, glabrous; blade 3-partite or 3-sect, reniform or reniform-pentagonal, 0.7–1.8 × 1–3.2 cm, papery, glabrous, base cordate or subtruncate, central segment oblique flabellate or oblique obovate, unequally 2-lobed, lobes entire or 1-toothed. Lower stem leaves similar to basal leaves, upper stem leaves sessile, 3-sect, segments linear. Flowers solitary, terminal, 1.1–1.9 cm in diam. Receptacle puberulent. Sepals 5, broadly ovate, ca. 5 mm, abaxially sparsely yellowish puberulent. Petals 5, obovate, 5–10 × 5–8 mm, with a few hairs near nectary pits, apex rounded or subtruncate. Stamens numerous; anthers narrowly oblong. Aggregate fruit subglobose, ca. 5 mm in diam. Achene slightly bilaterally compressed, obovoid, 1.6–2 × ca. 1.2 mm, puberulent; style persistent, ca. 0.1 mm.

Meadows, scrub; 1200–1700 m. Xinjiang [Kazakhstan, Russia (W Siberia); Europe].

**4. *Ranunculus pedatifidus*** J. E. Smith, Cycl. 29: *Ranunculus* no. 72. 1818.

裂叶毛茛 lie ye mao gen

Herbs perennial. Roots fibrous, subequally thick. Stems (10–)15–25 cm, sparsely sericeous, branched. Basal and lower stem leaves long petiolate; petiole 2–4.5 cm, sparsely sericeous; blade 3-partite near base, reniform-pentagonal or suborbicular, 1–1.7 × 1.7–2.6 cm, papery, sparsely sericeous, base cordate, central segment rhombic-cuneate, 3-lobed or 3-partite, lobes oblong or linear; lateral segments obliquely flabellate, unequally 2-partite, upper lobe smaller, 3-lobed, lower lobe unequally 3-partite, lobules linear. Upper stem leaves sessile, palmatisect, segments linear. Flowers solitary, terminal, 1.4–1.9 cm in diam. Receptacle densely puberulent. Sepals 5, broadly ovate, ca. 5 mm, abaxially pubescent. Petals 5, broadly obovate, 6–10 × 7–10 mm, nectary pit without a scale, apex rounded-truncate. Stamens numerous; anthers oblong. Aggregate fruit

cylindric, 8–10 × 5–6 mm. Achene slightly bilaterally compressed, obovoid, 1.5–2 × 1.2–1.7 mm, puberulent or glabrous; style persistent, 0.4–0.7 mm. Fl. Jun–Aug, fr. Jun–Sep.

Meadows, forests; 1900–4000 m. Gansu (Yuzhong Xian), SW Nei Mongol, Xinjiang [Kazakhstan, Mongolia, Russia (W Siberia)].

**5. *Ranunculus rigescens*** Turczaninow ex Ovczinnikov, Fl. URSS. 7: 389. 1937.

掌裂毛茛 *zhang lie mao gen*

*Ranunculus manshuricus* S. H. Li; *R. rigescens* var. *leiocarpus* Kitagawa.

Herbs perennial. Roots fibrous, subequally thick. Stems 15–22 cm, glabrous, branched. Basal leaves ca. 3; petiole 3–8.5 cm, glabrous or sparsely pubescent; blade 7–9-palmatifid, lobes oblanceolate, sometimes 3-lobed and with coarse triangular teeth cordate-orbicular or cordate-pentagonal in outline, 1–2 × 1.4–3 cm, papery, glabrous, base cordate to truncate-cordate. Lower stem leaves similar to basal ones, with shorter petiole, upper ones sessile, palmatisect, segments narrowly linear. Flowers solitary, terminal, ca. 2 cm in diam. Receptacle puberulent. Sepals 5, broadly ovate, 3.5–5 mm, abaxially yellowish puberulent. Petals 5, obovate, ca. 10 × 8 mm, nectary pit without a scale, apex rounded; stamens numerous; anthers oblong. Aggregate fruit ovoid, 6–9 mm. Achene slightly bilaterally compressed, obliquely obovoid, 1.5–2 × 1–1.4 mm, glabrous; style persistent, ca. 0.4 mm. Fl. May–Jul.

Meadows, by streams; ca. 700 m. Nei Mongol, Xinjiang [Mongolia, Russia (Siberia)].

**6. *Ranunculus franchetii*** H. Boissieu, Bull. Herb. Boissier 7: 591. 1899.

深山毛茛 *shen shan mao gen*

*Ranunculus polyrhizos* Stephan ex Willdenow var. *major* Maximowicz; *R. ussuriensis* Komarov.

Herbs perennial. Roots fibrous, slightly thickened at plant base. Stems 3–5, flaccid, 7–20 cm, glabrous, simple or 1-branched above. Basal leaves ca. 10; petiole 4–14 cm, glabrous; blade 3-sect or 3-partite, reniform or semiorbicular, 1–2 × 1.8–3.9 cm, herbaceous, abaxially glabrous, base broadly cordate or subtruncate, central segment broadly obovate, 3–5-lobulate; lateral segments oblique, broadly obovate or flabellate, unequally 2-lobed. Stem leaves ca. 2, sessile, 3-sect, segments usually petiolulate. Flowers solitary, terminal, (1–)1.2–1.8 cm in diam. Receptacle glabrous. Sepals 5, elliptic, 4–6 mm, abaxially appressed puberulent. Petals 5, obovate, (6–)7–8 × 4–7 mm, nectary pit without a scale, apex rounded or subtruncate. Stamens numerous; anthers oblong. Aggregate fruit ovoid or subglobose, 5–8 mm in diam. Achene slightly bilaterally compressed, subglobose, ca. 1.5 × 1.5 mm, densely puberulent; style persistent, ca. 1 mm, curved at apex. Fl. Apr–May.

Forest or forest margins; 300–1300 m. Heilongjiang, C and E Jilin, E Liaoning [N Japan, N Korea, Russia (Far East)].

**7. *Ranunculus yinshanicus*** (Y. Z. Zhao) Y. Z. Zhao, Bull. Bot. Res., Harbin 9(1): 67. 1989.

阴山毛茛 *yin shan mao gen*

*Ranunculus pulchellus* C. A. Meyer var. *yinshanicus* Y. Z. Zhao, Fl. Intramongolica 2: 255, 369. 1978.

Herbs perennial. Roots fibrous, subequally thick. Stems 5–15 cm, appressed yellowish puberulent above, glabrous below, branched. Basal leaves ca. 5; petiole 1–2.2 cm, glabrous; blade 3-cleft slightly beyond middle, broadly ovate, 0.5–1.5 × 0.5–1.5 cm, papery, glabrous, base cordate, central lobe cuneate-obovate, indistinctly 3-lobed; lateral lobes obliquely flabellate, unequally 2-lobed. Stem leaves short petiolate or sessile, 3–5-sect; segments narrowly linear, 1–2 cm × 0.5–1.2 mm. Flowers terminal, 1 or 2 in a monochasium, ca. 1 cm in diam. Receptacle puberulent. Sepals 5, broadly ovate, ca. 3 mm, abaxially appressed yellowish puberulent. Petals 5, obovate, ca. 5 × 2.5 mm, nectary pit without a scale, apex rounded. Stamens ca. 15; anthers oblong. Aggregate fruit subglobose, ca. 5 mm in diam. Achene slightly bilaterally compressed, obovoid, ca. 1.5 × 1 mm, glabrous; style persistent, 0.5 mm. Fl. May–Jun.

• Forests, slopes. S Nei Mongol (Daqing Shan).

**8. *Ranunculus balangshanicus*** W. T. Wang, Bull. Bot. Res., Harbin 7(2): 105. 1987.

巴郎山毛茛 *ba lang shan mao gen*

Herbs perennial. Roots fibrous, subequally thick. Stems 5.5–10 cm, puberulent, simple. Basal leaves 5–10; petiole 1.2–5 cm, sparsely puberulent or subglabrous; blade 3-partite, reniform or reniform-pentagonal, 0.6–1.2 × 1.2–2.1 cm, thinly leathery, glabrous or sparsely ciliolate, base cordate, central lobe rhombic-obovate, 3-lobed, lobules ovate, entire or 1-dentate; lateral lobes obliquely flabellate, unequally 2-cleft nearly to middle. Stem leaves 1 or 2, short petiolate or sessile, depressed pentagonal, 3-cleft or 3-sect. Flowers solitary, terminal, 1.5–2.4 cm in diam. Receptacle sparsely puberulent. Sepals 5, elliptic or broadly so, 6–6.5 mm, abaxially above sparsely appressed puberulent. Petals 5(or 6), obovate or broadly obovate, 7–12 × 6–10.5 mm, nectary pit without a scale, apex rounded-truncate. Stamens numerous; anthers oblong. Aggregate fruit subglobose, ca. 5 mm in diam. Achene slightly bilaterally compressed, obliquely ovoid, ca. 1.2 × 1.1 mm, glabrous; style persistent, ca. 0.8 mm. Fl. Jul.

• Gravelly slopes; ca. 4300 m. NW Sichuan (Wenchuan Xian).

**9. *Ranunculus platypetalus*** (Handel-Mazzetti) Handel-Mazzetti, Acta Horti Gothob. 13: 155. 1939.

大瓣毛茛 *da ban mao gen*

Herbs perennial. Roots fibrous, subequally thick. Stems 2–12 cm, subglabrous or sparsely puberulent, simple or branched. Basal leaves 2–5; petiole 2.5–6 cm, glabrous; blade 3-partite, pentagonal, 0.5–1.4 × 0.7–2.3 cm, papery, glabrous or sparsely ciliate, base cordate, central lobe obovate or broadly rhombic, 3-lobed or 3-dentate; lateral lobes obliquely flabellate, unequally 2-

lobed. Stem leaves 1–3, petiolate or sessile, 3-partite or 3-sect, rarely undivided. Flowers solitary, terminal, rarely axillary, 1–2 cm in diam. Receptacle sparsely puberulent or glabrous. Sepals 5 (or 6), long elliptic, 4–9 mm, glabrous or abaxially sparsely puberulent. Petals 5, broadly obovate, 5.5–10 × 4–11 mm, nectary pit without a scale, apex subtruncate or rounded, emarginate. Stamens numerous; anthers oblong. Carpels numerous, glabrous; style slightly shorter than ovary. Fl. Jun–Aug.

• 3800–4100 m. NW Yunnan.

- 1a. Basal leaves 0.7–1.2 cm wide; stem leaves distinctly petiolate, 3-partite or 3-sect; flowers 1–1.4 cm in diam.; receptacle sparsely puberulent 9a. var. *platypetalus*  
1b. Basal leaves 1.2–2.3 cm wide; stem leaves sessile, 3-lobed or undivided; flowers 1.7–2 cm in diam.; receptacle glabrous ..... 9b. var. *macranthus*

**9a. *Ranunculus platypetalus* var. *platypetalus***

大瓣毛茛 (原变种) da ban mao gen (yuan bian zhong)  
*Ranunculus micronivalis* Handel-Mazzetti var. *platypetalus* Handel-Mazzetti, Symb. Sin. 7: 308. 1931.  
Basal leaves 0.7–1.2 cm wide; Stem leaves distinctly petiolate, 3-partite or 3-sect. Flowers 1–1.4 cm in diam. Receptacle sparsely puberulent.

• Grassy slopes; ca. 4100 m. NW Yunnan (Zhongdian Xian).

**9b. *Ranunculus platypetalus* var. *macranthus*** W. T. Wang, Bull. Bot. Res., Harbin 16: 161. 1996.

硕花大瓣毛茛 shuo hua da ban mao gen  
Basal leaves 1.2–2.3 cm wide; Stem leaves sessile, 3-lobed or undivided. Flowers 1.7–2 cm in diam. Receptacle glabrous

• Grassy slopes; 3800–4100 m. NW Yunnan (Dêqên Xian).

**10. *Ranunculus minor*** (L. Liou) W. T. Wang, Bull. Bot. Res., Harbin 6(1): 29. 1986.

小苞毛茛 xiao bao mao gen  
*Ranunculus involucratum* Maximowicz var. *minor* L.  
Liou in W. T. Wang, Fl. Reipubl. Popularis Sin. 28: 361. 1980.

Herbs perennial. Roots fibrous, subequally thick. Stems 1.5–4.2 cm, densely puberulent above, simple. Basal leaves 1 or 2; petiole 1–3 cm, glabrous; blade 3-cleft to or slightly beyond middle, pentagonal, 4–5 × 3–8 mm, leathery, puberulent on both surfaces or only adaxially, base cordate or subcordate, central lobe rhombic, entire, 3-dentate, or 3-lobulate; lateral lobes obliquely flabellate, unequally 2-lobed or 2-cleft. Stem leaves 2 or 3, smaller, short petiolate, 3-cleft or uppermost leaf undivided. Flowers solitary, terminal, ca. 1 cm in diam. Receptacle glabrous. Sepals 5, ovate, 3–4 mm, subglabrous. Petals 5, cuneate, ca. 5 × 2 mm, nectary pit without a scale, apex rounded-truncate. Stamens numerous; anthers oblong. Carpels numerous; ovary ca. 3 × longer than style, ca. 0.9 mm, glabrous. Fl. May–Jun.

• Shady slopes; ca. 5400 m. S Xizang (Dinggyê Xian).

**11. *Ranunculus munroanus*** J. R. Drummond ex Dunn, Bull. Misc. Inform. Kew 1925: 279. 1925.

藏西毛茛 zang xi mao gen

*Ranunculus munroanus* var. *minor* Tamura.

Herbs perennial. Roots fibrous, slightly thickened at base. Stems erect or ascending, 10–20 cm, puberulent above, simple or 1-branched. Basal leaves ca. 3; petiole 3–10 cm; blade 3-cleft slightly beyond middle, reniform, 0.7–2 × 1.5–3 cm, papery, glabrous, base cordate, central lobe broadly obovate or obovate, obtusely 3-dentate at apex or entire; lateral lobes obliquely flabellate, unequally 2-cleft, few dentate or entire. Lowermost stem leaf similar to basal ones, upper ones short petiolate or sessile, 3-lobed, or undivided, oblong. Flowers solitary, terminal, ca. 0.8 cm in diam. Receptacle glabrous. Sepals 5, elliptic, ca. 2 mm, glabrous. Petals 5, elliptic-obovate, ca. 4 × 1.5 mm, nectary pit without a scale, apex rounded. Stamens numerous; anthers oblong. Aggregate fruit ovoid, ca. 3 × 2.8 mm; carpels numerous. Achene subellipsoid, ca. 1.2 × 1 mm, glabrous; style persistent, ca. 0.4 mm. Fl. May–Jun.

Alpine regions; ca. 4200 m. W Xizang [Kashmir, Nepal, Pakistan].

**12. *Ranunculus junipericola*** J. Ohwi, Acta Phytotax. Geobot. 2: 154. 1931.

高山毛茛 gao shan mao gen

Herbs perennial. Roots fibrous, slightly thickened at base. Stems 7–25 cm, appressed puberulent, branched or simple. Basal leaves 3–5; petiole 2–11 cm, sparsely appressed puberulent; blade 3-partite, orbicular-ovate or oblate, 1–2.2 × 1.2–2.8 cm, papery, abaxially glabrous, adaxially sparsely appressed puberulent or glabrous, base truncate, rounded, or truncate-cuneate, central lobe narrowly ovate, obovate, or oblong-ovate, margin entire or with 1 tooth on each side, apex rounded or slightly obtuse and mucronate; lateral lobes obliquely cuneate, unequally 2-lobed. Stem leaves 2 or 3, long or short petiolate, or sessile, 3-partite, 3-sect, or undivided, lanceolate-linear. Flowers terminal, 1 or 2 in a monochasium, ca. 0.9 cm in diam. Receptacle glabrous. Sepals 5, elliptic-ovate, 3.2–3.5 mm, abaxially yellowish puberulent. Petals 5, oblong-obovate or suboblong, ca. 5 × 2 mm, nectary pit without a scale, apex rounded. Stamens ca. 13; anthers oblong. Aggregate fruit ovoid, ca. 6 × 4 mm. Achene obovoid, ca. 2 mm, glabrous; style persistent, ca. 0.7 mm, slightly curved. Fl. Jun–Jul.

• Forests, scrub margins, gravelly places; 3300–3600 m. Taiwan.

**13. *Ranunculus nankotaizanus*** J. Ohwi, Acta Phytotax. Geobot. 2: 155. 1931.

南湖毛茛 nan hu mao gen

Herbs perennial. Roots fibrous, subequally thick. Stems 8–10 cm, appressed puberulent, 1- or 2-branched or simple. Basal leaves ca. 3; petiole 4–7 cm; blade 3-partite or 3-sect, subpentagonal, ca. 2 cm wide, papery, sparsely appressed puberulent, base truncate, rounded-truncate, or indistinctly subcordate, central segment oblanceolate, entire or with 1 tooth on each side; lateral segments oblanceolate, entire or with 1 tooth on each side, obliquely cuneate, unequally 2-lobed, lobules slightly obtuse and mucronate at apex. Stem leaves few, lower ones moderately long petiolate, 3-sect; upper ones smaller, short petiolate or sessile, sublinear, usually undivided. Flowers solitary, terminal. Receptacle puberulent. Aggregate fruit ovoid, 4–5 × 2–3.5 mm. Achene suborbicular, ca. 1.5 mm, puberulent; style persistent, ca. 0.5 mm. Fr. Jul.

• Alpine regions. Taiwan (Nanhu Dashan).

**14. *Ranunculus pseudopygmaeus*** Handel-Mazzetti, Acta Horti Gothob. 13: 161. 1939.

矮毛茛 ai mao gen

Herbs perennial. Roots fibrous, thickened above. Stems 0.8–5 cm, glabrous or sparsely puberulent at nodes, simple or branched. Basal leaves 3–5; petiole 0.8–3 cm, glabrous or sparsely puberulent; blade usually 3-partite or 3-sect, occasionally 3-lobed or undivided, pentagonal or broadly ovate in outline, 2–6 × 3–8 mm, papery, glabrous or adaxially sparsely puberulent, base cordate, sometimes rounded-truncate; central segment obovate or rhombic, obtuse at apex, entire or 3-dentate; lateral segments obliquely flabellate or obliquely obovate, unequally 2-partite or 2-lobed, lobes entire or 2-lobed again. Stem leaves 1 or 2, similar to basal ones, short petiolate or sessile. Flowers solitary, terminal, 0.4–0.6 cm in diam. Receptacle glabrous. Sepals 5, elliptic, 2–2.5 mm, subglabrous or abaxially sparsely puberulent. Petals 5, narrowly obovate or subelliptic, 2–2.5 × 1.2–2 mm, nectary pit without a scale, apex rounded. Stamens 8–16; anthers long ellipsoid. Aggregate fruit ovoid, ca. 4 × 2.5 mm. Achene obliquely ellipsoid or obliquely obovoid, ca. 1 × 1 mm, glabrous; style persistent, ca. 0.3 mm. Fl. Jun–Sep.

Meadows, gravelly slopes, by lakes; 3000–4000 m. SE Xizang (Médog Xian), NW Yunnan [Nepal].

**15. *Ranunculus chuanchingensis*** L. Liou in W. T. Wang, Fl. Reipubl. Popularis Sin. 28: 362. 1980.

川青毛茛 chuan qing mao gen

Herbs perennial. Roots fibrous, subequally thick. Stems 2.5–6 cm, glabrous or sparsely puberulent, simple or 1-branched. Basal leaves 2–5; petiole 1–4 cm, glabrous; blade 3-sect or 3-partite, oblate or orbicular-obovate, 0.6–1.6 × 1–2.6 cm, leathery, glabrous or adaxially puberulent, base subtruncate or rounded, central segment long elliptic or narrowly obovate, usually undivided; lateral segments unequally 2-lobed or 2-partite, lobes undivided or unequally 2-lobed. Stem leaves (1 or)2, subsessile or sessile, 3–5-sect, segments

narrowly elliptic or linear. Flowers solitary, terminal, 2–3.2 cm in diam. Receptacle glabrous. Sepals 5, ovate, 6–7 mm, glabrous or abaxially appressed puberulent. Petals 5, flabellate-obovate or broadly obovate, 10–16 × 11–17 mm, nectary pit without a scale, apex truncate-rounded or emarginate. Stamens numerous; anthers oblong. Carpels numerous, glabrous; style slightly shorter than ovary. Fl. Jun–Jul.

• Alpine meadows; ca. 4900 m. S Qinghai, NW Sichuan.

**16. *Ranunculus glareosus*** Handel-Mazzetti, Symb. Sin. 7: 307. 1931.

砾地毛茛 li di mao gen

Herbs perennial. Roots fibrous, slightly thickened above. Stems ascending, 3.5–15 cm, sparsely puberulent, simple or few branched, often rooting at lower nodes. Basal leaves 1–3; petiole 1.2–7.5 cm, glabrous; blade usually 3-sect, sometimes 3-partite, ovate or pentagonal, 0.4–2 × 0.6–1.8 cm, leathery, glabrous or adaxially appressed pubescent, base sometimes cordate, central segment ovate or rhombic, undivided or 3-lobed; lateral segments flabellate, unequally 2-partite. Stem leaves usually 2, shortly petiolate or sessile, often 3-sect, segments lanceolate or sublinear. Flowers terminal, solitary or 2 in a simple monochasium. 1–2.3 cm in diam. Pedicel 1–4 cm, puberulent. Receptacle glabrous. Sepals 5, elliptic, 4–5 mm, abaxially puberulent or subglabrous. Petals 5, obovate, 5–10 × 4–12 mm, nectary pit without a scale, apex rounded or subtruncate. Stamens numerous; anthers oblong. Aggregate fruit ovoid, 5–8 × 5–6 mm. Achene slightly bilaterally compressed, obliquely ovoid, 2–3 × 1.8–2 mm, glabrous; style persistent, ca. 0.5 mm. Fl. Jun–Aug.

• Gravelly slopes; 3900–4800 m. E and S Qinghai, W Sichuan, NW Yunnan (Dêqên Xian).

**17. *Ranunculus petrogeiton*** Ulbrich, Repert. Spec. Nov. Regni Veg. Beih. 12: 376. 1922.

太白山毛茛 tai bai shan mao gen

Herbs perennial. Roots fibrous, subequally thick. Stems ascending, 5–12(–20) cm, sparsely puberulent, branched or simple. Basal leaves 3 or more; petiole 0.7–5.5 cm, glabrous or sparsely puberulent; blade 3-sect or 3-partite, pentagonal or broadly ovate, 0.5–2 × 0.7–2.2 cm, thinly leathery or papery, glabrous or abaxially sparsely puberulent, base cordate, central segment cuneate or rhombic, 3-lobed, 3-dentate, or entire; lateral segments obliquely flabellate, unequally 2-lobed. Lower stem leaves similar to basal ones, short petiolate, upper ones subsessile, 3-sect, segments oblong. Flowers solitary, terminal, 0.9–2 cm.

Receptacle glabrous. Sepals 5, elliptic, 4–6.5 mm, abaxially sparsely puberulent. Petals 5(or 6), obovate or oblong-obovate, rarely broadly obovate, 4.5–9 × 2–9 mm, nectary pit without a scale, apex rounded, rarely subtruncate. Stamens numerous; anthers oblong. Aggregate fruit ovoid, 5–7 × 4–6 mm; carpels numerous. Achene slightly bilaterally compressed,

broadly obovoid, 1.2–1.5 × ca. 1.2 mm, glabrous; style persistent, 0.5–1 mm. Fl. Jul–Aug, fr. Jul–Sep.

• Forests, gravelly slopes; 3000–4800 m. C Gansu, S Shaanxi (Taibai Shan), W Sichuan (Kangding Xian, Sungpan Xian).

**18. *Ranunculus micronivalis*** Handel-Mazzetti, Anz. Akad. Wiss. Wien, Math.-Naturwiss. Kl. 57: 48. 1920.

窄瓣毛茛 zhai ban mao gen

*Ranunculus longipetalus* Handel-Mazzetti.

Herbs perennial. Roots fibrous, subequally thick. Stems 0.6–5 cm, sparsely puberulent, sometimes glabrous, simple. Basal leaves 3–5; petiole 0.4–2.2 cm, glabrous; blade 3-partite or 3-sect, pentagonal, 1.8–5 × 3–7 mm, papery, glabrous, base cordate or truncate, central segment rhombic or obovate, undivided; lateral segments obliquely flabellate or obliquely obovate, unequally 2-lobed. Stem leaves 1 or absent, short petiolate or sessile, 2- or 3-cleft, or undivided, lobes linear or lanceolate. Flowers solitary, terminal, 0.6–0.8 cm in diam. Receptacle glabrous. Sepals 5, elliptic, 2.5–3 mm, glabrous. Petals 5, long elliptic, 4–5.2 × 2 mm, nectary pit without a scale, apex obtuse. Stamens 3–7; anthers oblong. Carpels numerous, glabrous; style slightly longer than ovary. Fl. Jul–Aug.

• Grassy slopes, meadows; 3700–4800 m. W Sichuan, NW Yunnan (Zhongdian Xian).

**19. *Ranunculus pegaeus*** Handel-Mazzetti, Acta Horti Gothob. 13: 141. 1939.

爬地毛茛 pa di mao gen

Herbs perennial. Roots fibrous. Stems prostrate, stoloniferous, to 20 cm, glabrous, branched, rooting at nodes. Basal leaves ca. 10; petiole 2–3.6 cm, glabrous; blade usually 3-sect, sometimes 3-partite, pentagonal, 3–6(–10) × 5–9(–15) mm, papery, glabrous, base cordate, central segment rhombic or oblong, usually entire; lateral segments obliquely flabellate, 1 or 2 × unequally 2-cleft. Stem leaves similar to basal ones but short petiolate. Flowers solitary, terminal, 0.5–0.7 cm in diam. Pedicel 0.5–2 cm, glabrous. Receptacle glabrous. Sepals 5, elliptic, ca. 2 mm, glabrous. Petals 5, elliptic or narrowly elliptic, 2.8–3 mm, nectary pit without a scale, apex obtuse or rounded. Stamens 6 or 7; anthers oblong. Aggregate fruit subglobose, ca. 3 mm in diam.; carpels ca. 12. Achene slightly bilaterally compressed, obliquely obovoid, ca. 1 × 0.8 mm, glabrous; style persistent, ca. 0.2 mm. Fl. Jun–Sep.

Forests, scrub, grassy slopes, by streams; 3400–4100 m. S Xizang, NW Yunnan [Nepal, Sikkim].

**20. *Ranunculus glacialiformis*** Handel-Mazzetti, Acta Horti Gothob. 13: 153. 1939.

宿萼毛茛 su e mao gen

Herbs perennial. Roots fibrous, subequally thick. Stems 6–10 cm, fulvous puberulent, simple. Basal leaves 2–4; petiole 1.8–5 cm, glabrous; blade 3-sect, orbicular-reniform or orbicular-ovate, 0.75–1.5 × 1.1–2 cm, leathery, glabrous, base subcordate, central segment

obovate, 3-lobed or 3-cleft to middle; central lobe ovate, entire; lateral lobes 2- or 3-lobulate; lateral segments flabellate, unequally 2-partite. Stem leaves 2, subsessile or sessile, 3-sect or 3-lobed. Flowers solitary, terminal, 1.2–1.8 cm in diam. Receptacle yellow puberulent. Sepals 5, elliptic, 5–7 mm, abaxially fulvous pubescent. Petals 5, broadly obovate or obovate, 7–9 × 5–8 mm, nectary pit without a scale, apex rounded. Stamens numerous; anthers oblong. Aggregate fruit ovoid, ca. 6 × 4.5 mm. Achene slightly bilaterally compressed, ovoid, ca. 1.2 × 1 mm, glabrous; style persistent, 0.5–0.8 mm. Fl. Jul–Aug.

Meadows, gravelly slopes; 4700–5000 m. W Sichuan, NW Yunnan (Zhongdian Xian) [Kashmir].

**21. *Ranunculus luergaiensis*** L. Liou in W. T. Wang, Fl. Reipubl. Popularis Sin. 28: 361. 1980.

若尔盖毛茛 ruo er gai mao gen

Herbs perennial. Roots fibrous, subequally thick. Stems ca. 12 cm, mostly glabrous, sparsely puberulent above, simple. Basal leaves ca. 2; petiole 3.5–5.2 cm, sparsely puberulent; blade 3-sect or 3-partite, pentagonal, 1.1–1.2 × 1.4–1.5 cm, papery, abaxially glabrous, base rounded-truncate or subtruncate, central segment cuneate or cuneate-rhombic, 3-lobed, lobules entire; lateral segments obliquely obovate, unequally 2-cleft, lobes entire or 2-lobed. Stem leaves 3, short petiolate or sessile, 3-sect, segments lanceolate-linear, 1–2 mm wide. Flowers solitary, terminal, ca. 1.6 cm in diam. Receptacle glabrous. Sepals 5, dark purple, broadly ovate, ca. 6 mm, abaxially white puberulent. Petals 6–8, oblong-ob lanceolate or narrowly obovate, ca. 9 × 4 mm, nectary pit without a scale, apex rounded. Stamens numerous; anthers oblong. Aggregate fruit ovoid, ca. 8 × 7 mm. Achene narrowly obovoid, 1.6–2 × 1–1.1 mm, glabrous, longitudinally rugose; style persistent, ca. 1 mm, recurved. Fl. Jul–Aug.

• Alpine meadows; ca. 4300 m. NW Sichuan (Zoigê Xian).

**22. *Ranunculus chinghoensis*** L. Liou in W. T. Wang, Fl. Reipubl. Popularis Sin. 28: 361. 1980.

清河毛茛 qing he mao gen

Herbs perennial. Roots fibrous, subequally thick. Stems ca. 32 cm, mostly glabrous, only near apex appressed puberulent, simple. Basal leaves ca. 5; petiole 4–14 cm, sparsely pubescent; blade 3-partite, pentagonal, 2–3.5 × 2.8–5.2 cm, papery, abaxially glabrous, base deeply cordate, central lobe cuneate-rhombic, 3-lobed, lobules 1- or 2-dentate; lateral lobes obliquely flabellate, unequally 2-cleft near middle, incised-dentate. Monochasium terminal, 3-flowered; bracts 2, short petiolate, ca. 4 cm, 3-sect, segments linear, 2–3 mm wide. Flowers ca. 1.5 cm in diam. Pedicel ca. 2 cm, densely appressed pubescent. Receptacle glabrous. Sepals 5, narrowly ovate, ca. 6 mm, abaxially white pubescent. Petals 8, oblong, 8.2–9 × 2.4–3.1 mm, nectary pit without a scale, apex rounded or rounded-

obtuse. Stamens numerous; anthers ellipsoid. Carpels numerous; ovary longer than style, glabrous. Fl. Jun.

• Forest margins. N Xinjiang (Qinghe Xian).

**23. *Ranunculus rubrocalyx*** Regel ex Komarov, Trav. Soc. Naturalistes St. Petersbourg, Sect. Bot. 26: 62. 1896.

红萼毛茛 hong e mao gen

*Ranunculus rufosepalus* Franchet var. *parviflorus* Komarov.

Herbs perennial. Stems 2 or 3, 5–12 cm, glabrous for most part, sparsely puberulent only below flowers, branched above. Basal leaves ca. 4; petiole 1.5–5 cm, glabrous or subglabrous; blade 3-sect, broadly ovate, 1.4–2 × 2.2–2.6 cm, papery, glabrous except for ciliate margin, base cordate, central segment broadly rhombic-ovate or broadly obovate, 3-lobed, lateral lobes often pectinately lobulate; lateral segments oblique flabellate, unequally 2-partite. Stem leaves 2, sessile or subsessile, nearly 3-sect; segments lanceolate, glabrous, entire or 1- or 2-dentate at margin. Flowers solitary, terminal, 1.5–2 cm in diam. Receptacle puberulent. Sepals 5, dark red, ovate, 5–9 mm, abaxially yellowish puberulent. Petals 5, broadly obovate, 7–10 × 6–9 mm, nectary pit without a scale, apex subtruncate or truncate-rounded. Stamens numerous; anthers narrowly oblong. Aggregate fruit subglobose. Achene oblong-obovoid, 1.5–2 mm, glabrous; style persistent, short, hooked at apex. Fl. May–Jul.

Alpine meadows, slopes, by rivers; 1400–3300 m. Xinjiang (Tian Shan, Yining Shi) [Afghanistan, Kazakhstan, N Pakistan].

**24. *Ranunculus balikunensis*** J. G. Liu, Bull. Bot. Res., Harbin 12(3): 235. 1992.

巴里坤毛茛 ba li kun mao gen

Herbs perennial. Roots fibrous, subequally thick. Stems ca. 30 cm, glabrous, 1-branched above. Basal leaves 3 or 4; petiole 6–12 cm, glabrous; blade 3-sect or 3-partite, reniform-orbicular or cordate-pentagonal, 2.8–3.5 × 3.8–5 cm, papery, glabrous, base deeply cordate, central segment obovate, 3-lobed; central lobe ovate or narrowly ovate, entire; lateral lobes 1- or 2-dentate, lateral segments obliquely flabellate, unequally 2-partite, upper lobe incised-dentate, lower lobe unequally 2-lobed. Stem leaves subsessile or sessile, 3–7-sect, segments divided into lanceolate or narrowly ovate lobes. Monochasium terminal, 2- or 3-flowered; bracts leaflike or linear. Flowers ca. 2.5 cm in diam. Pedicel 2–5 cm, densely yellowish puberulent above. Receptacle puberulent. Sepals 5, ovate or elliptic-ovate, ca. 8 mm, abaxially yellowish puberulent. Petals 5, broadly obovate, 9–11 × 10–13 mm, nectary pit without a scale, apex rounded. Stamens numerous; anthers oblong. Aggregate fruit cylindrical, ca. 12 × 8 mm. Achene ovoid, ca. 2.5 × 1.6 mm, glabrous; style persistent, ca. 1 mm, recurved at apex. Fl. Jun.

• Grassy places, slopes; ca. 2400 m. E Xinjiang (Barkol Kazak Zizhixian).

**25. *Ranunculus hirtellus*** Royle, Ill. Bot. Himal. Mts. 53. 1834.

基隆毛茛 ji long mao gen

Herbs perennial. Roots fibrous, slightly thickened above. Stems 1–5, 4.5–27 cm, puberulent, branched or simple. Basal leaves 2–5; petiole 1.5–9.5 cm, sparsely puberulent or subglabrous; blade 3-sect or 3-partite, sometimes 3-cleft to near middle, pentagonal or reniform, 0.5–3.5 × 0.7–4.2 cm, papery, often glabrescent, base usually cordate, central segment obovate or cuneate-obovate, 3-lobed or 3-dentate, rarely entire; lateral segments obliquely flabellate, unequally 2-cleft. Stem leaves short petiolate or sessile, 3-sect. Flowers solitary or 2 or 3 in a terminal monochasium, 0.9–1.5 cm in diam. Pedicel 1–12 cm, puberulent. Receptacle puberulent or glabrous. Sepals 5, elliptic-ovate or elliptic, 2.5–5.5 mm, abaxially yellowish pubescent. Petals 5, obovate or broadly obovate, 5–8 × 3.2–7 mm, nectary pit without a scale, apex rounded. Stamens numerous; anthers ellipsoid or oblong. Aggregate fruit ovoid or narrowly ovoid, 5–7 × 4–5 mm. Achene obliquely obovoid, 1.7–2 × 1–1.5 mm, puberulent or glabrous; style persistent, 0.6–1 mm.

3000–5000 m. E and S Qinghai, W Sichuan, Xizang, NW Yunnan [Afghanistan, N India, Kashmir, Nepal, N Pakistan].

- 1a. Petiole of basal leaves 6–9.5 cm; leaf blade 1.3–3.5 × 1.6–4.2 cm, 3-sect; flowers 2 or 3 in a terminal monochasium, 1.2–1.5 in diam.; stems 15–27 cm; receptacle and achenes puberulent 25a. var. *hirtellus*
- 1b. Petiole of basal leaves 1–5 cm; leaf blade 0.5–1.5 × 0.7–2 cm, 3-sect or 3-partite, sometimes 3-cleft nearly to middle; flowers solitary, terminal, 0.9–1.2 cm in diam.; stems 4.5–15(–20) cm.
  - 2a. Receptacle puberulent; achenes puberulent or glabrous ..... 25b. var. *humilis*
  - 2b. Receptacle glabrous, rarely with a few hairs; achenes glabrous 25c. var. *orientalis*

**25a. *Ranunculus hirtellus* var. *hirtellus***

基隆毛茛(原变种) ji long mao gen (yuan bian zhong)  
*Ranunculus jilongensis* L. Liou.

Stems 15–27 cm. Basal leaves with petiole 6–9.5 cm; blade 3-sect, 1.3–3.5 × 1.6–4.2 cm. Flowers 2 or 3 in a terminal monochasium, 1.2–1.5 in diam. Receptacle and achenes puberulent. Fl. May–Jun.

Scrub, weedy places; 3000–3400 m. S Xizang [Afghanistan, N India, Kashmir, Nepal, N Pakistan].

**25b. *Ranunculus hirtellus* var. *humilis*** W. T. Wang, Bull. Bot. Res., Harbin 15: 176. 1995.

小基隆毛茛 xiao ji long mao gen

Stems 7–14 cm. Basal leaves with petiole 1.5–3 cm; blade 3-sect or 3-partite, sometimes 3-fid nearly to middle, 0.5–1.5 × 0.7–2 cm. Flowers 0.9–1.1 cm in diam. Receptacle puberulent. Achene puberulent or glabrous. Fl. Jul–Sep.

• Alpine meadows, on rocks; 4000–4800 m. S Qinghai, W Sichuan, S and E Xizang.

**25c. *Ranunculus hirtellus* var. *orientalis*** W. T. Wang, Bull. Bot. Res., Harbin 15: 176. 1995.

三裂毛茛 san lie mao gen

*Ranunculus hirtellus* var. *glabrescens* W. L. Zheng; *R. hirtellus* var. *sigyalaicus* W. L. Zheng.

Stems 4.5–15(–20) cm. Basal leaves with petiole 1–5 cm; blade 3-sect or 3-partite, sometimes 3-fid nearly to middle, 0.5–1.4 × 0.8–2 cm. Flowers 0.9–1.2 cm in diam. Receptacle glabrous, rarely with a few hairs. Achene glabrous. Fl. Jun–Aug.

• Meadows, gravelly slopes, by streams, on rocks; 3000–5000 m. E Qinghai, W Sichuan, S Xizang, NW Yunnan.

**26. *Ranunculus banguoensis*** L. Liou in W. T. Wang, Fl. Reipubl. Popularis Sin. 28: 362. 1980.

班戈毛茛 ban ge mao gen

Herbs perennial. Roots fibrous, subequally thick. Stems 1.2–4 cm, puberulent above, simple or 1-branched. Basal leaves ca. 2; petiole 0.5–1.5 cm, glabrous or sparsely puberulent; blade occasionally 3-cleft to middle, rhombic-obovate or broadly rhombic, leathery, glabrous or abaxially sparsely puberulent, lobes narrowly ovate, 4–13 × 4–9 mm, 3-sect or 3-partite; segments linear-oblongate, narrowly oblong, or narrowly obovate, entire. Stem leaves short petiolate or sessile, 3-partite or 3-sect, rarely undivided. Flowers solitary, terminal, 0.8–1.6 cm in diam. Receptacle glabrous. Sepals 5, elliptic or ovate, 3–6 mm, abaxially sparsely puberulent. Petals 5, narrowly obovate to broadly obovate, 4.5–9 × 2.5–6.5 mm, nectary pit without a scale, apex rounded. Stamens 6–14 or numerous; anthers oblong. Carpels numerous; ovary longer than style, glabrous. Fl. Jun–Jul.

• 4900–5400 m. SW Qinghai, C and SW Xizang.

- 1a. Leaf blade 4–8 × 4–7, 3-partite or 3-sect; flowers 8–10 mm in diam.; petals 4.5–5.2 × 2.5–2.8 mm 26a. var. *banguoensis*  
1b. Leaf blade 6–13 × 5–9 mm, 3-partite near base, sometimes 3-lobed; flowers 13–16 mm in diam.; petals 6–9 × 3.6–6.5 mm ..... 26b. var. *grandiflorus*

**26a. *Ranunculus banguoensis* var. *banguoensis***

班戈毛茛(原变种) ban ge mao gen (yuan bian zhong)  
Leaf blade 3-partite or 3-sect, 4–8 × 4–7 mm. Flowers 0.8–1 cm in diam. Petals 4.5–5.2 × 2.5–2.8 mm, nectary pit without a scale.

• Grassy slopes, meadows, by streams; ca. 5200 m. SW Qinghai, C Xizang (Baingoin Xian).

**26b. *Ranunculus banguoensis* var. *grandiflorus*** W. T. Wang, Bull. Bot. Res., Harbin 15: 177. 1995.

普兰毛茛 pu lan mao gen

Leaf blade 3-partite near base, sometimes 3-lobed, 6–13 × 5–9 mm. Flowers 1.3–1.6 cm in diam. Petals 6–9 × 3.6–6.5 mm, nectary pit without a scale.

• Gravelly slopes; 4900–5400 m. SW Xizang (Burang Xian).

**27. *Ranunculus dingjieensis*** L. Liou in W. T. Wang, Fl. Reipubl. Popularis Sin. 28: 362. 1980.

定结毛茛 ding jie mao gen

Herbs perennial. Roots fibrous, subequally thick. Stems 1–2.5 cm, scapiform, puberulent, simple. Basal leaves ca. 5; petiole 1–1.5 cm, glabrous or sparsely puberulent; blade 3-sect, pentagonal, broadly rhombic, or orbicular-ovate, or orbicular-ovate in outline, rarely undivided and lanceolate-linear. 2–4 × 2–4 mm, papery, subglabrous or abaxially sparsely puberulent; central segment short stalked, rhombic, 3-lobed, or oblanceolate, undivided; lateral segments sessile, obliquely rhombic, unequally 3-lobed, or undivided; Stem leaves 1 or 2, on lower part of stem, similar to basal leaves. Flowers solitary, terminal, 0.6–1.2 cm in diam.

Receptacle glabrous. Sepals 5, long elliptic, 2–3.5 mm, abaxially sparsely puberulent. Petals 5, obovate, broadly obovate, or long elliptic, 3–6 × 1.2–4.5 mm, nectary pit without a scale, apex rounded or truncate. Stamens numerous; anthers broadly oblong or ellipsoid. Carpels numerous; ovary longer than style, glabrous. Fl. Jun.

• Alpine meadows; 4500–4800 m. S Xizang (Dinggyè Xian).

**28. *Ranunculus glabricaulis*** (Handel-Mazzetti) L. Liou in W. T. Wang, Fl. Reipubl. Popularis Sin. 28: 298. 1980.

甘藏毛茛 gan zang mao gen

Herbs perennial. Roots fibrous, subequally thick. Stems 1.5–3.7 cm, glabrous or puberulent, simple. Basal leaves 2 or 3; petiole 0.7–2 cm, glabrous, rarely sparsely pubescent; blade 3-sect, pentagonal, 0.3–0.7 × 0.5–1.1 cm, leathery, glabrous or sparsely pubescent, base deeply cordate, central segment rhombic, broadly rhombic, or obovate, 3-cleft nearly to middle, with narrowly ovate or oblong entire lobes, or long elliptic or narrowly obovate, undivided; lateral segments oblique flabellate or oblique obovate, unequally 2-lobed; lobes undivided or unequally 2-lobed, ultimate lobules narrowly ovate or lanceolate. Stem leaves 1 or 2, short petiolate or sessile, palmately 3–7-sect, segments linear. Flowers solitary, terminal, 1–1.5 cm in diam. Pedicel 1–2 cm. Receptacle glabrous. Sepals 5, dark purple or greenish, elliptic-ovate, 4–6 mm, abaxially glabrous or yellowish puberulent. Petals 5, broadly obovate, 5.5–7 × 4–6.5 mm, nectary pit without a scale, apex emarginate or rounded-truncate. Stamens numerous; anthers oblong. Carpels numerous, glabrous; style shorter than ovary.

• ca. 5000 m. C Gansu (Tianzhu Xian), E Xizang.

- 1a. Stems and pedicels glabrous; sepals dark purple, glabrous or abaxially sparsely puberulent ..... 28a. var. *glabricaulis*  
1b. Stems and pedicels puberulent; sepals greenish or tinged with purple at margin, abaxially ± densely puberulent ..... 28b. var. *viridisepalus*

**28a. *Ranunculus glabricaulis* var. *glabricaulis***



甘藏毛茛 (原变种) gan zang mao gen (yuan bian zhong)

*Ranunculus hirtellus* Royle var. *glabricaulis* Handel-Mazzetti, Acta Horti Gothob. 13: 151. 1939.

Stems and pedicels glabrous. Sepals dark purple, glabrous or abaxially sparsely puberulent.

• Meadows, gravelly slopes; ca. 5000 m. C Gansu (Tianzhu Xian), E Xizang.

**28b. *Ranunculus glabricaulis* var. *viridisepalus* W. T. Wang, Bull. Bot. Res., Harbin 15: 178. 1995.**

绿萼甘藏毛茛 lu e gan zang mao gen

Stems and pedicels puberulent. Sepals greenish or tinged with purple at margin, abaxially ± densely puberulent. Fl. Aug.

• C Gansu (Tianzhu Xian).

**29. *Ranunculus pedicellatus* Handel-Mazzetti, Acta Horti Gothob. 13: 161. 1939.**

长梗毛茛 chang geng mao gen

Herbs perennial. Roots fibrous, subequally thick. Stems 6–9 cm, glabrous, simple. Basal leaves ca. 7; petiole 2.6–4.6 cm, glabrous; blade 3-sect, pentagonal or deltoid, 2.5–7 × 4–10 mm, papery, glabrous, base truncate-cordate, central segment obovate or obovate-oblong; lateral segments flabellate or obliquely broadly obovate, unequally 2-cleft to middle. Stem leaves 1 or 2, lowermost similar to basal leaves; upper 1 short petiolate, undivided or 3-sect, segments linear or linear-lanceolate. Flowers solitary, terminal, 1–1.3 cm in diam. Pedicel 2.8–3.8 cm, glabrous; receptacle glabrous. Sepals 5, narrowly oblong, ca. 4.5 mm, glabrous. Petals 5 or 6, obovate, 4.5–6.5 × 2.5–3.5 mm, nectary pit without a scale, apex rounded, nectariferous foveola small. Stamens numerous; anthers oblong. Carpels numerous, ca. 0.8 mm, glabrous. Fl. Aug.

• Alpine meadows; ca. 4500 m. NW Sichuan (Songpan Xian).

**30. *Ranunculus oreionannos* Marquand & Airy Shaw, J. Linn. Soc., Bot. 48: 155. 1929.**

花萼毛茛 hua ting mao gen

Herbs perennial. Roots fibrous. Scape 4.2–7 cm, sparsely puberulent. Leaves all basal, 3 or 4; petiole 1.5–3.6 cm, glabrous; leaf blade 3-sect, broadly ovate or semiorbicular, sometimes undivided and then oblong, 1–2.5 × 2–3.2 mm, papery, glabrous, base truncate-cordate, subtruncate, or broadly cuneate, central segment obovate, narrowly obovate, or elliptic, margin entire; lateral segments obliquely obovate, unequally 2-lobed or undivided. Flowers solitary, terminal, 0.6–0.7 cm in diam. Receptacle glabrous. Sepals 5, elliptic or obovate, 2–2.5 mm, glabrous. Petals 5, elliptic-obovate, 2.5–3.2 × 1.5–1.8 mm, nectary pit without a scale, apex rounded. Stamens 6 or 7; anthers oblong. Carpels ca. 15, glabrous; style ca. 1/2 as long as ovary. Fl. Jul.

Gravelly slopes; 4500–4800 m. SE Xizang [Nepal].

**31. *Ranunculus gelidus* Karelin & Kirilov, Bull. Soc. Imp. Naturalistes Moscou 15: 133. 1842.**

冷地毛茛 leng di mao gen

*Ranunculus glacialis* Linnaeus var. *gelidus* (Karelin & Kirilov) Finet & Gagnepain.

Herbs perennial. Roots fibrous, subequally thick. Stems 5–14 cm, sparsely puberulent or subglabrous, branched. Basal leaves 3–5; petiole 1.5–9 cm, subglabrous; blade 3-sect, cordate-orbicular or cordate-pentagonal, 0.6–1.6 × 0.8–2.6 cm, papery, sparsely puberulent or subglabrous, base subcordate, central segment stalked, broadly rhombic, 3-partite, lobes incised-lobed; lateral segments subsessile, obliquely flabellate, unequally 2-partite; lobes 2 × dissected, ultimate lobules narrowly ovate or narrowly oblong. Stem leaves similar to basal ones, short petiolate or subsessile. Flowers solitary, terminal, 1.5–2 cm in diam. Receptacle puberulent. Sepals 5, broadly elliptic, ca. 5 mm, abaxially appressed white sericeous. Petals 5, broadly obovate, 8–10 × 6–10 mm, nectary pit without a scale, apex truncate-rounded. Stamens numerous; anthers narrowly oblong. Aggregate fruit globose, ca. 6 mm in diam. Achene slightly bilaterally compressed, obliquely obovoid, ca. 2 × 2 mm, puberulent; style persistent, ca. 0.7 mm. Fl. Jun–Sep.

Meadows, grassy places in valley; 2300–2800 m. NW Xinjiang [Kazakhstan].

**32. *Ranunculus rufosepalus* Franchet, Ann. Sci. Nat., Bot., sér. 6, 15: 217. 1883.**

棕萼毛茛 zong e mao gen

Herbs perennial. Roots fibrous, subequally thick. Stems 18–21 cm, glabrous for most part, puberulent only below flowers, simple. Basal leaves several; petiole 6–8.5 cm, glabrous; blade ternate, broadly ovate in outline, 1.5–3.6 × 2.2–5.8 cm, papery, glabrous, base cordate; central leaflet depressed pentagonal or broadly rhombic, 3-partite, petiolule 0.5–1.8 cm, lobes 2- or 3-lobulate; lateral leaflets oblique flabellate, unequally 2-sect, segments unequally 2-partite, petiolules 3–9 mm. Stem leaves ca. 2, sessile, palmatipartite, segments narrowly lanceolate or linear. Flowers solitary, terminal, 1.6–2.2 cm in diam. Receptacle glabrous. Sepals 5, dark purple, ovate, 5–6 mm, abaxially brown puberulent. Petals 5–7, broadly obovate, 7–9 × 7–10 mm, nectary pit without a scale, apex truncate-rounded. Stamens numerous; anthers narrowly oblong. Aggregate fruit ovoid, ca. 7 mm. Achene ovoid, 2–2.4 mm, glabrous; style persistent, ca. 1 mm, slightly curved. Fl. Aug.

Slopes; ca. 4800 m. SW Xinjiang [Afghanistan, Kazakhstan, N Pakistan, Tajikistan].

**33. *Ranunculus adoxifolius* Handel-Mazzetti, Acta Horti Gothob. 13: 152. 1939.**

五福花叶毛茛 wu fu hua ye mao gen

Herbs perennial. Roots fibrous, slightly thickened toward base. Stems 5–12 cm, sparsely yellowish pilose, branched from base. Basal leaves several; petiole 2–5 cm, sparsely pilose; blade ternate, reniform in outline, 0.9(–2.5) × 1.2(–2.5) cm, thinly papery, sparsely pilose, central segment obovate, 3-lobed to 3-fid, lobes lanceolate, apex subacute; lateral lobes similar to middle lobe, obliquely 3-fid. Stem leaves 2 or 3, lowest one similar to basal leaves, upper stem leaves short petiolate or sessile, 3-sect, segments lanceolate. Flowers solitary or 2 in a monochasium, terminal. Flowers ca. 0.7 cm in diam. Pedicel 1–2.5(–4) cm, sparsely pilose. Receptacle glabrous. Sepals 5, with purple margins, elliptic-ovate, 3(–4) mm, abaxially pale puberulent. Petals 5 or 6, elliptic-oblong (to obovate), 3–3.5 × 1.5–2 mm, nectary pit without a scale, apex rounded. Stamens numerous; anthers ellipsoid. Aggregate fruit ± ovoid, carpels numerous, ovary longer than style. Mature achene not seen, glabrous; style ± straight. Fl. Jun.

In gravel by streams; ca. 3400(–4300) m. SE Xizang [Nepal, Sikkim]. The description is based primarily on the only Chinese collection seen which is smaller in most parts than is indicated in the protologue.

**34. *Ranunculus mainlingensis*** W. T. Wang, Acta Phytotax. Sin. 32: 473. 1994.

米林毛茛 mi lin mao gen

Herbs perennial. Roots fibrous, thickened at base. Stems 4–7, cespitose, 6.5–18 cm, sparsely appressed puberulent or glabrescent, branched or simple. Basal leaves 3–7; petiole 3–8 cm, glabrous or subglabrous; blade ternate, orbicular-ovate or deltoid in outline, 0.9–1.4 × 1.3–2.2 cm, herbaceous or papery, glabrous or abaxially sparsely puberulent, base cordate; central leaflet flabellate-obovate, cuneate, or rhombic, 3-lobed; lobes ovate, undivided or unequally 2-lobulate; lateral leaflets obliquely flabellate, unequally 2-partite, petiolule 1.5–3 mm. Stem leaves 2, lower 1 ternate, long petiolate; upper 1 moderately long or short petiolate, 3-sect. Flowers solitary, terminal, 0.8–1 cm in diam. Receptacle glabrous. Sepals 5, elliptic, 3–4 mm, abaxially pubescent. Petals 5, elliptic-obovate, 3.8–4.8 × 1.5–2.8 mm, nectary pit without a scale, apex rounded. Stamens 7–14; anthers oblong. Aggregate fruit narrowly ovoid, 3–7.5 × 2–3 mm. Achene obliquely obovoid, 1–1.2 × 0.8–1 mm, glabrous; style persistent, 0.3–0.6 mm. Fl. Jul–Aug, fr. Aug.

• Wet places in valleys, alpine meadows; 2700–4300 m. SE Xizang (Bomi Xian, Mainling Xian).

**35. *Ranunculus stenorhynchus*** Franchet, Nouv. Arch. Mus. Hist. Nat., sér. 2, 8: 189. 1886.

宝兴毛茛 bao xing mao gen

Herbs perennial. Roots fibrous, subequally thick. Stems 13–16 cm, sparsely puberulent or subglabrous, simple. Basal leaves ca. 7; petiole 2.8–5.5 cm, subglabrous; blade ternate, orbicular-ovate in outline, 0.6–1.1 × 1–1.9 cm, thinly papery, abaxially glabrous, adaxially sparsely sericeous, base deeply cordate, leaflets short

petiolulate, central leaflet oblique flabellate, unequally 2-lobed. Stem leaves 1 or 2, short petiolate or sessile, 3-sect, segments of uppermost linear, entire. Flowers terminal, solitary or 2 in a simple monochasium. Pedicel 2–5.5 cm, glabrous or sparsely puberulent. Receptacle glabrous. Sepals 5, elliptic, ca. 4 mm, abaxially sparsely puberulent. Petals 5, narrowly obovate, ca. 6 × 2.6 mm, nectary pit without a scale, apex subtruncate, emarginate. Stamens numerous; anthers oblong. Aggregate fruit ovoid, ca. 3 mm in diam. Achene obliquely obovoid, ca. 1 × 1 mm, densely puberulent; style persistent, ca. 0.7 mm.

• W Sichuan (Baoping Xian).

**36. *Ranunculus formosa-montanus*** J. Ohwi, Acta Phytotax. Geobot. 2: 154. 1931.

蓬菜毛茛 peng lai mao gen

Herbs perennial. Roots fibrous, subequally thick. Stems 10–20 cm, appressed puberulent, simple or branched. Basal leaves ca. 2; petiole 8–15 cm, appressed puberulent; blade ternate, subpentagonal in outline, ca. 3 × 3 cm, appressed puberulent, base cordate; central leaflet short petiolulate, broadly rhombic or rhombic, to 1.5 cm wide, 3-partite; central lobe oblong or narrowly rhombic, undivided or 3-lobed, lateral lobes unequally 2-lobed or undivided; lateral leaflets short petiolulate, obliquely flabellate, unequally 2-partite. Lower stem leaves similar to basal leaves but shortly petiolate, upper ones small, sessile, 3-sect, segments linear. Flowers solitary, terminal, ca. 2 cm in diam. Receptacle glabrous. Sepals 5, ovate, 4–5 mm, abaxially brown pubescent. Petals 5, broadly ovate, 7–8 mm, nectary pit without a scale, apex rounded. Stamens numerous. Aggregate fruit subglobose, ca. 5 × 5 mm. Achene broadly obovoid, glabrous, narrowly marginate; style persistent, short, recurved. Fl. Jul.

• Open places and sunny slopes; above 2600 m. Taiwan (Nanhu Dashan).

**37. *Ranunculus matsudae*** Hayata ex Masamune, J. Soc. Trop. Agric. 6: 570. 1934.

疏花毛茛 shu hua mao gen

Herbs perennial. Stems 7–17 cm, appressed puberulent, simple or 1- or 2-branched. Basal leaves ca. 3; petiole 1.5–6.5 cm; blade 3-partite to near base, deltoid or pentagonal, 1–1.7 × 1.2–2.4 cm, papery, puberulent, base subtruncate or truncate-cordate, central lobe rhombic or cuneate-rhombic, 3-lobed, few dentate; lateral lobes obliquely rhombic or obliquely cuneate, unequally 2-lobed. Stem leaves few, similar to basal leaves but short petiolate; uppermost leaf sessile, 2- or 3-sect, segments linear. Flowers solitary, terminal, 1.5–2 cm in diam. Receptacle glabrous. Sepals 5, ovate, 5–6 mm, abaxially puberulent. Petals 5, broadly obovate, 7.5–10 × 5–8 mm, nectary pit covered by a scale, apex subtruncate. Stamens numerous; anthers oblong. Aggregate fruit broadly ovoid, ca. 5 × 5 mm. Achene obliquely obovate, ca. 2.2 × 1.5 mm, glabrous, not distinctly marginate; style persistent, ca. 0.5 mm. Fl. Jul.

• Bamboo thickets, gravelly places; 3300–3900 m. Taiwan.

**38. *Ranunculus morii*** (Yamamoto) J. Ohwi, J. Jap. Bot. 12: 333. 1936.

森氏毛茛 *sen shi mao gen*

*Anemone taraoi* Takeda var. *morii* Yamamoto, Suppl. Icon. Pl. Formos. 3: 26. 1927; *Ranunculus taizanensis* Yamamoto.

Herbs perennial. Roots fibrous, subequally thick. Stems erect, 5–20 cm, sparsely pubescent. Basal leaves few; petiole 3.4–9 cm, sparsely pubescent; blade ternate to 2-ternate, broadly ovate to pentagonal in outline, 2.6–4.2 × 3.4–5 cm, thinly leathery, glabrous or abaxially sparsely pubescent, central segment ovate, petiolule 0.5–1 cm, pinnatifid to bipinnatifid, lobes acute; lateral segments ternate to pinnatifid, similar to central lobe. Stem leaves similar to basal ones. Flowers solitary, leaf-opposed or terminal, 2–2.5 cm in diam. Pedicel 3–11.5 cm, pubescent. Receptacle glabrous. Sepals 5, broadly elliptic or ovate, 5–7 × 3–4 mm, glabrous. Petals 5(–8), narrowly obovate, 9–12 × 4–6 mm, nectary pit without a scale, apex rounded. Stamens numerous; anthers oblong. Aggregate fruit globose, ca. 10 mm in diam. Achene obliquely obovoid, 2–4 mm, glabrous; style persistent, ca. 0.5 mm, recurved. Fl. Apr–Jun, fr. May–Jul.

• Above 3000 m. N Taiwan (Nanhu Dashan, Xue Shan).

No material of this species has been seen by the authors and the account is based largely on Yuang & Huan (Fl. Taiwan, ed. 2, 2: 556. 1996). The pinnatifid leaflets were first mistaken for those of an *Anemone* or *Pulsatilla*.

**39. *Ranunculus polii*** Franchet ex Forbes & Hemsley, J. Linn. Soc., Bot. 23: 15. 1886.

上海毛茛 *shang hai mao gen*

Herbs perennial. Roots fibrous, subequally thick. Stems 5–15 cm, glabrous, branched. Basal leaves 4–8; petiole 2–2.5 cm; blade ternate, ovate in outline, 1.5–2.8 × 1.8–3.4 cm, papery; central leaflet long petiolulate, broadly rhombic, 7–10 × 8–14 mm, 3-partite or 3-sect; lobes oblong or narrowly obovate, entire or 1-denticulate; lateral leaflets shortly petiolulate, unequally 2- or 3-partite, lobes obliquely narrowly obovate, unequally 2-lobed. Stem leaves few, lowermost similar to basal leaves, upper ones simple, 3-sect, segments narrowly obovate or oblong, entire. Flowers solitary, terminal, 1–1.4 cm in diam. Receptacle glabrous. Sepals 5, ovate, 3.5–4 mm, abaxially sparsely puberulent. Petals 5, narrowly obovate, 5.8–6.5 × 2.8–4 mm, nectary pit without a scale, apex rounded. Stamens numerous; anthers oblong. Carpels numerous; ovary 1–2 mm. Achene puberulent or glabrous; style 0.5–0.7 mm, circinate. Fl. Apr–Aug.

• Hilly slopes; below 100 m. Shanghai.

**40. *Ranunculus yanshanensis*** W. T. Wang, Bull. Bot. Res., Harbin 16: 161. 1996.

砚山毛茛 *yan shan mao gen*

Herbs perennial. Roots fibrous, subequally thick. Stolons ca. 20 cm, strigose. Stems ca. 20 cm, strigose, 1-branched above; Basal leaves ca. 4; petiole 3.5–7 cm, strigose; blade ternate, rarely simple, ovate in outline, 2.5–4.4 × 4–5 cm, papery, abaxially strigose, base cordate; central leaflet long petiolulate, broadly rhombic, 3-partite; lobes incised-denticulate, petiolule 0.7–1.3 cm, apex acute; lateral leaflets shortly petiolulate or sessile, oblique flabellate, unequally 2-partite, often 3-sect in smallest leaves, lobes unequally 2- or 3-lobed and few denticulate; Stem leaves ca. 2, smaller, lower short petiolate, ternate; uppermost sessile, 3-sect. Monochasium terminal, 2-flowered; bracts 3-sect, segments linear. Flowers ca. 0.7 cm in diam. Pedicel 1.4–3 cm, strigose. Receptacle puberulent. Sepals 5, long elliptic, ca. 4 mm, abaxially strigose. Petals 5, oblong, ca. 4.2 × 2 mm, nectary pit without a scale, apex rounded. Stamens ca. 15; anthers oblong, ca. 0.7 mm. Carpels numerous; body ca. 0.8 mm. Achene glabrous; style ca. 3.5 mm. Fl. Oct.

• Moist places by rivers; ca. 1200 m. SE Yunnan (Yanshan Xian).

**41. *Ranunculus potaninii*** Komarov, Repert. Spec. Nov. Regni Veg. 9: 392. 1911.

川滇毛茛 *chuan dian mao gen*

*Ranunculus pulchellus* C. A. Meyer var. *potaninii* (Komarov) Handel-Mazzetti.

Herbs perennial. Roots fibrous, subequally thick. Stems 20–30 cm, glabrous or sparsely puberulent below.

Petiole 4.5–12 cm, glabrous or sparsely puberulent; leaf blade 3-sect or 3-partite, pentagonal-ovate or pentagonal, 2.5–5 × 2.5–5 cm, thinly papery, glabrous or abaxially sparsely appressed pubescent, base broadly cuneate, central segment rhombic, 3-cleft, with narrowly ovate or lanceolate lobes, or undivided and oblong or linear-lanceolate; lateral segments oblique flabellate or oblique cuneate, unequally 2- or 3-cleft, ultimate lobes linear-lanceolate or long elliptic. Lower stem leaves similar to basal ones, upper leaves sessile, 3-sect, segments linear. Monochasium terminal, 1–3-flowered; bracts leaflike. Flowers 1–1.7 cm in diam. Pedicel 1–6 cm, puberulent. Receptacle glabrous.

Sepals 5, broadly elliptic, 2.8–4 mm, abaxially puberulent. Petals 5, broadly obovate, 4–8 × 3.2–7 mm, nectary pit without a scale, apex rounded. Stamens numerous; anthers oblong. Aggregate fruit ovoid, 5–7 × 3–4 mm. Achene obliquely obovoid, ca. 1.1 × 1.1 mm, glabrous; style persistent, 0.5–0.7 mm. Fl. May–Jul.

Meadows, swamps; 3600–4800 m. SW Gansu, W Sichuan, SE Xizang, NW Yunnan (Zhongdian Xian) [Nepal].

**42. *Ranunculus cangshanicus*** W. T. Wang, Bull. Bot. Res., Harbin 15: 321. 1995.

苍山毛茛 *cang shan mao gen*

Herbs perennial. Roots fibrous, subequally thick. Stems ca. 36 cm, glabrous below, sparsely appressed puberulent above, branched. Basal leaves 7–12; petiole 7–14 cm, glabrous; blade 3-partite, cuneate to rhombic, 2.2–4.5 × 0.8–3.3 cm, papery, glabrous, rarely abaxially very sparsely appressed puberulent, base cuneate, central lobe lanceolate-linear, entire; lateral lobes

lanceolate-linear or obliquely narrowly cuneate, unequally 2-lobed or undivided. Stem leaves 1 or 2, short petiolate or sessile, 3-partite, 2.5–4 cm, lobes narrowly linear. Monochasia terminal and axillary, 1–3-flowered; bracts lanceolate-linear. Flowers 1.2–1.3 cm in diam. Pedicel 2–5 cm, puberulent above. Receptacle glabrous. Sepals 5, navicular-elliptic, 4.5–5 mm, abaxially yellowish appressed, puberulent. Petals 5, obovate, 5.5–7 × 4–5 mm, nectary pit without a scale, apex rounded. Stamens 14–23; anthers broadly oblong. Aggregate fruit ovoid, ca. 5.5 × 4 mm. Achene obliquely obovoid, ca. 2.5 × 1.2 mm, glabrous; style persistent, ca. 1 mm. Fl. Aug.

• Swamps; ca. 3200 m. NW Yunnan.

**43. *Ranunculus popovii*** Ovczinnikov in Komarov, Fl. URSS 7: 741. 1937.

天山毛茛 *tian shan mao gen*

Herbs perennial. Roots fibrous, slightly thickened above. Stems 4–16 cm, sparsely to densely subappressed puberulent, branched. Basal leaves ca. 4; petiole 2–4 cm, appressed puberulent; blade 3-fid or 3-partite, rarely 3-lobed, pentagonal, broadly ovate, or rhombic, 0.9–1.8 × 0.8–2 cm, papery, abaxially sparsely puberulent, base subtruncate or truncate-cordate, central lobe narrowly obovate or long elliptic, 3-lobed or undivided; lateral lobes obliquely obovate or obliquely flabellate, unequally 2-lobed. Stem leaves short petiolate or sessile, palmatisect, segments linear, abaxially densely pubescent. Flowers solitary, terminal, 0.9–1.5 cm in diam. Receptacle puberulent or glabrous. Sepals 5, orbicular-ovate, 3–5 mm, abaxially densely appressed yellowish pubescent. Petals 5, obovate, 5–9 × 2–5.5 mm, nectary pit without a scale, apex rounded. Stamens numerous; anthers oblong. Aggregate fruit ovoid, 5–6 × 4–5 mm. Achene slightly bilaterally compressed, obliquely ellipsoid, 1.2–2 × ca. 1 mm, sparsely appressed puberulent or glabrous; style persistent, 0.7–1 mm.

2300–4500 m. S Gansu, Qinghai, SW Sichuan, W and S Xinjiang, W and N Xizang, NW Yunnan [N India, Nepal].

1a. Stems densely yellowish puberulent; receptacle and achenes puberulent 43a. var. *popovii*

1b. Stems sparsely white puberulent; receptacle and achenes glabrous 43b. var. *stracheyanus*

**43a. *Ranunculus popovii* var. *popovii***

天山毛茛(原变种) *tian shan mao gen* (*yuan bian zhong*)

Stems 5–12 cm, densely yellowish puberulent. Leaf blade 0.9–1.4 × 0.8–1.8 cm. Flowers 1–1.3 cm in diam. Receptacle puberulent. Petals 5–6 × 3–3.8 mm, nectary pit without a scale. Achene 1.2–2 mm, puberulent. Fl. and fr. Jul–Aug.

Alpine meadows, grassy slopes, by streams; 3100–3700 m. C Xinjiang [Kazakhstan].

**43b. *Ranunculus popovii* var. *stracheyanus*** (Maximowicz) W. T. Wang, Bull. Bot. Res., Harbin 15: 180. 1995.

深齿毛茛 *shen chi mao gen*

*Ranunculus affinis* R. Brown var. *stracheyanus* Maximowicz, Fl. Tangut. 14. 1889; *R. pulchellus* C. A. Meyer var. *stracheyanus* (Maximowicz) Handel-Mazzetti.

Stems 4–16 cm, sparsely white puberulent. Leaf blade 0.7–1.8 × 0.8–2 cm. Flowers 0.9–1.5 cm in diam.

Receptacle glabrous. Petals 5.5–9 × 2.5–5.5 mm, nectary pit without a scale. Achene ca. 1.2 mm, glabrous. Fl. May–Aug, fr. Jul–Oct.

Alpine meadows, grassy slopes, by streams; 2300–4500 m. S Gansu, Qinghai, SW Sichuan, W and S Xinjiang, W and N Xizang, NW Yunnan [Bhutan, N India, Nepal, Sikkim].

**44. *Ranunculus pectinatilobus*** W. T. Wang, Bull. Bot. Res., Harbin 15: 275. 1995.

栉裂毛茛 *zhi lie mao gen*

Herbs perennial. Roots fibrous, subequally thick. Stems 9–15 cm, puberulent, simple or branched. Basal leaves ca. 5; petiole 2–5.5 cm, sparsely puberulent above; blade 3-lobed or rarely undivided, orbicular-ovate, ovate, elliptic, or obovate, 0.8–1.5 × 0.6–2.2 cm, papery, abaxially sparsely appressed puberulent, base broadly cuneate or rounded, central lobe oblong-ovate, apex slightly obtuse; lateral lobes pectinately 2–4-lobulate, lobules oblique triangular or oblique ovate. Lower stem leaves similar to basal leaves, short petiolate, 3-partite; upper leaves subsessile or sessile, 3-sect, segments linear, undivided or lateral segments 2-partite. Flowers solitary, terminal, 1–1.7 cm in diam. Receptacle puberulent. Sepals 5, orbicular-ovate or broadly ovate, 4–5 mm, abaxially pubescent. Petals 5, broadly obovate, 6–9 × 4.5–7.5 mm, nectary pit without a scale, apex rounded. Stamens numerous; anthers narrowly oblong. Aggregate fruit ovoid or oblong-ovoid, 5–8 × 4–5 mm. Achene ovoid, ca. 1 × 1 mm, glabrous; style persistent, ca. 0.5 mm. Fl. Jun.

• By streams, meadows; ca. 2000 m. SW Nei Mongol (Helan Shan).

**45. *Ranunculus brotherusii*** Freyn, Bull. Herb. Boissier 6: 885. 1898.

鸟足毛茛 *niao zu mao gen*

Herbs perennial. Roots fibrous, slightly thickened at apex. Stems 1–4, 2.5–12 cm, appressed puberulent, simple or 1- or 2-branched. Basal leaves 5–15; petiole 1.2–3.5 cm, appressed puberulent, glabrescent; blade 3-partite or 3-sect, orbicular-ovate or pentagonal, occasionally suborbicular and then broadly 3-lobed, papery, appressed puberulent, base cordate-truncate or subtruncate, central segment cuneate, 3-lobed or 3-dentate at apex or oblong and entire; lateral segments obliquely flabellate, usually unequally 2-partite. Stem leaves 2–4, lower ones similar to basal leaves, upper ones sessile, palmatisect, segments linear. Flowers solitary, terminal, 0.6–1.3 cm in diam. Receptacle glabrous, rarely with a few hairs. Sepals 5, ovate, 2.2–3.2 mm, abaxially appressed whitish pubescent. Petals 5,

obovate or elliptic-obovate, 3–8 × 2.5–4 mm, nectary pit without a scale, apex rounded. Stamens numerous; anthers oblong. Aggregate fruit ovoid, rarely subglobose, 3–6 × 2–4 mm. Achene slightly bilaterally compressed, obliquely obovoid, 1–1.5 × ca. 0.8 mm, glabrous; style persistent, 0.3–0.5 mm. Fl. May–Aug. Meadows, grassy slopes, by streams; 2100–4700 m. Gansu (Sunan Xian), SW Nei Mongol (Helan Shan), Qinghai (Qilian Xian), Shanxi (Wutai Shan), NW Sichuan, C Xinjiang, S Xizang [Kazakhstan].

**46. *Ranunculus furcatifidus*** W. T. Wang, Acta Phytotax. Sin. 32: 478. 1994.

叉裂毛茛 cha lie mao gen

Herbs perennial. Roots fibrous, subequally thick. Stems 4–18 cm, appressed puberulent, branched. Basal leaves ca. 5; petiole 1.5–5 cm, appressed puberulent; blade 3-partite, broadly rhombic, rarely triangular, 1–2.5 × 0.7–2.3 cm, papery, abaxially appressed puberulent, base broadly cuneate, rarely subtruncate, central lobe oblong-ob lanceolate or linear, usually undivided, sometimes 1- or 2-lobulate; lateral lobes obliquely lanceolate, undivided or obliquely cuneate, unequally 2(or 3)-lobulate. Stem leaves short petiolate or sessile, 3-sect, segments linear. Flowers solitary, terminal, 0.5–1.2 cm in diam. Receptacle puberulent. Sepals 5, oblong-elliptic or broadly elliptic, 2.5–4.2 mm, abaxially appressed puberulent. Petals 5, elliptic-obovate, 3–5(–6) × 2–3 mm, nectary pit without a scale, apex rounded. Stamens 10–12; anthers oblong. Aggregate fruit oblong-ovoid, 4–7 × 2.5–4 mm. Achene narrowly obovoid or obliquely obovoid, ca. 1 × 0.5–0.7 mm, glabrous; style persistent, ca. 0.4 mm. Fl. Jun–Aug.

• Slopes, marshy meadows, by brooklets; (1500–)2700–4800 m. NW Hebei (Xiaowutai Shan), SW Nei Mongol (Helan Shan), Qinghai, W Sichuan, S Xinjiang, Xizang, NW Yunnan (Dêqên Xian).

**47. *Ranunculus tanguticus*** (Maximowicz) Ovczinnikov, Fl. URSS. 7: 392. 1937.

高原毛茛 gao yuan mao gen

Herbs perennial. Roots fibrous, subequally thick. Stems 6–25(–30) cm, puberulent, branched. Basal leaves 5–10 or more; petiole 1.5–5.5 cm, puberulent; blade 3-sect, pentagonal or broadly ovate, 0.8–1.5(–2.6) × 1–2(–3.4) cm, papery, appressed puberulent or only abaxially, base cordate, segments sessile or short stalked; central segment broadly rhombic or cuneate-rhombic; lateral segments obliquely flabellate, 2 × dissected, ultimate lobes linear-lanceolate or linear. Stem leaves short petiolate or sessile, palmately 3–5-sect, segments narrowly linear. Monochasium terminal, 2- or 3-flowered, rarely 1-flowered; bracts leaflike. Flowers 0.8–1.9 cm in diam. Pedicel 1–6 cm, densely puberulent. Receptacle puberulent. Sepals 5, narrowly elliptic, 3–4 mm, abaxially appressed yellowish puberulent. Petals 5, obovate or obovate-elliptic, 4.5–8.5 × 2–6.5 mm, nectary pit without a scale, apex rounded or truncate-rounded. Stamens numerous; anthers oblong. Aggregate

fruit narrowly ovoid, 3–6.5 × 3–4 mm. Achene slightly bilaterally compressed, obovoid, 1–1.5 × 0.8–1.1 mm. Style persistent, ca. 0.8 mm. Fl. Jun–Oct.

2200–4200 m. Gansu, SW Nei Mongol, Ningxia, E Qinghai, S Shaanxi (Taibai Shan), C and NW Shanxi, W Sichuan, S and E Xizang, NW Yunnan [Nepal].

1a. Achene glabrous ..... 47a. var. *tanguticus*

1b. Achene puberulent ..... 47b. var. *dasycaarpus*

**47a. *Ranunculus tanguticus* var. *tanguticus***

高原毛茛(原变种) gao yuan mao gen (yuan bian zhong)

*Ranunculus affinis* R. Brown var. *tanguticus* Maximowicz, Fl. Tangut. 14. 1889; *R. affinis* var. *tanguticus* lusus *leiocarpus* Maximowicz; *R. affinis* var. *ternatus* Franchet; *R. brotherusii* Freyn var. *tanguticus* (Maximowicz) Tamura.

Achene glabrous.

Meadows, grassy slopes, forest margins, by streams; 2200–4200 m. Gansu, SW Nei Mongol, Ningxia, S and E Qinghai, S Shaanxi (Taibai Shan), C and NW Shanxi, W Sichuan, S and E Xizang, NW Yunnan [Nepal].

**47b. *Ranunculus tanguticus* var. *dasycaarpus*** (Maximowicz) L. Liou in W. T. Wang, Fl. Reipubl. Popularis Sin. 28: 297. 1980.

毛果高原毛茛 mao guo gao yuan mao gen

*Ranunculus affinis* var. *tanguticus* lusus *dasycaarpus* Maximowicz, Fl. Tangut. 14. 1889; *R. brotherusii* var. *dasycaarpus* (Maximowicz) Handel-Mazzetti. Achene puberulent.

• Meadows, grassy slopes, scrub, by streams; 2200–4100 m. NW Gansu, NE Qinghai, W Sichuan, SE Xizang, NW Yunnan.

**48. *Ranunculus yaoanus*** W. T. Wang, Bull. Bot. Res., Harbin 15: 278. 1995.

姚氏毛茛 yao shi mao gen

Herbs perennial. Roots fibrous, subequally thick. Stems 18–25 cm, glabrous below, sparsely puberulent above, branched. Basal leaves ca. 7; petiole 5–7 cm, glabrous; blade ternate, pentagonal in outline, 1.2–2.2 × 2.2–2.6 cm, papery, glabrous, base truncate-cordate; central leaflet broadly rhombic, 0.8–1.5 × 1–1.4 cm, 3-partite; central lobe broadly oblanceolate or long elliptic, entire; lateral lobes obliquely cuneate, unequally 2-lobulate, petiolule 4–6 mm; lateral leaflets oblique flabellate, 2 × unequally 2-partite, ultimate lobules narrowly ovate, petiolules 1–2.5 mm. Lowermost stem leaf similar to basal leaves but short petiolate; upper leaves 3-sect, segments narrowly linear. Flowers solitary, terminal, ca. 1.5 cm in diam. Receptacle glabrous. Sepals 5, elliptic-ovate, ca. 5 mm, abaxially appressed puberulent. Petals 5, obovate, 6–7 × 4.5–6 mm, nectary pit without a scale, apex rounded. Stamens 5, 2.5–3 mm; anthers oblong, 1.2 mm. Carpels numerous. Achene 1–1.5 mm overall, glabrous; style 0.4–0.6 mm. Fl. Jul.

• Streams; ca. 3700 m. SE Xizang (Nyingchi Xian).

**49. *Ranunculus jingyuanensis*** W. T. Wang, Acta Phytotax. Sin. 32: 475. 1994.

靖远毛茛 *jing yuan mao gen*

Herbs perennial. Roots fibrous, thickened at base.

Stems ca. 30 cm, puberulent, branched. Basal leaves ca. 5; petiole 6–9.5 cm, sparsely puberulent; blade ternate, broadly rhombic in outline, 2–4.2 × 2–5 cm, papery, abaxially sparsely appressed puberulent, base broadly cuneate; central leaflet 3-partite nearly to base, lobes lanceolate-linear, 1–2 mm wide; lateral leaflets oblique rhombic, 1 or 2 × 2-partite, ultimate lobules lanceolate-linear, petiolules 1.5–12 mm. Stem leaves short petiolate or sessile, palmatisect, segments linear. Inflorescence of 1 terminal and 2 or 3 axillary simple monochasia; bracts sessile, 1–2.4 cm, 3-sect. Flowers 1.1–1.2 cm in diam. Pedicel 0.5–3.8 cm, puberulent. Receptacle glabrous. Sepals 5–7, broadly ovate or broadly elliptic, 4–5.5 mm, abaxially appressed pubescent. Petals 3 or 4, cuneate-obovate, 4–7 × 2–3.5 mm, nectary pit without a scale, apex subtruncate. Stamens numerous; anthers oblong. Carpels numerous; ovary ca. 2 × longer than style, 1.2–1.8 mm, glabrous. Fl. Jul.

• Mountain tops; ca. 2500 m. Gansu (Jingyuan Xian).

**50. *Ranunculus nematolobus*** Handel-Mazzetti, Acta Horti Gothob. 13: 148. 1939.

丝叶毛茛 *si ye mao gen*

*Ranunculus affinis* R. Brown var. *capillaceus* Franchet, Pl. Delavay. 19. 1889; *R. affinis* var. *filiformis* Finet & Gagnepain; *R. altaicus* E. G. Laxmann var. *sulphureus* Finet & Gagnepain; *R. tanguticus* (Maximowicz) Ovczinnikov var. *capillaceus* (Franchet) L. Liou. Herbs perennial. Roots fibrous, subequally thick. Stems 20–30 cm, glabrous, branched. Basal leaves 1–4; petiole 3–7 cm, glabrous; blade 3-sect, obovate-flabellate, 2.5–3.2 × 3–3.5 cm, papery, glabrous; segments petiolulate, 2 to 3 × dichotomously dissected, ultimate lobules narrowly linear or filiform. Stem leaves smaller, short petiolate or subsessile. Compound monochasium terminal, corymbose; bracts leaflike. Flowers 0.7–1.1 cm in diam. Pedicel 0.6–2 cm, sparsely appressed puberulent above. Receptacle puberulent. Sepals 5, elliptic or obovate, 2–3.5 mm, abaxially sparsely appressed puberulent, glabrescent. Petals 5, obovate or narrowly obovate, 3–6.2 × 1.6–3 mm, nectary pit without a scale, apex rounded. Stamens numerous; anthers oblong. Aggregate fruit ovoid, 3–4 × 2–3 mm. Achene slightly bilaterally compressed, broadly obliquely obovoid, 1–1.2 × ca. 1 mm, puberulent; style persistent, ca. 0.5 mm. Fl. Jun–Sep.

• Moist grassy places, by streams; 2500–2900 m. NW Yunnan.

**51. *Ranunculus pulchellus*** C. A. Meyer in Ledebour, Fl. Altaic. 2: 333. 1830.

美丽毛茛 *mei li mao gen*

Herbs perennial. Roots fibrous, subequally thick. Stems 15–20 cm, glabrous or sparsely puberulent, usually 1- or 2-branched. Basal leaves 5–7; petiole 2–6 cm, glabrous or sparsely puberulent; blade sometimes 3-

lobed, ovate, elliptic, or obovate, 0.8–1.6 × 0.5–0.9 cm, papery or leathery, glabrous or sparsely puberulent, base broadly cuneate or rounded, margin 1–3-dentate on each side, apex slightly acute. Stem leaves sessile, 3-partite or 3-sect, segments linear. Flowers solitary, terminal, ca. 1 cm in diam. Receptacle glabrous. Sepals 5, elliptic, 5–7 × 3.8–5 mm, nectary pit without a scale, apex rounded. Stamens numerous; anthers oblong. Aggregate fruit ovoid, 5–7 × 4–5 mm. Achene obliquely obovoid, ca. 2 × 1 mm, glabrous; style persistent, ca. 0.5 mm. Fl. Jun–Jul.

By streams, alpine meadows; 2300–3100 m. Gansu (Shandan Xian), Nei Mongol (Ulan Hot Shi), Xinjiang (Tian Shan) [Kazakhstan, Mongolia, Russia (Siberia)].

**52. *Ranunculus kunlunshanicus*** J. G. Liu in Z. M. Mao, Fl. Xinjiang. 2(1): 352. 1994.

昆仑毛茛 *kun lun mao gen*

Herbs perennial. Roots fibrous, subequally thick. Stems 3–10 cm, white puberulent, branched or simple. Basal leaves 3–5; petiole 1.4–3 cm, glabrous or puberulent above; blade ovate or narrowly ovate, 0.7–2 × 0.4–1.5 cm, papery, glabrous except for ciliate margin, base rounded or broadly cuneate, margin 1–3-dentate on each side or entire, apex acute. Stem leaves 2 or 3, lowermost similar to basal ones but short petiolate; upper 2 short petiolate or sessile, 3-sect, segments lanceolate-linear. Flowers solitary, terminal, ca. 1.4 cm in diam. Receptacle puberulent. Sepals 5, broadly elliptic, ca. 5 mm, abaxially puberulent. Petals 5, narrowly obovate or obovate, 6.5–8 × ca. 3.8 mm, nectary pit without a scale, apex rounded. Stamens numerous; anthers oblong. Aggregate fruit ellipsoid, ca. 5 mm in diam. Achene ovoid, ca. 2 × 1.5 mm, sparsely puberulent, upper margin narrowly winged; style persistent, short. Fl. Jun–Jul.

• Slopes, bases of rocky cliffs; 4000–4300 m. S Xinjiang.

**53. *Ranunculus densiciliatus*** W. T. Wang, Bull. Bot. Res., Harbin 15: 280. 1995.

睫毛毛茛 *jie mao mao gen*

*Ranunculus densiciliatus* var. *glabrescens* W. L. Zheng; *R. densiciliatus* var. *nyingchiensis* W. L. Zheng.

Herbs perennial, turning blackish on drying. Roots fibrous, subequally thick. Stems 5–7 cm, appressed puberulent, branched. Basal leaves ca. 6; petiole 2.5–6 cm, sparsely puberulent; blade sometimes 2- or 3-lobed, ovate, elliptic, or suborbicular, 1.2–1.7 × 0.7–1.4 cm, papery, abaxially glabrous, base rounded or broadly cuneate, margin entire or with 1 or 2 small teeth, densely appressed ciliate, apex obtuse. Lower stem leaves petiolate, narrowly ovate, upper ones short petiolate or sessile, long elliptic or narrowly oblong, entire. Flowers solitary, terminal, ca. 1.4 cm in diam. Receptacle glabrous. Sepals 5, ovate, 4–5 mm, abaxially appressed puberulent. Petals 5, obovate, 6–7 × ca. 4.5 mm, nectary pit without a scale, apex rounded. Stamens ca. 18; anthers narrowly oblong. Carpels

numerous; ovary longer than style, ca. 1.6 mm, glabrous. Fl. Jun.

• Sandy places by rivers; ca. 4100 m. S Xizang (Dinggyê Xian).

**54. *Ranunculus yechengensis*** W. T. Wang, Bull. Bot. Res., Harbin 15: 281. 1995.

叶城毛茛 *ye cheng mao gen*

Herbs perennial. Roots fibrous, subequally thick. Stems 3–5 cm, glabrous below, puberulent above, simple. Basal leaves 2 or 3; petiole 1.8–2.9 cm, glabrous; blade 3-lobed or 3-dentate, obovate, cuneate, broadly rhombic, or pentagonal, 5–14 × 4–11 mm, leathery, glabrous, base broadly cuneate, cuneate, or subtruncate, lobes ovate. Stem leaves 3, lowermost similar to basal leaves; upper 2 subopposite, short petiolate or sessile, broadly rhombic, 3-partite; central lobe narrowly oblong, lateral lobes linear-lanceolate. Flowers solitary, terminal, 1.7–2.4 cm in diam. Receptacle glabrous. Sepals 5, broadly elliptic, 4–6 mm, abaxially sparsely puberulent. Petals 5, obovate or obcordate, 9–11 × 6.5–8.5 mm, nectary pit without a scale, apex emarginate or subtruncate. Stamens numerous; anthers oblong. Carpels numerous. Achene ca. 2 mm, glabrous; style slightly shorter than ovary. Fl. Sep.

• Alpine meadows; ca. 4700 m. SW Xinjiang (Yecheng Xian).

**55. *Ranunculus humillimus*** W. T. Wang, Bull. Bot. Res., Harbin 15: 281. 1995.

低毛茛 *di mao gen*

Herbs perennial. Roots fibrous, 2 or 3, subequally thick. Stems 1.5–2 mm, glabrous or puberulent below flower, simple. Basal leaves 3 or 4; petiole 1–2.2 cm, glabrous; blade ovate, orbicular-ovate, or elliptic, 2.5–5 × 2–3 mm, leathery, glabrous, base rounded, truncate, or broadly cuneate, margin entire, apex obtuse or subacute. Stem leaves 2, lower 1 similar to basal leaves, upper short petiolate, oblong. Flowers solitary, terminal, 0.9–1.3 cm in diam. Receptacle glabrous. Sepals 5, obovate or suboblong, 3.5–4 mm, glabrous. Petals 5, obovate, 5.5–7 × 3.5–4 mm, nectary pit without a scale, apex rounded-truncate, often emarginate. Stamens 17–20; anthers oblong. Carpels 14–20; ovary ca. 2 × longer than style, ca. 1.4 mm, glabrous. Fl. Jun.

• River banks; ca. 5000 m. NE Xizang (Amdo Xian).

**56. *Ranunculus nephelogenes*** Edgeworth, Trans. Linn. Soc. London 20: 28. 1846.

云生毛茛 *yun sheng mao gen*

Herbs perennial. Roots fibrous, subequally thick. Stems (2–)10–25(–52) cm, usually glabrous for most part, sparsely puberulent above or near apex, rarely so basally, branched or simple. Basal leaves 4–9; petiole 1.2–10 cm, glabrous, rarely sparsely puberulent; blade sometimes 3-lobed or rarely 3-sect, ovate, elliptic, oblong, lanceolate, or lanceolate-linear, 0.9–3.7 cm × 4–14 mm, papery or rarely leathery, glabrous, base cuneate, broadly cuneate, or rounded, margin entire or

rarely 1-dentate, apex subobtusate. Lower stem leaves long or short petiolate, lanceolate or lanceolate-linear; upper ones sessile, lanceolate-linear, undivided or rarely 3-sect. Flowers solitary, terminal, (0.8–)1–1.6(–2.3) cm in diam. Receptacle glabrous or sparsely puberulent. Sepals 5, broadly ovate, 3.5–5 mm, abaxially pubescent. Petals 5(–7), obovate, (4.5–)6–8(–9.5) × (3–)4–6(–9) mm, nectary pit without a scale, apex rounded. Stamens numerous; anthers narrowly oblong. Aggregate fruit ovoid or narrowly ovoid, 4–7 × 3–5 mm. Achene obliquely obovoid, 1.2–1.5(–2) × 1–1.2 mm, glabrous; style persistent, ca. 0.6 mm.

1700–5200 m. Gansu, Qinghai, Shanxi, Sichuan, S and C Xinjiang, Xizang, NW Yunnan [Kazakhstan, Mongolia, Nepal, Pakistan, Russia (Siberia)].

1a. Petals as long as or slightly longer

than sepals ..... 56c. var. *longicaulis*

1b. Petals conspicuously longer than sepals.

2a. Stems erect, not rooting 56a. var. *nephelogenes*

2b. Stems prostrate and rooting

below, then ascending .... 56b. var. *geniculatus*

**56a. *Ranunculus nephelogenes* var. *nephelogenes***

云生毛茛(原变种) *yun sheng mao gen* (*yuan bian zhong*)

*Ranunculus affinis* R. Brown var. *tibeticus* Maximowicz; *R. longicaulis* var. *nephelogenes* (Edgeworth) L. Liou.

Stems (2–)10–20(–35) cm, basally glabrous or rarely sparsely puberulent, sparsely puberulent above. Basal leaves with blade undivided, sometimes 3-lobed or 3-partite, ovate, oblong, lanceolate, or lanceolate-linear. Stem leaves undivided, margin entire or rarely 2-dentate. Sepals 3.5–5 mm. Petals 6–8(–9.5) mm. Fl. Mar–Aug, fr. May–Aug.

Alpine meadows, gravelly slopes, by streams, swamps; 2800–5200 m. W Gansu, Qinghai, Shanxi (Wutai Shan), Sichuan, S and C Xinjiang, Xizang [Nepal, Pakistan].

**56b. *Ranunculus nephelogenes* var. *geniculatus*** (Handel-Mazzetti) W. T. Wang, Bull. Bot. Res., Harbin 7(2): 109. 1987.

曲升毛茛 *qu sheng mao gen*

*Ranunculus pulchellus* C. A. Meyer var. *geniculatus* Handel-Mazzetti, Symb. Sin. 7: 305. 1931; *R. longicaulis* var. *geniculatus* (Handel-Mazzetti) L. Liou.

Stems 10–26 cm, glabrous throughout or sparsely puberulent only above. Basal leaves with blade undivided, or 3-lobed to 3-sect, lanceolate-linear, oblong, or narrowly oblong, Stem leaves linear or lanceolate-linear, undivided or 3-sect. Sepals 4.5–6 mm. Petals 6–9 mm. Fl. Apr–Aug, fr. Jun–Aug.

• Meadows, by streams, swamps; 2500–3200 m. NW Yunnan.

**56c. *Ranunculus nephelogenes* var. *longicaulis*** (Trautvetter) W. T. Wang, Bull. Bot. Res., Harbin 7(2): 110. 1987.

长茎毛茛 chang jing mao gen

*Ranunculus pulchellus* var. *longicaulis* Trautvetter, Bull. Soc. Imp. Naturalistes Moscou 33(1-2): 68. 1860, based on *R. longicaulis* C. A. Meyer in Ledebour, Fl. Altaic. 2: 308. 1830, not Ledebour ex A. Sprengel (1828).

Stems 13–52 cm, glabrous for most part, sparsely puberulent only below flower. Basal leaves with blade undivided, ovate, narrowly elliptic, oblong, or linear-lanceolate. Stem leaves lanceolate-linear, undivided. Sepals 4–5 mm. Petals 4.5–6 mm. Fl. and fr. May–Aug.

Alpine meadows, by streams, swamps; 1700–4200 m. Gansu (Sunan Xian), NE Qinghai, Shanxi (Luya Shan), C and S Xinjiang, W Xizang (Rutog Xian) [Kazakhstan, Mongolia, Russia (Siberia)].

**57. *Ranunculus membranaceus*** Royle, Ill. Bot. Himal. Mts. 53. 1834.

棉毛茛 mian mao gen

Herbs perennial. Roots fibrous, subequally thick. Stems 2.5–28 cm, velutinous or puberulent, branched or simple. Basal leaves 3–7; petiole 1.5–8 cm, puberulent or glabrous; blade undivided or sometimes 3-lobed or 3-partite, lanceolate, oblong, or linear, 1–7.5 × 0.3–0.9 cm, papery, abaxially velutinous or appressed puberulent, base attenuate or cuneate. Stem leaves short petiolate or sessile, linear-lanceolate, undivided, 3-lobed, or 3–5-sect. Flowers solitary, or 2 in a terminal monochasium, 1–2.2 cm in diam. Receptacle glabrous or puberulent. Sepals 5, ovate or broadly ovate, 3–7.5 mm, abaxially velutinous or puberulent. Petals 5(–7), obovate or broadly obovate, (4–)5.5–10 × (1.5–)4–10 mm, nectary pit without a scale, apex rounded. Stamens numerous; anthers narrowly oblong. Aggregate fruit ovoid, 5–12 × 4–7 mm. Achene obliquely obovoid, 1.5–2 × 1–1.6 mm, glabrous; style persistent, 0.5–0.8 mm.

2700–5000 m. S Gansu, SW Nei Mongol (Helan Shan), SW Ningxia, Qinghai, NW and S Sichuan, S Xinjiang, S Xizang [Nepal, Pakistan].

1a. Basal leaf blade adaxially sparsely pubescent, abaxially velutinous ..... 57a. var. *membranaceus*

1b. Basal leaf blade adaxially glabrous or sparsely pubescent, abaxially appressed pubescent.

2a. Basal leaf blade undivided or 3-lobed; stem leaves 3-sect; flowers solitary, terminal; petals 5 ..... 57b. var. *pubescens*

2b. Basal leaf blade 3-lobed or 3-partite nearly to base; stem leaves mostly 5-sect; flowers

often 2 in a terminal

monochasium; petals 5–9 57c. var. *floribundus*

**57a. *Ranunculus membranaceus* var. *membranaceus***

棉毛茛(原变种) mian mao gen (yuan bian zhong)

*Ranunculus pulchellus* C. A. Meyer var. *membranaceus* (Royle) Mukerjee; *R. pulchellus* var. *sericeus* J. D. Hooker & Thomson.

Stems 2.5–12 cm, velutinous, sometimes densely puberulent. Basal leaves ca. 4; petiole 2–3.7 cm, glabrous or appressed puberulent; blade lanceolate-linear, linear, or narrowly oblong, 1.6–3 × 0.3–0.4 mm. Stem leaves linear-lanceolate, undivided or 3-sect and segments linear. Flowers solitary, terminal, 1.2–1.8 cm in diam. Fl. Jun–Sep.

Alpine meadows, gravelly places, river banks; 3700–5000 m. NW Sichuan (Dêgê Xian), S Xizang [Nepal, Pakistan].

**57b. *Ranunculus membranaceus* var. *pubescens*** (W. T. Wang) W. T. Wang, Bull. Bot. Res., Harbin 15: 285. 1995.

柔毛茛 rou mao gen

*Ranunculus nephelogenes* Edgeworth var. *pubescens* W. T. Wang, Bull. Bot. Res., Harbin 7(2): 110. 1987; *R. alaschanicus* Y. Z. Zhao.

Stems (3.5–)5–25 cm, puberulent. Basal leaves 3–7; petiole 1.5–8 cm, sparsely puberulent; blade broadly lanceolate, linear-lanceolate, or narrowly oblong, 1–7.5 × 0.3–0.9 cm. Stem leaves 3-sect, segments linear. Flowers solitary, terminal, 1–2.2 cm in diam. Fl. Jun–Aug, fr. Jul–Aug.

• Alpine meadows, slopes, swamps, river banks; 2700–4500 m. S Gansu, SW Nei Mongol (Helan Shan), SW Ningxia, Qinghai, S Sichuan, S Xinjiang (Qira Xian), SW Xizang (Zhongba Xian).

**57c. *Ranunculus membranaceus* var. *floribundus*** W. T. Wang, Bull. Bot. Res., Harbin 15: 285. 1995.

多花柔毛茛 duo hua rou mao gen

Stems 22–28 cm, puberulent. Basal leaves 5–10; petiole 3.5–8 cm, pubescent; blade 2- or 3-lobed or 3-partite, oblanceolate or rhombic, lobes lanceolate-linear. Stem leaves 3–5-sect, segments linear. Flowers mostly 3 in a terminal monochasium, 1.5–2 cm in diam. Fl. Jun–Jul.

• Slopes; ca. 3000 m. S Gansu (Min Xian).

**58. *Ranunculus hejingensis*** W. T. Wang, Bull. Bot. Res., Harbin 15: 286. 1995.

和静毛茛 he jing mao gen

Herbs perennial. Rhizomes branched. Stems 5–6 cm, densely appressed puberulent, branched. Basal leaf 1; petiole 0.7–1.5 cm, appressed puberulent; blade 3-sect, deltoid, 2.2–2.8 × 3–3.6 cm, papery, abaxially appressed puberulent, base broadly cuneate or subtruncate, central segment lanceolate-linear; lateral



segments narrowly oblong, undivided or unequally 2-partite. Stem leaves similar to basal ones but smaller, subsessile or sessile. Flowers solitary, terminal, ca. 1 cm in diam. Receptacle puberulent. Sepals 5, ovate, ca. 4 mm, abaxially densely appressed puberulent. Petals 5, obovate, ca. 5 × 3–3.5 mm, apex rounded. Stamens numerous; anthers narrowly oblong. Aggregate fruit ovoid, 5–6 × 3.5–5 mm; carpels numerous. Achene obliquely obovoid, 1.6–1.8 × 1–1.2 mm, glabrous; style persistent, ca. 0.6 mm. Fl. and fr. Aug.

• By streams in valley; ca. 3100 m. C Xinjiang (Hejing Xian).

**59. *Ranunculus monophyllus*** Ovczinnikov, Bot. Mater. Gerb. Glavn. Bot. Sada RSFSR 3: 54. 1922.

单叶毛茛 dan ye mao gen

*Ranunculus auricomus* Linnaeus subsp. *sibiricus* (Glehn) Korshinsky; *R. auricomus* var. *sibiricus* Glehn; *R. krylovii* Ovczinnikov; *R. monophyllus* f. *latisectus* Ovczinnikov; *R. sibiricus* Adams (1834), not Sprengel (1831).

Herbs perennial. Roots fibrous, subequally thick. Stems 14–45 cm, glabrous or rarely sparsely puberulent above, simple or 1- or 2-branched. Basal leaves 1(–3); petiole 5–14 cm, glabrous; blade 3-lobed, sometimes 3-partite or 3-sect, reniform or orbicular-ovate, 1.2–3.6 × 2–5 cm, papery, sparsely puberulent, base cordate or subcordate, rarely subtruncate, margin dentate. Stem leaves 2, sessile, 3–7-sect, 1.5–3.5 cm, segments narrowly lanceolate or linear, entire. Flowers solitary, terminal, 1.2–1.8 cm in diam. Receptacle puberulent or glabrous. Sepals elliptic, 4–5 mm, abaxially puberulent. Petals 5, obovate or broadly obovate, 5.5–8.5 × 4–8 mm, apex rounded. Stamens numerous; anthers oblong. Aggregate fruit ovoid, ca. 6 × 5 mm. Achene slightly bilaterally compressed, obliquely obovoid, 2–2.8 × 1.8–2 mm, puberulent; style persistent, 0.6–1 mm. Fl. Apr–Jun. Meadows, forests, by stream; below 2000 m. N Hebei, Heilongjiang, Nei Mongol, Shanxi (Luya Shan), Xinjiang [Kazakhstan, Mongolia, Russia].

**60. *Ranunculus albertii*** Regel & Schmalhausen, Trudy Imp. S.-Peterburgsk. Bot. Sada 5: 223. 1877.

宽瓣毛茛 kuan ban mao gen

*Ranunculus sulphureus* Solander var. *albertii* (Regel & Schmalhausen) Maximowicz.

Herbs perennial. Roots fibrous, subequally thick. Stems 6–30 cm, glabrous below, appressed puberulent above, simple or 1-branched. Basal leaves 2–5; petiole 1.5–8 cm, glabrous; blade undivided or 3-lobed, reniform-pentagonal or obovate, 1–2.2 × 1.4–3.5 cm, thinly papery, glabrous, base subcordate or truncate-rounded, margin with 3 or 4 rounded teeth on each side, ciliate. Stem leaves 2 or 3, lower ones short petiolate, palmatipartite, upper 1 sessile, subpalmatisect, segments narrowly oblong. Flower solitary, terminal, 1.7–2.8 cm in diam.

Receptacle glabrous. Sepals 5, ovate, 6–8 mm, abaxially yellowish puberulent. Petals 5 or 6, broadly obovate or flabellate-obovate, 10–13 × 9–17 mm, apex truncate or truncate-rounded. Stamens numerous; anthers oblong. Aggregate fruit ovoid, ca. 6 mm. Achene slightly bilaterally compressed, obliquely obovoid, ca. 2.5 × 1.8 mm, glabrous; style persistent, ca. 0.5 mm. Fl. Jun–Sep.

Grassy slopes, by stream; 1800–3300 m. W and C Xinjiang [Kazakhstan].

**61. *Ranunculus transiliensis*** M. G. Popov ex Ovczinnikov in Komarov, Fl. URSS. 7: 401. 1937.

截叶毛茛 jie ye mao gen

*Ranunculus nivalis* Linnaeus var. *tianschanicus* Ruprecht.

Herbs perennial. Roots fibrous, subequally thick. Stems 8–25 cm, glabrous for most part, sparsely puberulent only below flower, simple or 1-branched. Basal leaves several; petiole 2–8.5 cm, glabrous; blade indistinctly 3-lobed, oblate or suborbicular, 0.8–2.5 × 0.9–3 cm, papery, glabrous, base subtruncate, broadly cuneate, or rounded, margin with 3–6 unequal obtuse or rounded teeth on each side, apex rounded. Stem leaves 2, sessile or short petiolate, cuneate-obovate, 3-lobed; lobes narrowly ovate, lateral ones sometimes unequally 2-lobed. Flowers solitary, terminal, 1.7–2.5 cm in diam. Receptacle puberulent. Sepals 5, ovate, 6.5–8 mm, abaxially blackish brown pubescent. Petals 5, broadly obovate or oblate, 9–12 × 10–11 mm, apex rounded-truncate or rounded. Stamens numerous; anthers narrowly oblong. Carpels numerous; ovary longer than style, glabrous. Fl. Jul.

Alpine meadows; 2500–3400 m. Xinjiang (Tian Shan) [Kazakhstan].

**62. *Ranunculus fraternus*** Schrenk, Enum. Pl. Nov. 1: 103. 1841.

团叶毛茛 tuan ye mao gen

*Ranunculus altaicus* E. G. Laxmann var. *fraternus* (Schrenk) Trautvetter.

Herbs perennial. Roots fibrous, subequally thick. Stems 6–18 cm, glabrous below, appressed puberulent above, simple or 1-branched. Basal leaves 2 or 3; petiole 1.5–7 cm, sparsely puberulent or subglabrous; blade suborbicular or orbicular-ovate, 0.8–2.5 × 1–3 cm, thinly leathery, glabrous, base subcordate or rounded, margin with 5–7 rounded teeth on each side, ciliate, apex obtuse. Stem leaves 1 or 2, short petiolate or sessile, palmatipartite or palmatisect, segments oblong-lanceolate or linear. Flowers solitary, terminal, 1.5–2.8 cm in diam. Receptacle glabrous. Sepals 5, elliptic-ovate, 6–8 mm, abaxially appressed brown-puberulent. Petals 5 or 6, broadly obovate or cuneate, 7–14 × 7–10 mm, apex rounded or truncate-rounded. Stamens numerous; anthers oblong. Carpels numerous; ovary longer than style, glabrous. Fl. May–Jun.

Alpine meadows; 2100–2600 m. W Xinjiang (Zhaosu Xian) [Kazakhstan].

**63. *Ranunculus hamiensis*** J. G. Liu, Acta Phytotax. Sin. 30: 378. 1992.

哈密毛茛 *ha mi mao gen*

Herbs perennial. Roots fibrous, subequally thick. Stems 20–30 cm, glabrous, branched from base. Basal leaves ca. 7; petiole 5–7 cm, glabrous; blade 3-lobed or 3-cleft to middle, orbicular-oblate or oblate, 2.5–3.5 × 2–3 cm, papery, glabrous, base broadly cuneate or rounded; central lobe suboblong, 3-lobed or 3-dentate above; lateral lobes obliquely ovate, incised-dentate. Stem leaves subsessile or sessile, palmately 5–9-partite, lobes lanceolate. Monochasium terminal, 2-flowered; bracts leaflike. Flowers ca. 2.5 cm in diam. Pedicel 5–7 cm, yellow puberulent above. Receptacle glabrous. Sepals 5, ovate, 5–7 mm, yellowish puberulent. Petals 5, orbicular-ovate, 8–10 × 6–8 mm, abaxially yellow puberulent below, apex rounded. Stamens numerous; anthers oblong. Aggregate fruit globose, ca. 6 mm in diam.; carpels numerous. Achene ovoid, ca. 2 × 1.6 mm, glabrous; style persistent, ca. 1 mm, curved. Fl. and fr. Jun.

• Valleys; ca. 2000 m. E Xinjiang (Hami Xian).

**64. *Ranunculus felixii*** H. Léveillé, Repert. Spec. Nov. Regni Veg. 12: 281. 1913.

扇叶毛茛 *shan ye mao gen*

Herbs perennial. Roots fibrous, thickened above. Stems 15–25 cm, spreading pubescent, simple or 1- or 2-branched above. Basal leaves ca. 2; petiole 3–8.5 cm, sparsely puberulent or subglabrous; blade 3-lobed or rarely 3-partite, oblate-ovate or flabellate, 1.2–2.6 × 1.6–3.8 cm, papery, glabrous or abaxially sparsely puberulent, base truncate-cuneate, truncate, or cordate, central lobe entire, lateral lobes 2- or 3-dentate; teeth ovate or orbicular-ovate, apex acute, or subtruncate and apiculate. Stem leaves 3 or 4, short petiolate or sessile, 3-sect, segments linear, undivided or unequally 2-partite. Flowers terminal, solitary or 2 in a monochasium, 1–1.2 cm in diam. Pedicel 1–4.5 cm, sparsely puberulent. Receptacle subglabrous. Sepals 5, elliptic-ovate, 3–3.5 mm, abaxially sparsely puberulent. Petals 5, obovate, 5–7 × 3–4 mm, nectariferous foveola small, apex rounded. Stamens numerous; anthers oblong. Aggregate fruit ellipsoid, ca. 5 × 3 mm; carpels numerous. Achene slightly bilaterally compressed, broadly ellipsoid, ca. 1.8 × 1.2 mm, densely puberulent; style persistent, ca. 1 mm. Fl. May–Jul.  $2n = 32^*$ .

• 2500–4400 m. SW Sichuan, N Yunnan.

- 1a. Basal leaf blade base truncate-cuneate  
or truncate ..... 64a. var. *felixii*  
1b. Basal leaf blade base cordate ..... 64b. var. *forrestii*

**64a. *Ranunculus felixii* var. *felixii***

扇叶毛茛(原变种) *shan ye mao gen (yuan bian zhong)*  
*Ranunculus affinis* R. Brown var. *flabellatus* Franchet.

Basal leaf blade base truncate-cuneate or truncate.

• Grassy slopes, forests; 2600–4400 m. SW Sichuan, N Yunnan.

**64b. *Ranunculus felixii* var. *forrestii*** Handel-Mazzetti, Acta Horti Gothob. 13: 142. 1939.

心基扇叶毛茛 *xin ji shan ye mao gen*

Basal leaf blade base cordate.

• Forest margins, by streams; 2500–3100 m. NW Yunnan.

**65. *Ranunculus wangianus*** Q. E. Yang, Acta Phytotax. Sin. 38: 551. 2000.

文采毛茛 *wen cai mao gen*

Herbs perennial. Roots fibrous, subequal, not thickened. Stems 10–20 cm, sparsely pilose, 1–3-branched. Basal leaves usually more than 3; petiole 5–10 cm; blade oblate- to obtusoid-obovate, 1.5–3 × (1–)1.5–2.5 cm, papery, base broadly cuneate, apex 3–5-toothed. Lower stem leaves similar to basal leaves but shortly petiolate, upper stem leaves 3-partite or entire, rarely 3-lobate, segments linear. Flowers solitary, terminal, less than 1 cm in diam. Receptacle glabrous. Sepals 5, oblong, ca. 3 mm, abaxially pilose. Petals 5, obovate, ca. 4 × 2.5 mm, nectary pit without a scale, apex subrounded. Stamens numerous; anthers oblong, less than 1 mm. Aggregate fruit subglobose. Carpels numerous. Achene inflated, ovoid-globose, ca. 2.8 × 2.4 mm, densely puberulent; style persistent, straight or curved, ca. 1 mm. Fl. and fr. Aug.  $2n = 48^*$ .

• About 3300 m. Yunnan (Weixi Lisu Zu Zizhixian).

**66. *Ranunculus yunnanensis*** Franchet, Bull. Soc. Bot. France 32: 5. 1885.

云南毛茛 *yun nan mao gen*

*Ranunculus mairei* H. Léveillé (1913), not H. Léveillé (1914).

Herbs perennial. Roots fibrous, subequally thick. Stems 1–4, 7–15 cm, glabrous, usually few branched. Basal leaves 3–8; petiole 2–7 cm, glabrous blade cuneate-obovate, obovate, spatulate, or subtrapeziform, (0.7–)1.2–4.6 × (0.5–)0.9–2.5 cm, thickly papery, glabrous, base cuneate, apex 3–7-dentate or crenate. Lower stem leaf short petiolate or subsessile, spatulate, 3-dentate apically, upper stem leaf sessile, 3-partite or 3-sect, segments linear. Monochasium terminal, 2- or 3-flowered; bracts leaflike. Flowers 1.2–2.1 cm in diam. Pedicel 1.5–8.5 cm, appressed puberulent. Receptacle glabrous. Sepals 5, elliptic, 3.5–6 mm, abaxially appressed puberulent. Petals 5(–8), obovate, 5–10 × 4–7 mm, nectary pit without a scale, apex rounded or subtruncate. Stamens numerous; anthers oblong. Aggregate fruit ovoid, 3.5–5 × 3–4 mm; carpels numerous. Achene slightly bilaterally compressed, obliquely obovoid, 1.5–2 × 1–1.2 mm, densely puberulent; style persistent, ca. 0.8 mm. Fl. Jun–Sep.  $2n = 16^*$ .

• Grassy slopes, meadows, forest margins, by streams; 2800–4800 m. SW Sichuan, N Yunnan.

**67. *Ranunculus altaicus*** E. G. Laxmann, Novi Comment. Acad. Sci. Imp. Petrop. 18: 533. 1773.

阿尔泰毛茛 *a er tai mao gen*

Herbs perennial. Roots fibrous, subequally thick. Stems 10–15 cm, brown puberulent only below flower, simple. Basal leaves several; petiole 1.5–3.5 cm, glabrous; blade spatulate, cuneate, or narrowly obovate, 1–2.5 ×

0.6–1.5 cm, papery, glabrous, base cuneate, apex 3–5-lobed. Stem leaves 2 or 3, lower ones short petiolate, similar to basal ones or 3-lobed, uppermost leaf sessile, palmately partite, lobes linear-lanceolate. Flowers solitary, terminal, ca. 2.5 cm in diam. Receptacle densely puberulent. Sepals 5, ovate, ca. 8 mm, abaxially densely dark brown puberulent. Petals ca. 7, broadly obovate or obovate, ca. 11 × 8–11 mm, nectary pit without a scale, apex rounded or rounded-truncate. Stamens numerous; anthers oblong. Aggregate fruit ovoid, ca. 5 × 4 mm; carpels numerous. Achene slightly bilaterally compressed, obliquely ovoid, ca. 2.5 × 0.8 mm, glabrous; style persistent, ca. 1 mm. Fl. Jul–Aug. Meadows, swamps; 2600–2700 m. N Xinjiang [Kazakhstan, Kyrgyzstan, Mongolia, Russia (Siberia)].

Collections from scree slopes in Xinjiang (Tian Shan) and Xizang (Zola), named as *Ranunculus nivalis* Linnaeus, are clearly related to this species and *R. sulphureus* Solander. Both *R. nivalis* and *R. sulphureus* were originally described from arctic Europe. These collections differ from *R. altaicus* by the more deeply divided basal leaves and larger flowers, nearly 3 cm diam. They also resemble *R. chuanchingensis* in habit and flower size, but differ by the wider lobes of the basal leaf blades and dense, brown sepal indumentum. More work is needed to clarify their taxonomy.

**68. *Ranunculus menyuanensis*** W. T. Wang, Bull. Bot. Res., Harbin 15: 290. 1995.

门源毛茛 *men yuan mao gen*

Herbs perennial. Roots fibrous, subequally thick. Stems 19–24 cm, puberulent, simple or branched. Basal leaves ca. 4; petiole 4–8 cm, 3-lobed, sparsely puberulent or subglabrous; blade broadly ovate or subreniform, 1.2–2.4 × 1.6–2.4 cm, papery, abaxially glabrous, base cordate; lateral lobes obliquely flabellate, unequally 2-lobed. Stem leaves short petiolate or sessile, 3-sect, lobes usually undivided, narrowly oblong or oblong-lanceolate, rarely central lobe 3-lobed and lateral lobes unequally 2-lobed. Flowers solitary, terminal, 1.2–1.4 cm in diam. Receptacle sparsely puberulent. Sepals 5, broadly elliptic, 4–5.5 mm, abaxially appressed pubescent. Petals 5, obovate, 5–6.5 × 4.5–7 mm, nectary pit without a scale, apex rounded. Stamens numerous; anthers oblong. Aggregate fruit ovoid, 6–7 × 5–6 mm. Achene obliquely ellipsoid or narrowly ellipsoid, 2–2.2 × ca. 1.2 mm, glabrous; style persistent, ca. 1 mm. Fl. and fr. Aug.

• Wet places on slopes; ca. 3000 m. NE Qinghai (Menyuan Xian). The spelling “*mengyuanensis*” in the protologue was a typographical error, as the epithet was based on the type locality, Menyuan. The correct spelling was used for the accompanying illustrations.

**69. *Ranunculus dongrengensis*** Handel-Mazzetti, Acta Horti Gothob. 13: 157. 1939.

圆裂毛茛 *yuan lie mao gen*

Herbs perennial. Roots fibrous, slightly thickened at base. Stems 4–25 cm, glabrous or puberulent, simple or branched. Basal leaves several; petiole 2–11 cm, glabrous or puberulent; blade 3-lobed or 3-cleft, obovate, orbicular-ovate, or obovate, 0.7–2 × 0.7–2 cm, glabrous or adaxially strigose, base rounded, subtruncate, or

broadly cuneate, lobes ovate, broadly ovate, or oblong, entire or lateral lobes 1-dentate or unequally 2-lobed, apex obtuse. Lower stem leaves similar to basal ones; upper stem leaves short petiolate or sessile, 3-lobed to 3-sect. Flowers solitary, terminal, 1–1.8 cm in diam. Receptacle glabrous or puberulent. Sepals 5, elliptic, 4–6 mm, glabrous or abaxially puberulent. Petals 5, obovate, 4–9 × 2.2–7 mm, nectary pit without a scale, apex rounded or emarginate. Stamens numerous, oblong. Aggregate fruit narrowly ovoid, 5.5–7 × 2.5–4 mm; carpels numerous. Achene narrowly obovoid, ca. 1.5 mm, glabrous; style persistent, 0.3–0.7 mm. Fl. May–Aug.

• 3200–5600 m. NW Sichuan (Sungpan Xian), S Xizang, NW Yunnan (Dêqên Xian).

- 1a. Basal leaves 3-lobed not to middle; receptacle glabrous ..... 69a. var. *dongrengensis*  
1b. Basal leaves 3-cleft beyond middle; receptacle puberulent ..... 69b. var. *altifidus*

**69a. *Ranunculus dongrengensis* var. *dongrengensis***

圆裂毛茛(原变种) *yuan lie mao gen* (*yuan bian zhong*)

Basal leaves 3-lobed not to middle. Receptacle glabrous.

• Meadows, grassy slopes; 3200–5600 m. NW Sichuan (Sungpan Xian), S Xizang, NW Yunnan (Dêqên Xian).

**69b. *Ranunculus dongrengensis* var. *altifidus*** W. T. Wang, Bull. Bot. Res., Harbin 15: 291. 1995.

深圆裂毛茛 *shen yuan lie mao gen*

Basal leaves 3-cleft beyond middle. Receptacle puberulent.

• Grassy slopes, by streams; ca. 3600 m. SE Xizang (Mêdog Xian).

**70. *Ranunculus zhongdianensis*** W. T. Wang, Bull. Bot. Res., Harbin 7(2): 104. 1987.

中甸毛茛 *zhong dian mao gen*

Herbs perennial. Roots fibrous, subequally thick. Stems 5.5–8.5 cm, glabrous below, sparsely puberulent above, simple, rarely branched at base. Basal leaves ca. 3; petiole 2–2.6 cm, glabrous; blade cordate-pentagonal, 5–7 × 6–10 mm, papery, base cordate, apex rounded. Stem leaves 2 or 3, sessile, 3-sect, segments 2-cleft or undivided, ultimate lobes linear-lanceolate or linear-oblong. Flowers solitary, terminal, 1.5–1.9 cm in diam. Pedicel 1–5 cm, appressed puberulent. Receptacle glabrous. Sepals 5, broadly ovate or orbicular-ovate, 3.5–4 mm, abaxially pilose. Petals 5 (or 6), flabellate or broadly obovate, 6–7.5 × 6–9.5 mm, nectary pit without a scale, apex rounded. Stamens numerous; anthers oblong. Carpels numerous, glabrous; style slightly shorter than ovary. Fl. Jul.

• Grassy slopes; ca. 3600 m. NW Yunnan (Zhongdian Xian).

**71. *Ranunculus dielsianus*** Ulbrich, Bot. Jahrb. Syst. 48: 621. 1913.

康定毛茛 *kang ding mao gen*

Herbs perennial. Roots fibrous, thickened above. Stems 5–40 cm, glabrous or sparsely puberulent, simple or

branched. Basal leaves 1–3; petiole 2–9 cm, glabrous or sparsely puberulent; blade 3-lobed or 3-partite, reniform or pentagonal, 4–14 × 6–22 mm, papery or herbaceous, glabrous or sparsely puberulent or pubescent, base cordate, central lobe broadly obovate or rhombic-obovate, entire, 3-dentate, or 3-lobed, lateral lobes obliquely flabellate, unequally 2-lobed. Lower stem leaves similar to basal ones; upper stem leaves short petiolate or sessile, 3-sect, segments narrowly elliptic or oblong. Flowers solitary, terminal, 0.6–1.3 cm in diam. Pedicel 0.4–7 cm, subglabrous or puberulent. Receptacle puberulent. Sepals 5, ovate, 2.2–4 mm, abaxially appressed puberulent. Petals 5, obovate or elliptic-obovate, 4–6.5 × 1.8–4 mm, nectary pit without a scale, apex rounded or subtruncate. Stamens numerous; anthers oblong. Aggregate fruit ovoid, ca. 5 × 3 mm; carpels numerous. Achene obliquely broadly obovoid, 1–1.1 × 0.9–1 mm, puberulent or glabrous; style persistent, 0.6–1 mm. Fl. Jul–Sep.

• 2100–4800 m. NE Qinghai, W and NW Sichuan, S Xizang, N Yunnan.

1a. Carpels and achenes puberulent.

2a. Basal leaves adaxially glabrous, abaxially glabrous or sparsely puberulent; stems 5–25 cm 71a. var. *dielsianus*

2b. Basal leaves adaxially pubescent, abaxially glabrous; stems 7–10 cm ..... 71b. var. *suprasericeus*

1b. Carpels and achenes glabrous.

3a. Stems 6–10 cm; basal leaves adaxially puberulent; receptacle with sparse hairs ca. 0.4 mm 71c. var. *longipilosus*

3b. Stems ca. 40 cm; basal leaves adaxially glabrous; receptacle with sparse hairs 0.1–0.15 mm 71d. var. *leiogynus*

**71a. *Ranunculus dielsianus* var. *dielsianus***

康定毛茛(原变种) kang ding mao gen (yuan bian zhong)

Stems 5–25 cm. Basal leaves adaxially glabrous, abaxially glabrous or sparsely puberulent. Carpels and achenes puberulent.

• Grassy or gravelly slopes, woods, by streams; 3500–4800 m. W Sichuan, S Xizang, NE Yunnan.

**71b. *Ranunculus dielsianus* var. *suprasericeus*** Handel-Mazzetti, Symb. Sin. 7: 299. 1931.

丽江毛茛 li jiang mao gen

*Ranunculus suprasericeus* (Handel-Mazzetti) L. Liou.

Stems 7–10 cm. Basal leaves adaxially pubescent, abaxially glabrous. Carpels and achenes puberulent.

• Scrub, by streams; ca. 3500 m. SW Sichuan, NW Yunnan.

**71c. *Ranunculus dielsianus* var. *longipilosus*** W. T. Wang, Bull. Bot. Res., Harbin 16: 164. 1996.

长毛康定毛茛 chang mao kang ding mao gen

Stems 6–10 cm. Basal leaves adaxially puberulent.

Receptacle with sparse hairs ca. 0.4 mm. Carpels and achenes glabrous.

• Alpine meadows; ca. 3800 m. NE Yunnan (Qiaojia Xian).

**71d. *Ranunculus dielsianus* var. *leiogynus*** W. T. Wang, Bull. Bot. Res., Harbin 15: 291. 1995.

大通毛茛 da tong mao gen

Stems ca. 40 cm. Basal leaves adaxially glabrous.

Receptacle with sparse hairs 0.1–0.15 mm. Carpels and achenes glabrous.

• Margins of *Picea* forests; ca. 2100 m. NE Qinghai (Datong Xian).

**72. *Ranunculus limprichtii*** Ulbrich, Repert. Spec. Nov. Regni Veg. Beih. 12: 377. 1922.

纺锤毛茛 fang chui mao gen

Herbs perennial. Roots fibrous, thickened above. Stems erect or ascending, 7–10 cm, glabrous or sparsely puberulent, simple or few branched. Basal leaf 1;

petiole 1–3 cm, glabrous; blade 3-lobed to middle, reniform-pentagonal, 6–8.5 × 8–14 mm, herbaceous, glabrous or adaxially and margin sparsely puberulent,

base cordate, central lobe broadly obovate, apex truncate or rounded; lateral lobes obliquely flabellate, inconspicuously 2-lobed. Upper stem leaves smaller,

short petiolate. Flowers solitary, terminal, 0.6–1.1 cm in diam. Pedicel 1.5–4 cm, glabrous or sparsely puberulent. Receptacle glabrous. Sepals 5, ovate or elliptic, 2.5–3

mm, abaxially glabrous or puberulent. Petals 5, obovate or narrowly elliptic, 3–5.5 × 1–4 mm, nectary pit without a scale, apex rounded or obtuse. Stamens

numerous; anthers ellipsoid. Aggregate fruit ovoid, ca. 4 × 3 mm; carpels numerous. Achene obliquely obovoid, ca. 1.8 × 1.2 mm, densely puberulent; style

persistent, ca. 0.4 mm.

• 2600–5100 m. W Sichuan.

1a. Flowers 8.5–11 mm in diam.; petals obovate,

4.8–5.5 × 2.8–3.8 mm, apex rounded; sepals

abaxially puberulent; stems glabrous or

sparsely puberulent, leaves glabrous or

adaxially and at margin sparsely

puberulent ..... 72a. var. *limprichtii*

1b. Flowers smaller, 6.5–7 mm in diam.;

petals long elliptic, 3–3.7 × 1–1.4 mm,

apex obtuse; sepals abaxially glabrous;

stems and leaves glabrous ..... 72b. var. *flavus*

**72a. *Ranunculus limprichtii* var. *limprichtii***

纺锤毛茛(原变种) fang chui mao gen (yuan bian zhong)

Stems glabrous or sparsely puberulent. Flowers 0.8–1.1 cm in diam. Sepals abaxially puberulent. Petals obovate,

4.8–5.5 × 2.8–3.8 mm, nectary pit without a scale, apex rounded.

• Grassy slopes, forest margins; 2600–5100 m. W Sichuan.

**72b. *Ranunculus limprichtii* var. *flavus*** Handel-Mazzetti, Acta Horti Gothob. 13: 144. 1939.

狭瓣纺锤毛茛 xia ban fang chui mao gen

Stems and leaves glabrous. Flowers 0.6–0.7 cm in diam. Sepals abaxially glabrous. Petals long elliptic, 3–3.7 × 1–1.4 mm, nectary pit without a scale, apex obtuse.

• Rocky areas, scrub; 4000–4200 m. NW Sichuan (Songpan Xian).

**73. *Ranunculus pseudolobatus*** L. Liou in W. T. Wang, Fl. Reipubl. Popularis Sin. 28: 360. 1980.

大金毛茛 da jin mao gen

Herbs perennial. Roots fibrous, slightly thickened above. Stems 8–15 cm, glabrous below, puberulent above, branched. Basal leaves ca. 4; petiole 3–5.2 cm, glabrous; blade 3-lobed, suborbicular or orbicular-ovate, 0.8–1.2 × 0.8–1.4 cm, leathery, abaxially glabrous, adaxially sparsely puberulent or glabrous, base rounded, broadly cuneate, or subcordate, margin with a few rounded teeth. Stem leaves few, lower ones similar to basal leaves, short petiolate, upper ones sessile, 3-sect, segments linear. Flowers solitary, terminal, 1.4–1.8 cm in diam. Pedicel 1–5 cm, puberulent. Receptacle puberulent. Sepals 5, elliptic, 4–5 cm, abaxially puberulent. Petals 5(or 6), broadly obovate or obovate, 7–9 × 4.5–6 mm, nectary pit without a scale, apex subtruncate or rounded. Stamens numerous; anthers oblong. Carpels numerous; ovary puberulent; style longer than ovary. Fl. Jun.

• Grassy slopes; ca. 4800 m. NW Sichuan (Jinchuan Xian).

**74. *Ranunculus hetianensis*** L. Liou in W. T. Wang, Fl. Reipubl. Popularis Sin. 28: 360. 1980.

和田毛茛 he tian mao gen

Herbs perennial. Roots fibrous, thickened at base. Stems ca. 20 cm, slender, sparsely puberulent, simple. Basal leaves ca. 2; petiole slender, 5.5–9 cm, glabrous; blade ovate or broadly elliptic, ca. 1.8 × 1.6 cm, papery, glabrous, base subcordate or rounded, margin unequally 2- or 3-toothed on each side, undivided, or indistinctly 3-lobed, apex slightly obtuse. Stem leaves 2, glabrous, lower one short petiolate, 3-partite, lobes oblong-lanceolate, upper one sessile, 3-sect, segments linear-lanceolate. Flowers solitary, terminal, ca. 1.3 cm in diam. Receptacle puberulent. Sepals 5, elliptic, ca. 7 mm, abaxially appressed puberulent. Petals 5, narrowly oblong, ca. 8 × 2 mm, nectary pit without a scale, apex rounded. Stamens numerous; anthers oblong. Carpels numerous; ovary 0.8–1 mm, glabrous; style 1.2–1.7 mm. Fl. Jul.

• Alpine meadows; ca. 3200 m. SW Xinjiang (Hotan Xian).

**75. *Ranunculus xinningensis*** W. T. Wang, Bull. Bot. Res., Harbin 9(2): 10. 1989.

新宁毛茛 xin ning mao gen

Herbs perennial. Roots fibrous, subequally thick. Stems 5–8.2 cm, sparsely puberulent, simple or few branched. Basal leaves ca. 8; petiole 1.5–4.5 cm, puberulent; blade reniform or reniform-pentagonal, 5–8 × 8–15 mm, papery, glabrous, base deeply cordate, central lobe obtusely trapeziform, 3-dentate; lateral lobes subflabellate, unequally 2-lobed. Stem leaves 1–3, 3-sect, segments linear. Flowers solitary, terminal, 1–1.2 cm in diam.

Receptacle glabrous. Sepals 5, oblong, 5.2–6 mm, abaxially sparsely puberulent. Petals 5(or 6), obovate-oblong, 5.2–6 × 2–3 mm, nectary pit with a scale, apex rounded or obtuse. Stamens numerous; anthers oblong. Aggregate fruit subglobose or broadly ovoid, 2.5–3.5 × 2–2.2 mm. Achene slightly bilaterally compressed, ellipsoid, 1.2–1.5 mm, sparsely puberulent, with a prominent dorsal rib; style persistent, ca. 0.2 mm. Fl. and fr. Mar.

• Shady places on wet rocks; ca. 300 m. S Hunan (Xinning Xian).

**76. *Ranunculus lobatus*** Jacquemont, Voy. Inde 4(Bot.): 4. 1835–1844.

浅裂毛茛 qian lie mao gen

Herbs perennial. Roots fibrous, subequally thick. Stems 4–8.5 cm, glabrous or puberulent above, simple or branched. Basal leaves ca. 4; petiole 2–4.8 cm, glabrous; blade broadly ovate or trapeziform-ovate, 0.8–2 × 0.6–1.4 cm, papery or thinly leathery, glabrous except for ciliate margin, base rounded, broadly cuneate or subtruncate, apex 3–5-toothed, obtuse or slightly acute. Lower stem leaves similar to basal leaves, middle and upper ones short petiolate or sessile, 2- or 3-partite or undivided. Flowers solitary, terminal, 1.2–2.2 cm in diam. Receptacle glabrous. Sepals 5, elliptic, 5–7 mm, abaxially pubescent. Petals 5(or 6), broadly obovate, 5–10 × 5–7 mm, nectary pit without a scale, apex rounded. Stamens numerous; anthers oblong. Carpels numerous, glabrous; style slightly shorter than ovary. Fl. Aug.

Alpine meadows, wet places of slopes, by streams; 4300–5100 m. SW Xizang [N India, N Pakistan].

This name is a later homonym of *Ranunculus lobatus* Moench (Methodus, 214. 1796), an illegitimate renaming of *R. muricatus* Linnaeus that seems to have been completely overlooked or ignored. No useful purpose would be served by changing an established name on such a technicality, discovered shortly before this work was due to go to press, and Jacquemont's name will therefore be proposed for conservation.

**77. *Ranunculus indivisus*** (Maximowicz) Handel-Mazzetti, Acta Horti Gothob. 13: 145. 1939.

圆叶毛茛 yuan ye mao gen

Herbs perennial. Roots fibrous, slightly thickened at base. Stems 8–36 cm, puberulent, sometimes glabrous below, branched. Basal leaves 4–9; petiole 2–5 cm, glabrous; blade rounded-ovate, ovate, or deltoid-ovate, 1–3 × 1–3 cm, papery, glabrous, base subtruncate or subcordate, margin dentate or crenate, apex obtuse or rounded. Lower stem leaves similar to basal leaves or cuneate, 3-lobed; upper ones short petiolate or sessile, 3-sect or undivided, ciliate or sparsely puberulent. Flowers solitary, terminal, 1–1.7 cm in diam. Receptacle puberulent. Sepals 5, subelliptic, 4–5.5 mm, abaxially appressed pubescent. Petals 5, narrowly obovate, 5–9 × 3–4 mm, nectary pit without a scale, apex rounded. Stamens numerous; anthers oblong. Aggregate fruit narrowly ovoid, 6–9 × 3.5–5 mm. Achene obliquely obovoid, 1.5–2 × 1.2–1.5 mm, puberulent; style persistent, ca. 0.8 mm.

- 2100–4300 m. SW Gansu, C and NE Qinghai, Shanxi, NW Sichuan.
- 1a. Upper stem leaves 3-sect, segments narrowly lanceolate or linear ..... 77a. var. *indivisus*
- 1b. Upper stem leaves undivided, narrowly lanceolate or linear-lanceolate, entire or with 1 tooth at margin, rarely 3-lobed ..... 77b. var. *abaensis*

**77a. *Ranunculus indivisus* var. *indivisus***

圆叶毛茛(原变种) yuan ye mao gen (yuan bian zhong)  
*Ranunculus affinis* R. Brown var. *indivisus*  
Maximowicz, Fl. Tangut. 14. 1889.

Upper stem leaves 3-sect, segments narrowly lanceolate or linear. Fl. Jun–Jul, fr. Aug.

- Scrub, slopes, under rocks; 3400–3900 m. C and NE Qinghai, Shanxi (Jiaocheng Xian).

**77b. *Ranunculus indivisus* var. *abaensis* (W. T. Wang) W. T. Wang, Bull. Bot. Res., Harbin 15: 293. 1995.**

阿坝毛茛 a ba mao gen

*Ranunculus abaensis* W. T. Wang, Acta Phytotax. Sin. 25: 36. 1987.

Upper stem leaves undivided, narrowly lanceolate or linear-lanceolate, margin entire or 1-toothed, rarely 3-lobed. Fl. Jun–Jul, fr. Jun–Aug.

- Scrub, wet places, alpine meadows; 2100–4300 m. SW Gansu, C and NE Qinghai, NW Sichuan.

**78. *Ranunculus nyalamensis* W. T. Wang, Bull. Bot. Res., Harbin 15: 293. 1995.**

聂拉木毛茛 nie la mu mao gen

Herbs perennial. Roots fibrous, slightly thickened at base. Stems 5–11.5 cm, puberulent or glabrous below, simple or branched. Basal leaves 4–8; petiole 1.8–5.3 cm, sparsely puberulent; blade subpentagonal or obovate, 4–11 × 5.5–14 mm, papery, puberulent or sometimes glabrous, base truncate-subcordate or subtruncate, margin with 2–4 unequal teeth on each side, apex rounded or obtuse. Stem leaves ca. 2; lower short petiolate, 3-lobed or 3-sect; uppermost sessile, 3-partite or 3-sect, sometimes undivided, oblong. Flowers solitary, terminal, 1–1.2 cm in diam. Receptacle sparsely puberulent. Sepals 5, subelliptic, ca. 5 mm, abaxially puberulent. Petals 5, obovate, 5.5–6 × 3.5–5 mm, nectary pit without a scale, apex rounded. Stamens numerous; anthers oblong. Carpels numerous, 0.8–1 mm, glabrous; style slightly shorter than ovary.

- 4200–4500 m. S Xizang.

- 1a. Stems 6–11.5 cm, puberulent from base to apex; leaf blade adaxially glabrous, abaxially puberulent; flower 1–1.2 cm in diam.; petals obovate, 5.5–6 × 3.5–5 mm .... 78a. var. *nyalamensis*
- 1b. Stems lower, 5–5.5 cm, glabrous below, puberulent above; leaf blade glabrous or adaxially puberulent; flower smaller, 0.8–1 cm in diam.; petals smaller,

narrowly obovate, 4–5.2 ×

2.2–3.2 mm ..... 78b. var. *angustipetalus*

**78a. *Ranunculus nyalamensis* var. *nyalamensis***

聂拉木毛茛(原变种) nie la mu mao gen (yuan bian zhong)

Stems 6–11.5 cm, puberulent from base to apex. Leaf blade adaxially glabrous, abaxially puberulent. Flower 1–1.2 cm in diam. Petals obovate, 5.5–6 × 3.5–5 mm, nectary pit without a scale. Fl. Jun.

- Grassy places by streams; ca. 4200 m. S Xizang (Nyalam Xian).

**78b. *Ranunculus nyalamensis* var. *angustipetalus* W. T. Wang, Bull. Bot. Res., Harbin 15: 294. 1995.**

浪卡子毛茛 lang ka zi mao gen

Stems lower, 5–5.5 cm, glabrous below, puberulent above. Leaf blade glabrous or adaxially puberulent. Flower 0.8–1 cm in diam. Petals narrowly obovate, 4–5.2 × 2.2–3.2 mm, nectary pit without a scale. Fl. Sep.

- Under rocks on slopes; ca. 4500 m. S Xizang (Nagarze Xian).

**79. *Ranunculus similis* Hemsley, Hooker's Icon. Pl. 26: t. 2586. 1899.**

苞毛茛 bao mao gen

*Oxygraphis involucrata* Riedl; *Ranunculus involucratus* Maximowicz (1889), not Lapeyrouse (1813); *R. maximowiczii* Pampanini.

Herbs perennial. Roots fibrous, subequally thick. Stems 1.5–5 cm, glabrous, simple, rarely 1-branched. Basal leaves 2–4; petiole 1.6–3.8 cm, glabrous; blade 3-lobed or with 3–5(–7) rounded teeth, subreniform, obovate, or cuneate-obovate, 3–10 × 4–16 mm, leathery, glabrous, base subcordate, subtruncate, or rounded. Stem leaves 2(or 3), clustered below flower, sessile, cuneate-obovate or obovate, 3-lobed or 3-dentate, 5–12 × 5–11 mm. Flowers solitary, terminal, 1.2–1.4 cm in diam. Receptacle glabrous. Sepals 5, broadly elliptic, ca. 4.5 mm, abaxially puberulent, persistent. Petals 5, cuneate-obovate, ca. 8 × 4 mm, nectary pit without a scale, apex truncate-rounded. Stamens numerous; anthers broadly oblong. Aggregate fruit subglobose, 5–8 mm in diam. Achene ellipsoid-ovoid, ca. 2 × 1.5–2 mm, glabrous; style persistent, ca. 1 mm. Fl. Jun–Jul, fr. Jul–Aug.

- Grassy or gravelly slopes, by rivers; 4900–5700 m. SW Qinghai, SE Xinjiang, Xizang.

**80. *Ranunculus tetrandrus* W. T. Wang, Acta Phytotax. Sin. 32: 477. 1994.**

四蕊毛茛 si rui mao gen

Herbs annual. Scape ca. 3.5 cm, glabrous. Basal leaves ca. 3; petiole 1.4–2.2 cm, glabrous; blade 3-partite or 3-sect, rarely 3-cleft to middle, broadly rhombic or broadly trapeziform-ovate, 2–2.5 × 2.8–2.5 mm, papery or subleathery, glabrous, base broadly cuneate

or truncate-cuneate, segments obovate-oblong or obovate-linear, undivided or lateral ones unequally 2-lobed. Flowers solitary, terminal, ca. 0.6 cm in diam. Receptacle glabrous. Sepals 5, obovate-oblong, 2.2–2.6 mm, glabrous. Petals 5, narrowly obovate or oblong-obovate, 3–3.8 × ca. 1.2 mm, nectary pit without a scale, apex rounded. Stamens 4; anthers oblong. Aggregate fruit broadly ovoid, ca. 2.2 × 3 mm. Achene obliquely obovoid, ca. 1 × 0.7 mm, glabrous; style persistent, ca. 0.7 mm. Fl. and fr. Jul.

• Among tufts of mosses on alpine meadows by glaciers; ca. 4500 m. SE Xizang (Mainling Xian).

**81. *Ranunculus muscigenus*** W. T. Wang, Bull. Bot. Res., Harbin 6(1): 30. 1986.

藓丛毛茛 xian cong mao gen

Herbs annual. Roots fibrous, subequally thick. Stems slender, 1.5–2.5 cm, glabrous. Basal leaves ca. 6; petiole 6–15 mm, glabrous; blade 3-lobed, flabellate-obovate or rhombic-obovate, 1.5–3 × 1.8–2.8 mm, papery, glabrous, base broadly cuneate or rounded, lobes deltoid or broadly ovate, obtuse at apex. Stem leaves 1 or 2, similar to basal ones, with shorter petiole. Flowers solitary, leaf-opposed, ca. 0.3 cm in diam. Pedicel 3–6 mm, glabrous. Receptacle glabrous. Sepals 5, elliptic, ca. 1.2 mm, glabrous. Petals 5, narrowly obovate or elliptic, ca. 1.5 × 0.6–0.9 mm, nectary pit without a scale, apex rounded. Stamens ca. 4, 1–1.2 mm; anthers elliptic. Carpels 9–14; ovary 0.5–0.8 mm, glabrous; style ca. 0.2 mm. Fl. Jul.

• Damp places among mosses under forests; 3200–3600 m. SE Xizang (Mainling Xian).

**82. *Ranunculus radicans*** C. A. Meyer in Ledebour, Fl. Altaic. 2: 316. 1830.

沾地毛茛 zhan di mao gen

*Ranunculus gmelinii* de Candolle var. *radicans* (C. A. Meyer) Krylov; *R. hyperboreus* Rottbøll var. *radicans* (C. A. Meyer) J. D. Hooker.

Herbs perennial, semiaquatic. Roots fibrous, subequally thick. Stems flaccid, glabrous or sparsely appressed puberulent, slightly branched above, rooting at nodes. Stem leaves with petiole 2–3(–8) cm, glabrous or sparsely puberulent; blade 3-partite, orbicular-reniform or cordate-pentagonal, 0.5–1(–1.6) × 0.7–1.7(–2.6) cm, herbaceous, glabrous or sparsely appressed puberulent, base cordate or cordate-truncate, central lobe rhombic-cuneate or broadly rhombic, 3-lobed, lobules entire, obtuse; lateral lobes obliquely flabellate, unequally 2-lobed nearly to middle. Flowers terminal or leaf-opposed, 0.6–0.7(–1.3) cm in diam. Pedicel 1–5 cm, glabrous. Receptacle sparsely puberulent. Sepals 5, ovate, 1.8–2.5 mm, glabrous. Petals 5, oblong-obovate, ca. 2.7 × 1.5 mm, nectary pit without a scale, apex rounded. Stamens ca. 13; anthers broadly ellipsoid. Aggregate fruit 3–5 mm in diam.; carpels numerous. Achene obovoid, 1–1.5 × ca. 0.8 mm, glabrous, margin

with corky thickening; style persistent, ca. 0.3 mm. Fl. Jun–Jul.

Rivers or river banks. C and N Heilongjiang, N Nei Mongol, N Xinjiang [Mongolia, Russia (Siberia)].

**83. *Ranunculus gmelinii*** de Candolle, Syst. Nat. 1: 308. 1817.

小掌叶毛茛 xiao zhang ye mao gen

Herbs perennial, subaquatic. Roots fibrous, subequally thick. Stems elongated, glabrous or appressed puberulent above, short branched, often rooting at nodes. Stem leaves with petiole 0.5–2 cm, glabrous or sparsely puberulent; blade 3-partite near base, orbicular-reniform or cordate-pentagonal, 0.4–1 × 0.6–1.7 cm, herbaceous, subglabrous or abaxially sparsely appressed puberulent, base cordate, central lobe cuneate-rhombic, 3-lobed; lateral lobes obliquely obovate or obliquely flabellate, unequally 2-partite, ultimate lobules narrowly ovate or linear-lanceolate. Monochasium terminal, 1–4-flowered; bracts subsessile, leaflike or undivided, narrowly ovate, 0.5–7 mm. Flowers 0.4–0.9 cm in diam. Pedicel to 3.5 cm, glabrous or sparsely puberulent. Receptacle sparsely puberulent. Sepals 5, ovate-elliptic, 2.2–3 mm, glabrous. Petals 5, narrowly obovate or obovate, 2.2–4 × 1.5–2.5 mm, nectary pit without a scale, apex rounded. Stamens 12 or numerous; anthers ellipsoid. Aggregate fruit subglobose, 3–4 mm in diam.; carpels numerous. Achene broadly ellipsoid or obliquely obovoid, 1–1.3 × 0.8–1 mm, glabrous, margin with corky thickening; style persistent, ca. 0.3 mm. Fl. Jun–Aug, fr. Sep.

Streams, moist places by streams, meadows. Heilongjiang, Jilin, NE Nei Mongol [Japan, Mongolia, Russia (Siberia); N Europe].

**84. *Ranunculus natans*** C. A. Meyer in Ledebour, Fl. Altaic. 2: 315. 1830.

浮毛茛 fu mao gen

Herbs perennial, subaquatic. Roots fibrous, subequally thick. Stems 10–40 cm, glabrous, branched, often rooting at nodes. Basal leaves 3–5; petiole 2.5–11 cm, glabrous; blade 3-lobed, cordate-pentagonal or orbicular-reniform, 0.7–2.1 × 1.1–3.7 cm, herbaceous, glabrous, base cordate, central lobe broadly cuneate or broadly obovate, undivided or 3-lobed, apex rounded; lateral lobes larger, obliquely broadly obovate, undivided or unequally 2-lobed. Stem leaves similar to basal ones, gradually reduced upward; petiole sometimes sparsely puberulent. Flowers leaf-opposed, terminal, or 2 in a monochasium, 0.6–0.9 cm in diam. Pedicel 1–4 cm, glabrous or sparsely puberulent. Receptacle sparsely puberulent. Sepals 5, orbicular-ovate, 2.3–3 mm, glabrous. Petals 5, obovate, 2.5–4.2 × 2–3.2 mm, nectary pit without a scale, apex rounded. Stamens numerous; anthers oblong. Aggregate fruit broadly ellipsoid or broadly ovoid, 5–6 mm in diam.; carpels numerous. Achene slightly bilaterally compressed, obliquely obovoid, 1.3–1.6 × 1–1.2 mm, glabrous,

margin with corky thickening; style persistent, ca. 0.1 mm. Fl. Jun–Aug, fr. Jul–Aug.

Rivers, lakes, by streams; 1800–3500 m. Heilongjiang, Nei Mongol, Qinghai, Xinjiang, Xizang [Kazakhstan, Mongolia, Russia (Siberia)].

**85. *Ranunculus intramongolicus*** Y. Z. Zhao, Bull. Bot. Res., Harbin 9(1): 69. 1989.

内蒙古毛茛 *nei meng gu mao gen*

Herbs perennial, subaquatic. Roots fibrous, subequally thick. Stems 3–5, subglabrous or sparsely puberulent, branched, branches rooting at nodes. Basal leaves ca. 5; petiole 1–4 cm, subglabrous or sparsely puberulent; blade 3-lobed, reniform or broadly ovate, 0.2–0.8 × 0.3–1 cm, herbaceous, glabrous or abaxially appressed puberulent, base truncate or broadly cuneate, central lobe broadly ovate, entire or 1-crenate; lateral lobes unequally 2-lobed, rarely undivided. Stem leaves similar to basal ones but smaller, short petiolate. Flowers solitary, terminal, ca. 0.5 cm in diam. Pedicel 2–15 mm, subglabrous or appressed puberulent. Receptacle glabrous. Sepals 5, elliptic, ca. 3 mm, glabrous. Petals 5, obovate, ca. 2.5 × 2 mm, nectary pit without a scale, apex rounded. Stamens numerous; anthers oblong. Aggregate fruit subglobose, ca. 4 mm in diam.; carpels numerous. Achene slightly bilaterally compressed, ovoid-globose, ca. 1.2 × 1.2 mm, glabrous, margin with corky thickening; style persistent, ca. 0.1 mm. Fl. and fr. Jun–Aug.

• Marshes, meadows; 800–1000 m. C and NE Nei Mongol.

**86. *Ranunculus lingua*** Linnaeus, Sp. Pl. 1: 549. 1753.

条叶毛茛 *tiao ye mao gen*

Herbs perennial. Stems ca. 75 cm, to 10 mm thick, strigose, few branched above, rooting near base. Basal leaf withering at anthesis. Lower stem leaves with petiole short, ca. 1.5 cm; blade linear-lanceolate, 10–15 × 0.7–2 cm, papery, appressed puberulent, base attenuate or rounded, margin entire, sparsely glandular. Upper stem leaves sessile. Compound monochasium terminal, corymbose, 3- or 4-flowered; bracts leaflike. Flowers 2.7–3.8 cm in diam. Pedicel 2–13.5 cm. Receptacle glabrous. Sepals 5, elliptic-ovate, ca. 7 mm, abaxially appressed puberulent. Petals 5, flabellate-obovate, 17–20 × 14–17 mm, nectary pit without a scale, apex truncate, often emarginate. Stamens numerous; anthers oblong. Aggregate fruit broadly ovoid, ca. 9 mm in diam. Achene obliquely obovoid, 2–3 × 1.5–1.8 mm, glabrous; style persistent, very short.

C Xinjiang [Kazakhstan, Russia (Siberia); Europe].

**87. *Ranunculus amurensis*** Komarov, Trudy Imp. S.-Peterburgsk. Bot. Sada 22: 294. 1903.

长叶毛茛 *chang ye mao gen*

Herbs perennial. Roots fibrous, subequally thick. Stems 28–60 cm, 4–5 mm thick, strigose, simple or few branched. Basal leaf withering at anthesis; blade lanceolate-linear, 7–15 × 0.3–0.5(–0.7) mm, strigose, Stem leaves sessile, amplexicaul, lanceolate-linear, 7–15 × 0.3–0.5(–0.7) mm, base attenuate, margin entire,

apex attenuate. Flowers usually solitary, terminal, 1.7–2.5 cm in diam. Receptacle glabrous. Sepals 5, elliptic, 4–7 mm, abaxially densely strigose. Petals 5, obovate, 8–12 × 5–8 mm, nectary pit without a scale, apex rounded. Stamens numerous; anthers ellipsoid.

Aggregate fruit subglobose, ca. 5 mm in diam. Achene obliquely obovoid, ca. 1.8 × 1 mm, glabrous; style persistent, ca. 0.4 mm. Fl. Jul–Sep.

Meadows. Heilongjiang, Nei Mongol [Russia (Far East)].

**88. *Ranunculus reptans*** Linnaeus, Sp. Pl. 1: 549. 1753.

松叶毛茛 *song ye mao gen*

Herbs perennial. Roots fibrous, subequally thick. Stems filiform, stoloniferous, to 25 cm, glabrous or sparsely appressed puberulent, rooting at nodes. Basal leaves ca. 6, subsessile; blade narrowly linear, linear-oblongate, or narrowly spatulate, 3.5–5.5 × 0.1–0.2 cm, glabrous or sparsely puberulent, base slightly dilated, margin entire, apex obtuse. Stem leaves several at each node, similar to basal ones but smaller. Flowers solitary, terminal or axillary, 0.6–0.9 cm in diam. Pedicel 3–8 cm, puberulent. Receptacle glabrous. Sepals 5, ovate-orbicular, 2–3 mm, abaxially puberulent. Petals 5–7, obovate or narrowly obovate, 3–4.5 × 2–2.5 mm, nectary pit without a scale, apex rounded or truncate. Stamens numerous; anthers ovate-orbicular. Aggregate fruit globose, 2.5–5 mm in diam.; carpels numerous.

Achene obliquely obovoid, 1–1.5 × 0.8–1 mm, glabrous; style persistent, ca. 0.2 mm. Fl. Jul–Sep.

River or lake banks; 200–1500 m. Heilongjiang, NE Nei Mongol, N Xinjiang [N Japan, Kazakhstan, Mongolia, Russia (European part and Siberia); W Europe, North America].

**89. *Ranunculus ternatus*** Thunberg, Fl. Jap. 241. 1784.

猫爪草 *mao zhua cao*

Herbs perennial. Root tuber ovoid or fusiform, 3–5 mm. Stems 5–18 cm, sparsely puberulent or glabrous below, branched. Basal leaves 5–10; petiole 2–6 cm; blade ternate, or sometimes simple, pentagonal or broadly ovate in outline, 0.6–1.5 × 1–2.4 cm, thinly papery, subglabrous or abaxially puberulent; leaflets petiolulate, rhombic, 2- or 3-lobed or 2- or 3-partite, sometimes 1–2 × 3-sect and with ultimate segments lanceolate-linear; central lobe rhombic-obovate, 3-lobed or 3-partite. Stem leaves smaller, sessile, 3-sect, ultimate lobes linear, 1–3 mm wide. Flowers solitary, terminal, 1–1.6 cm in diam. Receptacle glabrous. Sepals 5, ovate or broadly ovate, 3–4 mm, abaxially sparsely puberulent or subglabrous. Petals 5, narrowly obovate or obovate, 5.5–7 × 4–5 mm, nectary pit without a scale, apex rounded. Stamens numerous; anthers oblong. Aggregate fruit ovoid, 2–4 × 2–3 mm. Achene ovoid, 1–1.2 × 0.7–1 mm, glabrous; style persistent, ca. 0.2 mm. Fl. Mar–May.

Anhui, Fujian, N Guangxi, S Henan, Hubei, Hunan, S Jiangsu, Jiangxi, Taiwan, Zhejiang [Japan].

1a. Basal leaves ternate, sometimes simple, leaflets 2- or 3-lobed or 2- or 3-partite,



ultimate lobes ovate or narrowly ovate  
..... 89a. var. *ternatus*

1b. Basal leaves all ternate, leaflets 1 or 2  
× 3-sect, ultimate segments lanceolate-  
linear ..... 89b. var. *dissectissimus*

**89a. *Ranunculus ternatus* var. *ternatus***

猫爪草(原变种) mao zhua cao (yuan bian zhong)

*Ranunculus extorris* Hance; *R. formosanus* Masamune;  
*R. leiocladus* Hayata; *R. zuccarinii* Miquel.

Basal leaves with blade ternate, sometimes simple,  
leaflets 2- or 3-lobed or 2- or 3-partite, ultimate lobes  
ovate or narrowly ovate.

Fields, grassy slopes, forests; below 500 m. Anhui, Fujian, N  
Guangxi, S Henan, Hubei, Hunan, S Jiangsu, Jiangxi, Taiwan,  
Zhejiang [Japan].

**89b. *Ranunculus ternatus* var. *dissectissimus* (Migo)**  
Handel-Mazzetti, *Acta Horti Gothob.* 13: 167. 1939.

细裂毛爪草 xi lie mao zhua cao

*Ranunculus zuccarinii* var. *dissectissimus* Migo, J.  
*Shanghai Sci. Inst.*, Sect. III, 3: 4. 1934.

Basal leaves with blade always ternate; leaflets 1–2 × 3-  
sect, ultimate segments lanceolate-linear.

• Grassy places. SE Jiangsu (Suzhou Shi), Shanghai.

**90. *Ranunculus podocarpus* W. T. Wang, *Bull. Bot. Res.*,  
Harbin 16: 163. 1996.**

柄果毛茛 bing guo mao gen

Herbs perennial. Roots fibrous, robust, subequally thick.  
Stems 4.5–15 cm, glabrous or sparsely puberulent,  
often long branched from base. Basal leaves 4; petiole  
1.8–5 cm, glabrous; blade ternate, ovate or rhombic-  
ovate in outline, 0.8–4 × 0.8–4 cm, papery, glabrous,  
central leaflet rhombic or broadly rhombic, 3-partite or  
2 × ternate-dissected, usually long petiolulate, ultimate  
lobules narrowly oblong or linear; lateral leaflets  
smaller, petiolulate, oblique. Stem leaves similar to  
basal ones but smaller, short petiolate. Flowers solitary,  
terminal, 1.1–1.6 cm in diam. Receptacle glabrous.  
Sepals 5, narrowly elliptic, 4–5 mm, abaxially  
subglabrous or sparsely puberulent. Petals 5 (–7),  
narrowly obovate or obovate-oblong, 6–9 × 2.5–4.2  
mm, nectary pit without a scale, apex rounded. Stamens  
numerous; anthers oblong. Aggregate fruit subglobose,  
3.5–5 mm in diam. Achene slightly bilaterally  
compressed, obliquely elliptic, 1.8–2(–3) × 1–1.2 mm,  
sparsely puberulent or glabrous, carpophores 0.3–0.6  
mm; style persistent, ca. 0.4 mm. Fl. Mar–Oct.

• Margins of paddy fields, lakes or streams, moist grassy places; 50–  
200 m. S Anhui, N Jiangxi.

**91. *Ranunculus sceleratus* Linnaeus, *Sp. Pl.* 1: 551. 1753.**

石龙芮 shi long rui

*Hecatonia palustris* Loureiro; *Ranunculus holophyllus*  
Hance; *R. oryzetorum* Bunge; *R. sceleratus* var. *sinensis*  
H. Léveillé.

Herbs annual. Roots fibrous, subequally thick. Stems  
10–75 cm, glabrous or sparsely puberulent, branched  
above. Basal leaves 5–13; petiole 1.2–15 cm,

subglabrous or sparsely pubescent; blade 3-partite,  
pentagonal, reniform, or broadly ovate, or broadly ovate,  
1–4 × 1.5–5 cm, papery or herbaceous, glabrous or  
abaxially puberulent, base broadly cordate, central lobe  
cuneate or rhombic, 3-lobed, lobules 1- or 2-denticulate  
or entire; lateral lobes obliquely broadly obovate or  
obliquely cuneate, unequally 2-lobed or 2-cleft to  
middle. Lower stem leaves similar to basal ones; upper  
stem leaves short petiolate, cuneate at base, 3-sect,  
segments oblanceolate. Compound monochasium  
terminal, corymbose; bracts leaflike. Flowers 0.4–0.8  
cm in diam. Pedicel 0.5–1.5 cm, glabrous or sparsely  
puberulent. Receptacle puberulent or glabrous. Sepals 5,  
ovate-elliptic, 2–3 mm, abaxially appressed puberulent  
or glabrous. Petals 5, obovate, 2.2–4.5 × 1.4–2.4 mm,  
nectary pit without a scale, apex rounded. Stamens 10–  
19; anthers ellipsoid. Aggregate fruit cylindrical, 3–11 ×  
1.5–4 mm; carpels numerous. Achene slightly  
bilaterally compressed, obliquely obovoid, 1–1.1 × 0.8–  
1 mm, glabrous, sometimes transversely 2- or 3-rugose,  
somewhat turgid along sutures; stigmas persistent, ca.  
0.1 mm. Fl. Jan–Jul.

By streams or lakes, paddy fields, wet grassy places; 50–2300 m.  
Anhui, Fujian, Gansu, Guangdong, Guangxi, Guizhou, Hebei,  
Heilongjiang, Henan, Hunan, Jiangsu, Jiangxi, Jilin, Liaoning, Nei  
Mongol, Ningxia, Shaanxi, Shandong, Shanxi, Sichuan, Taiwan,  
Xinjiang, Yunnan, Zhejiang [Afghanistan, Bhutan, N India, Japan,  
Kazakhstan, Korea, Nepal, N Pakistan, Russia (Siberia), Thailand;  
SW Asia, Europe, North America].

**92. *Ranunculus melanogynus* W. T. Wang, *Bull. Bot. Res.*,  
Harbin 15: 301. 1995.**

黑果毛茛 hei guo mao gen

Herbs perennial. Roots fibrous, slightly thickened at  
base. Stems 3–5 cm, glabrous, simple. Basal leaves 3 or  
4; petiole 2–4.5 cm, glabrous; blade 3-partite, reniform-  
pentagonal, 4–6 × 6–11 mm, papery, glabrous, base  
cordate, central lobe obovate or narrowly obovate,  
margin entire, apex obtuse; lateral lobes obliquely  
flabellate, unequally 2-lobed or undivided, lobules  
ovate, entire or 1-dentate. Stem leaves 1–3, moderately  
long or short petiolate; blade similar to that of basal  
leaves but smaller, base subcordate or truncate, margin  
3-cleft to middle, lobes entire; uppermost stem leaf  
sometimes undivided, broadly elliptic. Flowers solitary,  
terminal, 1.2–1.4 cm in diam. Receptacle glabrous.  
Sepals 5, broadly elliptic or broadly obovate, 3.5–4.5  
mm, glabrous. Petals 5, broadly obovate or cuneate-  
obovate, 5–6 × 5–7 mm, nectary pit without a scale,  
apex truncate, sometimes emarginate. Stamens  
numerous; anthers oblong. Carpels numerous, black;  
ovary broadly ovoid, ca. 1 mm, glabrous; style absent,  
stigma very small. Fl. Jul.

• Gravelly slopes of mountain tops; ca. 5500 m. S Xizang.

**93. *Ranunculus ficariifolius*** H. Léveillé & Vaniot in H. Léveillé, Bull. Soc. Bot. France 51: 289. 1904.

西南毛茛 xi nan mao gen

*Ranunculus bonatianus* Ulbrich; *R. duclouxii* Finet & Gagnepain; *R. ficariifolius* var. *crenatus* H. Léveillé; *R. ficariifolius* var. *erythrosepalus* H. Léveillé; *R. ficariifolius* var. *ovalifolius* H. Léveillé; *R. flaccidus* J. D. Hooker & Thomson (1855), not Persoon (1795); *R. mairei* H. Léveillé (1914), not H. Léveillé (1913); *R. microphyllus* Handel-Mazzetti; *R. repens* Linnaeus var. *loponensis* H. Léveillé; *R. vaniotii* H. Léveillé.

Herbs perennial. Roots fibrous, subequally thick. Stems erect, ascending, or subprostrate, 4–4.5 cm, sparsely puberulent or subglabrous, branched or simple. Basal leaves 1 to several; petiole 1.2–6.5 cm, glabrous; blade triangular-ovate, depressed ovate, suborbicular, rarely cordate, 0.2–1.7 × 0.4–2.2 cm, papery, glabrous, base broadly cuneate or truncate, rarely cordate, margin 2- or 3-dentate on each side, apex obtuse. Lower stem leaves distinctly petiolate, upper stem leaves short petiolate or sessile, reniform-ovate, triangular-ovate, rhombic-ovate, or subrhombic. Flowers leaf-opposed, 0.4–1 cm in diam. Pedicel 0.3–2.5 cm, appressed puberulent. Receptacle puberulent. Sepals 5, elliptic, 2–3 mm, glabrous or abaxially sparsely puberulent. Petals 5, elliptic-ovate or narrowly obovate, 2–4.5 × 1.6–2.4 mm, apex rounded, or emarginate. Stamens numerous; anthers ellipsoid. Aggregate fruit subglobose, 3–4.5 mm in diam.; carpels numerous. Achene slightly bilaterally compressed, 1–1.5 × 0.8–1.2 mm, glabrous, tuberculate; style persistent, 0.2–0.8 mm. Fl. Mar–Aug. By streams, meadows, forest margins; 1100–3200 m. SE Guizhou, W Hubei, S Hunan, W Jiangxi, Sichuan, N and SE Yunnan [Bhutan, Nepal, Sikkim, Thailand].

**94. *Ranunculus triangularis*** W. T. Wang, Acta Phytotax. Sin. 25: 37. 1987.

三角叶毛茛 san jiao ye mao gen

Herbs perennial. Roots fibrous, subequally thick. Stems erect, 17–30 cm, sparsely puberulent above, branched. Basal leaves 1 or 2; petiole 2.5–5 cm, glabrous; blade deltoid or triangular, 0.9–2.2 × 0.8–1.6 cm, thinly papery, glabrous, base truncate or truncate-cordate, margin unequally denticulate, apex acute. Lower stem leaves similar to basal ones, upper stem leaves short petiolate, narrowly triangular or lanceolate, 2.6–4.2 × 0.5–1.4 cm. Compound monochasium terminal, corymbose; bracts narrowly lanceolate. Flowers ca. 0.6 cm in diam. Pedicel 0.6–1.5 cm, appressed puberulent. Receptacle puberulent. Sepals 5, elliptic, ca. 2.2 mm, abaxially pilose. Petals 5, orbicular-obovate or suborbicular, 2.2–2.5 × ca. 2 mm, apex rounded. Stamens numerous; anthers narrowly ellipsoid. Aggregate fruit broadly ovoid, 2–3 × ca. 2.5 mm; carpels numerous. Achene slightly bilaterally compressed, obliquely obovoid, ca. 1 × 0.8 mm,

glabrous, sparsely tuberculate; style persistent, ca. 0.1 mm. Fl. Apr–May, fr. May.

• Grassy places at forest margins; ca. 1200 m. SW Sichuan (Leibo Xian).

**95. *Ranunculus cheirophyllus*** Hayata, Icon. Pl. Formos. 3: 7. 1913.

掌叶毛茛 zhang ye mao gen

*Ranunculus kawakamii* Hayata, J. Coll. Sci. Imp. Univ. Tokyo 30(1): 19. 1911, not Makino (1904).

Herbs perennial. Roots fibrous, subequally thick. Stems ascending or subprostrate, 7–20 cm, strigose, simple or branched, rooting at nodes. Basal leaves ca. 5; petiole 2–5 cm, sparsely puberulent or subglabrous; blade deltoid or semiorbicular, 6–11 × 8–14 mm, herbaceous, glabrous, base subtruncate or broadly cuneate, margin coarsely 5–7-dentate, sparsely ciliate, apex subobtusely. Stem leaves similar to basal ones but gradually reduced upward, sometimes appressed puberulent abaxially. Flowers leaf-opposed, ca. 0.8 cm in diam. Pedicel 1–2.4 cm, appressed puberulent. Receptacle with 1 hair. Sepals 4 or 5, suborbicular, ca. 2 mm, abaxially appressed puberulent. Petals 3–5, white, oblong, ca. 4 mm, nectary pit unknown, apex rounded. Stamens ca. 10; anthers narrowly oblong. Carpels ca. 15; ovary longer than style, ca. 1 mm, glabrous or with 2 or 3 hairs.

• Roadsides; 2000–2200 m. Taiwan.

**96. *Ranunculus japonicus*** Thunberg, Trans. Linn. Soc. London 2: 337. 1794.

毛茛 mao gen

Herbs perennial. Rhizomes short. Stems 12–65 cm, hispid or strigose toward base, rarely subglabrous or glabrous, strigose above, branched. Basal leaves 3–6; petiole 3–22(–25) cm, hispid or strigose; blade 3-partite, rarely 3-sect or ternate, cordate-pentagonal, 1.2–6.5(–10) × 2–10(–16) cm, papery, strigose, base cordate, central segment cuneate-rhombic to broadly rhombic, 3-lobed, margin unequally dentate; lateral segments obliquely flabellate, unequally 2-cleft. Stem leaves smaller, short petiolate or sessile. Compound monochasium terminal, (1–)3–15-flowered. Flowers 1.4–2.4 cm in diam. Pedicel 0.8–10 cm. Receptacle glabrous. Sepals 5, ovate, ca. 5 mm, abaxially strigose. Petals 5, obovate, 7–12 × 6.5–8.5 mm, nectary pit covered by a scale, apex rounded or emarginate. Stamens numerous; anthers oblong. Aggregate fruit subglobose, 4–6 mm in diam. Achene obliquely broadly obovate, 1.8–2.8 × 1.5–2 mm, glabrous, narrowly marginate; style persistent, triangular, 0.2–0.4 mm. 100–3500 m. Anhui, Fujian, Gansu, N Guangdong, N Guangxi, Guizhou, Hebei, Heilongjiang, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Jilin, Liaoning, Nei Mongol, Ningxia, Qinghai, Shaanxi, Shandong, Shanxi, Sichuan, Taiwan, Xinjiang, Yunnan, Zhejiang [Japan, Mongolia, Russia (Far East)]. Most Chinese material determined as *Ranunculus acris* Linnaeus belongs here.

- 1a. Upper stem leaves abaxially very densely silvery sericeous-strigose 96d. var. *hsinganensis*
- 1b. Upper stem leaves abaxially not densely sericeous-strigose.
- 2a. Stems below and petioles strigose ..... 96c. var. *propinquus*
- 2b. Stems below and petioles hispid.
- 3a. Basal leaves 3-partite, rarely 3-sect ..... 96a. var. *japonicus*
- 3b. Basal leaves ternate 96b. var. *ternatifolius*

**96a. *Ranunculus japonicus* var. *japonicus***

毛茛(原变种) mao gen (yuan bian zhong)  
*Ranunculus acris* Linnaeus subsp. *japonicus* (Thunberg) Hultén; *R. acris* var. *japonicus* (Thunberg) Maximowicz; *R. acris* var. *schizophyllus* H. Léveillé; *R. japonicus* f. *latissimus* (Kitagawa) Kitagawa; *R. japonicus* var. *latissimus* Kitagawa; *R. labordei* H. Léveillé.

Stems toward base and petioles hispid. Basal leaf blade 3-partite, rarely 3-sect. Upper stem leaves not silvery strigose. Fl. Apr–Aug.

Grassy slopes, meadows, by streams, forests; 100–3500 m. Anhui, Fujian, Gansu, N Guangdong, N Guangxi, Guizhou, Hebei, Heilongjiang, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Jilin, Liaoning, Nei Mongol, Shaanxi, Shandong, Shanxi, Sichuan, Taiwan, Yunnan, Zhejiang [Japan, Russia (Far East)].

**96b. *Ranunculus japonicus* var. *ternatifolius* L. Liao, Bull. Bot. Res., Harbin 12: 375. 1992.**

三小叶毛茛 san xiao ye mao gen

Stems toward base and petioles hispid. Basal leaf blade ternate. Upper stem leaves not silvery strigose.

• N Jiangxi, E Zhejiang.

**96c. *Ranunculus japonicus* var. *propinquus* (C. A. Meyer) W. T. Wang, Bull. Bot. Res., Harbin 15: 305. 1995.**

伏毛茛 fu mao mao gen

*Ranunculus propinquus* C. A. Meyer in Ledebour, Fl. Altaic. 2: 332. 1830; *R. acris* var. *propinquus* (C. A. Meyer) Maximowicz; *Ranunculus acris* var. *stevanii* (Andrzejowski) Regel; *R. japonicus* var. *pratensis* Kitagawa; *R. stevenii* Andrzejowski.

Stems toward base and petioles strigose. Leaf blade 3-partite, rarely 3-sect. Upper stem leaves not silvery strigose. Fl. May–Sep.

Gansu, SW Guizhou, Hebei, Heilongjiang, W Henan, Jilin, Liaoning, Nei Mongol, Ningxia, E Qinghai, Shaanxi, Shandong, Shanxi, Sichuan, N Xinjiang, Yunnan [Mongolia, Russia (Siberia)].

Michio Tamura (pers. comm.) believes that this variety would be better treated as a distinct species.

**96d. *Ranunculus japonicus* var. *hsinganensis* (Kitagawa) W. T. Wang, Bull. Bot. Res., Harbin 15: 305. 1995.**

银叶毛茛 yin ye mao gen

*Ranunculus hsinganensis* Kitagawa, J. Jap. Bot. 22: 175. 1948.

Leaf blade 3-partite, rarely 3-sect. Upper stem leaves abaxially very densely silvery sericeous-strigose. Fl. Aug.

• *Larix* forests. C Nei Mongol (Bailang Shan, Horqin Youyi Qianqi). 97. *Ranunculus taisanensis* Hayata, J. Coll. Sci. Imp. Univ. Tokyo 30(1): 20. 1911.

鹿场毛茛 lu chang mao gen

*Ranunculus geraniifolius* Hayata (1913), not Pourret (1788); *R. taisanensis* var. *tripartitus* J. Ohwi. Herbs perennial. Stems 8–20(–26) cm, spreading brownish hispid, few branched or simple. Basal leaves ca. 3; petiole 1.4–7(–10) cm, hispid; blade 3-partite, reniform-pentagonal, 1–1.8 (–2.5) × 1.2–2.8(–4) cm, papery, brownish hispid, base subcordate, central lobe broadly rhombic or obtuse-trapeziform-rhombic, 3-lobed or 3-dentate; lateral lobes obliquely flabellate, unequally 2-lobed, few dentate. Stem leaves similar to basal leaves, uppermost sometimes sessile, 3-sect, segments sublinear. Monochasium 1–3-flowered. Flowers 0.5–0.9 cm in diam. Pedicel 1.5–3 cm, strigose. Receptacle glabrous. Sepals 5, ovate or broadly elliptic, 2.6–3.5 mm, abaxially hispid. Petals 5(–10), narrowly or broadly obovate, 2.2–5 × 1.6–2.2 mm, nectary pit covered by a scale, apex rounded. Stamens 15–17; anthers broadly ellipsoid. Aggregate fruit ovoid or subglobose, 3–4 × 2–3 mm. Achene obliquely obovoid, 1.3–1.8 × 1.2–1.6 mm, glabrous; style persistent, 0.3–0.6 mm. Fl. and fr. Jul–Aug.

• Grassy slopes, forest margins, river banks; 1500–3000 m. Taiwan.

**98. *Ranunculus smirnovii* Ovczinnikov, Fl. URSS. 7: 745. 1937.**

兴安毛茛 xing an mao gen

*Ranunculus japonicus* Thunberg var. *smirnovii* (Ovczinnikov) L. Liou.

Herbs perennial. Roots fibrous, subequally thick. Stems ca. 50 cm, densely spreading hirsute, branched. Basal leaves ca. 10; petiole 10–20 cm, densely spreading hirsute; blade 3-lobed, cordate-pentagonal, 5–10 × 7–13 cm, papery, abaxially puberulent, base cordate, margin incised-dentate; central lobe rhombic or broadly rhombic, acute, 3-lobed, incised-dentate; lateral lobes obliquely flabellate, unequally 2-cleft slightly beyond middle. Lower stem leaves similar to basal ones; upper stem leaves subsessile or sessile, 3–5-sect, segments oblong-rhombic. Compound monochasium terminal, ca. 10-flowered; bracts leaflike, 3-sect. Flowers 1.6–1.8 cm in diam. Pedicel 1–4 cm, densely appressed puberulent. Receptacle glabrous. Sepals 5, elliptic-ovate, 4–5 mm, abaxially appressed puberulent. Petals 5, broadly obovate, 8–10 × 7–8 mm, nectary pit covered by a scale, apex rounded. Stamens numerous; anthers oblong. Ag-

gregate fruit subglobose, ca. 5 mm in diam.; carpels numerous. Achene obliquely obovate, ca.  $2 \times 1.8$  mm, glabrous, narrowly marginate; style persistent, ca. 0.3 mm. Fl. Jul–Aug.

Meadows, forests. NE Nei Mongol [Russia (E Siberia)].

**99. *Ranunculus distans*** Wallich ex Royle, Ill. Bot. Himal. Mts. 1: 53. 1834.

黄毛茛 *huang mao gen*

*Ranunculus laetus* Royle (1834), not Salisbury (1796); *R. pseudolaetus* Tamura.

Herbs perennial. Roots fibrous, subequally thick. Rhizomes ca. 2 cm. Stems 22–65 cm, hirsute below, strigose above, branched or simple. Basal leaves 1–3; petiole 4–19 cm, hirsute; blade 3-partite, cordate-pentagonal,  $1.2\text{--}4.8 \times 1.7\text{--}7.8$  cm, herbaceous, strigose, base cordate, central lobe broadly rhombic, 3-lobed, margin irregularly dentate, apex acute; lateral lobes obliquely flabellate, unequally 2-lobed. Lower stem leaves similar to basal ones but petioles shorter, upper stem leaves subsessile or sessile. Monochasium terminal, (1 or) 2–4-flowered; bracts leaflike. Flowers 1–2 cm in diam. Pedicel 1–4.5 cm. Receptacle glabrous. Sepals 5, ovate-elliptic or long elliptic, 3–5 mm, abaxially strigose. Petals 5, broadly obovate,  $4.5\text{--}10 \times 3\text{--}7.8$  mm, nectary pit covered by a scale, apex rounded-truncate. Stamens numerous; anthers oblong. Aggregate fruit globose or broadly ovoid, 5–6 mm in diam.; carpels numerous. Achene bilaterally compressed, obliquely obovate, ca.  $2.2 \times 1.8$  mm, glabrous, inconspicuously marginate; style persistent, ca. 0.6 mm, slightly recurved at apex. Fl. Jun–Oct.

Grassy slopes, forests, by streams; 2000–3800 m. S Xizang, NW Yunnan [Afghanistan, Bhutan, N India, Kazakhstan, Kyrgyzstan, Nepal, N Pakistan, Sikkim].

This species is more widely known as *Ranunculus laetus*, but that name is illegitimate, so the name *R. distans*, published simultaneously, must be used instead. Tamura (Acta Phytotax. Geobot. 19: 109. 1963) treated many Himalayan collections, including material from China, as a distinct species, *R. pseudolaetus*. This was distinguished from *R. distans* by the spreading, yellowish hairs on the stems and petioles and the more deeply divided leaves which are more densely hairy abaxially.

**100. *Ranunculus paishanensis*** Kitagawa, Rep. Inst. Sci. Res. Manchoukuo 5: 153. 1941.

白山毛茛 *bai shan mao gen*

*Ranunculus acris* Linnaeus var. *monticola* (Kitagawa) Tamura; *R. japonicus* Thunberg var. *monticola* Kitagawa; *R. paishanensis* f. *oreodoxa* (Kitagawa) Kitagawa; *R. paishanensis* var. *oreodoxa* Kitagawa.

Herbs perennial. Roots fibrous, subequally thick. Stems slender, 10–70 cm, strigose, branched or simple. Basal

leaves ca. 5; petiole 2.2–23 cm, strigose; blade usually 3-partite, variable in shape, pentagonal or subreniform,  $0.8\text{--}4.4 \times 1.6\text{--}5.5$  cm, papery, strigose, base cordate or subtruncate; central lobe rhombic or broadly rhombic, 3-lobed, incised-dentate; lateral lobes obliquely flabellate, unequally 2-cleft; leaf blade sometimes 3-sect; central segment rhombic, 3-partite, lateral segments unequally 2-partite, ultimate lobes linear-lanceolate. Lower stem leaves short petiolate, upper ones sessile, 3-sect, segments linear-lanceolate. Monochasium terminal, 2- to many flowered; bracts 3-sect, segments linear. Flowers 1–1.6 cm in diam. Pedicel 1.5–4 cm, strigose. Receptacle glabrous. Sepals 5, elliptic-ovate, 3.6–6 mm, abaxially strigose. Petals 5, obovate or broadly obovate,  $5.5\text{--}8.5 \times 3.7\text{--}7$  mm, nectary pit covered by a scale, apex rounded. Stamens numerous; anthers oblong or broadly oblong. Aggregate fruit subglobose, 3.5–4.5 mm in diam. Achene obliquely broadly obovate, ca.  $2 \times 1.6$  mm, glabrous, narrowly marginate; style persistent, 0.2–0.3 mm. Fl. Jul–Aug.

• Grassy slopes, meadows, rocks, *Betula* forests; 1400–2500 m. S Jilin (Changbai Shan).

**101. *Ranunculus grandifolius*** C. A. Meyer in Ledebour, Fl. Altaic. 2: 330. 1830.

大叶毛茛 *da ye mao gen*

Herbs perennial. Rhizomes robust, ca. 2 cm. Stems 30–45 cm, spreading hispid below, strigose and branched above. Basal leaves 4–8; petiole 4–24 cm, spreading hispid or glabrous; blade 3-partite, reniform-pentagonal,  $2\text{--}6.5 \times 3.5\text{--}11$  cm, papery, abaxially glabrous or sparsely strigose, base cordate, central lobe rhombic or broadly so, margin 3-lobed, incised-dentate, apex acute; lateral lobes obliquely flabellate, unequally 2-partite. Lower stem leaves similar to basal ones but petioles shorter, upper ones smaller, short petiolate or sessile, 3-sect, segments lobed or partite. Monochasium corymbose, 2–7-flowered; bracts leaflike. Flowers 2–2.7 cm in diam. Pedicel 1.5–6.5 cm, strigose. Receptacle glabrous. Sepals 5, elliptic-ovate, 5–6 mm, abaxially strigose. Petals 5, obovate or broadly obovate,  $10\text{--}13 \times 7\text{--}12$  mm, nectary pit covered by a scale, apex rounded. Stamens numerous; anthers oblong. Aggregate fruit subglobose, ca. 7 mm in diam. Achene flattened, obliquely obovate, ca.  $3.5 \times 2.5$  mm, glabrous, narrowly marginate; style persistent, ca. 0.7 mm. Fl. May–Oct.

Grassy slopes, by streams; 1000–2000 m. Xinjiang [Kazakhstan, Russia (W Siberia)].

**102. *Ranunculus submarginatus*** Ovczinnikov, Fl. URSS. 7: 745. 1937.

棱边毛茛 *leng bian mao gen*

Herbs perennial. Roots fibrous, subequally thick. Stems (8–) 18–25 cm, spreading puberulent or subglabrous

below, appressed puberulent above, branched. Basal leaves ca. 4; petiole 5–8.5 cm, puberulent or subglabrous; blade 3-partite, pentagonal-cordate or reniform-cordate, 2–4.5 × 2.6–7.5 cm, papery, strigose, base broadly cordate or subtruncate, central lobe cuneate-rhombic, 3-lobed, lobules entire or incised; lateral lobes obliquely flabellate, unequally 2-lobed or 2-partite. Lower stem leaves similar to basal ones; upper stem leaves short petiolate or sessile, palmatisect, segments linear. Monochasium terminal, (1-or)2- or 3-flowered; bracts leaflike. Flowers 1.7–2 cm in diam. Pedicel 1–4 cm, puberulent. Receptacle densely pubescent. Sepals 5, ovate, ca. 5 mm, abaxially sparsely pubescent. Petals 5, broadly obovate or obovate, 9–10 × 5–9 mm, nectary pit covered by a scale, apex truncate-rounded or rounded. Stamens numerous; anthers oblong. Aggregate fruit subglobose, 5–7 mm in diam.; carpels numerous. Achene bilaterally compressed, obliquely obovate, 2.8–3 × 2–2.5 mm, glabrous, narrowly marginate; style persistent, 0.7–1 mm. Fl. Aug. Grassy places in valley; ca. 1300 m. W and N Xinjiang [Russia (W Siberia)].

**103. *Ranunculus grandis*** Honda, Bot. Mag. (Tokyo) 43: 657. 1929.

大毛茛 da mao gen

Herbs perennial. Roots fibrous, subequally thick. Stolons elongated, 1.5–2 mm in diam. Stems 20–70 cm, hispid, branched above. Basal leaves ca. 5; petiole 6–22.5 cm, hispid; blade 3-partite, cordate, 3–8 × 4.8–14 cm, papery, strigose, base cordate, central lobe obtusiform-rhombic, acute, 3-lobed, few dentate; lateral lobes obliquely flabellate, unequally 2-lobed, incised-dentate. Stem leaves ca. 2, short petiolate or subsessile, 3-sect, segments incised-dentate. Compound monochasium terminal, ca. 4-flowered; bracts leaflike. Flowers 1–1.6 cm in diam. Pedicel ca. 2 cm, strigose. Receptacle glabrous. Sepals 5, ovate, 4–5.5 mm, abaxially densely strigose. Petals 5 or 6, obovate, 6–9 × 4–7 mm, nectary pit covered by a scale, apex rounded. Stamens numerous; anthers oblong. Aggregate fruit broadly ovoid, 5–6 mm in diam.; carpels numerous. Achene bilaterally compressed, obliquely broadly obovate, 2.2–3 × 1.8–2.5 mm, glabrous, narrowly marginate; style persistent, ca. 0.4 mm. Fl. May–Sep, fr. Jun–Sep.

• Below 1700 m. Heilongjiang, Jilin.

- 1a. Stems spreading hispid below, strigose above; petioles of basal leaves spreading hispid ..... 103a. var. *grandis*  
1b. Stems and petioles of basal leaves strigose ..... 103b. var. *manshuricus*

**103a. *Ranunculus grandis* var. *grandis***

大毛茛(原变种) da mao gen (yuan bian zhong)  
*Ranunculus subcorymbosus* Komarov subsp. *grandis* (Honda) Tamura; *R. subcorymbosus* subsp. *grandis*

var. *ovczinnikovii* Tamura; *R. subcorymbosus* var. *grandis* (Honda) Kitagawa.

Stems spreading hispid below, strigose above. Basal leaves with petiole spreading hispid.

E Jilin (Hunchun Xian) [Japan].

**103b. *Ranunculus grandis* var. *manshuricus*** H. Hara, J. Jap. Bot. 19: 360. 1943.

帽儿山毛茛 mao er shan mao gen

*Ranunculus subcorymbosus* var. *manshuricus* (H. Hara) Kitagawa.

Stems and petioles of basal leaves strigose.

• Meadows, moist places in valleys; below 1700 m. S Heilongjiang (Acheng Xian, Shangzhi Xian).

**104. *Ranunculus borealis*** Trautvetter, Bull. Soc. Imp. Naturalistes Moscou 33: 72. 1860.

北毛茛 bei mao gen

Herbs perennial. Rhizomes short, inconspicuous. Stems ca. 58 cm, sparsely spreading hispid, branched. Basal leaf 1; petiole ca. 17 cm, sparsely spreading hispid; blade 3-partite to near base, reniform-pentagonal, ca. 3 × 5 cm, papery, appressed pubescent, base cordate, central lobe rhombic-obovate, 3-lobed, lobules unequally few dentate; lateral lobes obliquely flabellate, unequally 2-partite. Lowermost stem leaf similar to basal leaf, but short petiolate; upper ones 5-sect, segments linear. Monochasium ca. 2-flowered; bracts 3-sect. Flowers ca. 2 cm in diam. Pedicel 4.5–7 cm, appressed puberulent. Receptacle glabrous. Sepals 5, oblong, ca. 6 mm, abaxially appressed pubescent. Petals 5, obovate, ca. 10 × 8 mm, nectary pit covered by a scale, apex truncate-rounded. Stamens numerous; anthers broadly oblong. Aggregate fruit broadly ovoid, ca. 6 mm in diam. Achene obliquely obovate, ca. 2 × 1.8 mm, glabrous, narrowly marginate; style persistent, ca. 0.8 mm, recurved. Fl. Jun.

Meadows; ca. 1600 m. Xinjiang (Tian Shan) [Kazakhstan, Russia (Siberia); E Europe].

**105. *Ranunculus kunmingensis*** W. T. Wang, Bull. Bot. Res., Harbin 15: 309. 1995.

昆明毛茛 kun ming mao gen

Herbs perennial. Rhizomes short. Stems 20–45 cm, strigose or hispid, branched. Basal leaves 2–5; petiole 4–12.5 cm, strigose or hispid; blade 3-partite, pentagonal, 1.3–4 × 1.8–4.5 cm, papery, strigose, base truncate or cordate-truncate, sometimes rounded or broadly cuneate, central lobe cuneate-obovate or cuneate, 3-lobulate, ultimate lobules ovate-triangular, 1- or 2-denticulate or entire; lateral lobes oblique flabellate-obovate, unequally 2-partite. Stem leaves smaller, short petiolate. Monochasium terminal, 2–5-flowered; bracts leaflike or linear. Flowers 1.3–1.8 cm in diam. Pedicel 1.5–6.5 cm, strigose. Receptacle glabrous. Sepals 5, elliptic, 3.5–4.5 mm, abaxially strigose. Petals 5, obovate, 7–10 × 4.5–6 mm, nectary pit covered by a scale, apex truncate-rounded. Stamens numerous; anthers narrowly oblong. Aggregate fruit subglobose,

ca. 4 mm in diam. Achene obliquely broadly obovate, ca. 2 × 1.7 mm, glabrous, smooth, indistinctly narrow marginate; style persistent, triangular, ca. 0.2 mm.

• 1500–2700 m. W Guizhou, SW Sichuan, Yunnan.

1a. Stems and petiole strigose 105a. var. *kunmingensis*

1b. Stems and petiole spreading hispid 105b. var. *hispidus*

**105a. *Ranunculus kunmingensis* var. *kunmingensis***

昆明毛茛(原变种) kun ming mao gen (yuan bian zhong)

*Ranunculus kunmingensis* f. *leipoensis* (L. Liou) W. T.

Wang; *R. laetus* Royle var. *leipoensis* L. Liou.

Stems and petiole strigose. Fl. Mar–Aug.

• Sparse forests, scrub, by streams; 1500–2600 m. SW Sichuan, Yunnan.

**105b. *Ranunculus kunmingensis* var. *hispidus* W. T. Wang,** Bull. Bot. Res., Harbin 15: 310. 1995.

展毛昆明毛茛 zhan mao kun ming mao gen

Stems and petiole spreading hispid. Fl. Jul–Oct.

• Slopes, forest margins; 1900–2700 m. W Guizhou, Yunnan.

**106. *Ranunculus changpingensis* W. T. Wang,** Acta Phytotax. Sin. 32: 475. 1994.

昌平毛茛 chang ping mao gen

Herbs perennial. Rhizomes short. Stems robust, ca. 70 cm, densely strigose, branched. Basal leaf 1; petiole ca. 17 cm, strigose; blade 3-partite, depressed pentagonal, ca. 8.8 × 10 cm, thinly leathery, strigose, base truncate or truncate-cuneate, central lobe narrowly cuneate, ca. 2 cm wide, margin 3-lobulate, denticulate distally, apex acute; lateral lobes obliquely broadly cuneate, unequally 2-partite, lobulate-dentate distally. Stem leaves ca. 8, smaller, short petiolate or sessile. Compound monochasium terminal, ca. 20 cm, ca. 9-flowered; bracts leaflike or linear. Flowers ca. 1.4 cm in diam. Pedicel 1.5–8 cm, strigose. Receptacle glabrous. Sepals 5, elliptic, ca. 6.5 mm, abaxially pilose. Petals 5, broadly obovate, ca. 13 × 8–10 mm, nectary pit covered by a scale, apex rounded. Stamens numerous; anthers narrowly oblong. Aggregate fruit globose, ca. 5 mm in diam. Achene obliquely broadly obovate, 2.2–2.5 × ca. 2 mm, glabrous; style persistent, triangular, 0.3–0.4 mm. Fl. and fr. Jul.

• By streams in fields. Beijing (Changping Xian).

**107. *Ranunculus cuneifolius* Maximowicz,** Bull. Acad. Imp. Sci. Saint-Petersbourg, Sér. 3, 23: 306. 1877.

楔叶毛茛 xie ye mao gen

Herbs perennial. Roots fibrous, subequally thick. Stems 12–60 cm, strigose, branched or simple. Basal leaves ca. 3; petiole 3.5–25 cm, strigose; blade 3-partite, broadly rhombic, 3–8 × 3–8 cm, papery, strigose, base broadly cuneate, central lobe linear to cuneate, margin 2–10-denticulate; lateral lobes linear or 1- or 2-denticulate or entire, or obliquely cuneate and unequally 2-cleft. Lower stem leaves similar to basal ones, upper stem

leaves subsessile. Monochasium terminal, 2- to several flowered; bracts leaflike. Flowers 1.2–2 cm in diam.

Pedicel 2.4–6 cm, short strigose. Receptacle glabrous.

Sepals 5, ovate, 5–6 mm, abaxially strigose. Petals 5, obovate, 6–11 × 4–9 mm, nectary pit covered by a scale,

apex subtruncate or rounded. Stamens numerous; anthers oblong. Aggregate fruit subglobose, ca. 5 mm in diam.; carpels numerous. Achene bilaterally compressed, obliquely broadly obovate, ca. 2.2 × 1.8 mm, glabrous, narrowly marginate; style persistent, ca. 0.3 mm. Fl. Jul–Sep.

• Below 1300 m. Heilongjiang, Liaoning, Nei Mongol.

1a. Central lobe of leaf linear or cuneate-linear, 0.4–1.2 cm wide, distally 2-denticulate;

lateral lobes linear, 5–6 mm wide and 1- or 2-denticulate or entire, or oblique cuneate, 0.9–2.2 cm wide, unequally

2-cleft, lobules lanceolate-linear 107a. var. *cuneifolius*

1b. Central lobe of leaf cuneate, 1.5–2 cm

wide, ca. 10-denticulate; lateral lobes oblique obovate, ca. 3 cm wide,

unequally 2-cleft ..... 107b. var. *latisectus*

**107a. *Ranunculus cuneifolius* var. *cuneifolius***

楔叶毛茛(原变种) xie ye mao gen (yuan bian zhong)

Central lobe of leaf linear or cuneate-linear, 0.4–1.2 cm wide, distally 2-denticulate; lateral lobes linear, 5–6 mm wide and 1- or 2-denticulate or entire, or oblique cuneate, 0.9–2.2 cm wide, unequally 2-cleft, lobules lanceolate-linear.

• Meadows, moist places; below 1300 m. Heilongjiang, Liaoning, Nei Mongol.

**107b. *Ranunculus cuneifolius* var. *latisectus* S. H. Li & Y. H. Huang,** Fl. Pl. Herb. Chin. Bor.-Orient. 3: 230. 1975.

宽楔叶毛茛 kuan xie ye mao gen

Central lobe of leaf cuneate, 1.5–2 cm wide, ca. 10-denticulate; lateral lobes oblique obovate, ca. 3 cm wide, unequally 2-cleft.

• Moist places by streams. SW Liaoning (Huludao).

**108. *Ranunculus trigonus* Handel-Mazzetti,** Symb. Sin. 7: 304. 1931.

棱喙毛茛 leng hui mao gen

Herbs perennial. Roots fibrous, subequally thick. Stems 4.5–48 cm, spreading brownish pubescent, sometimes appressed pubescent above or strigose, usually branched. Basal leaves 3–6; petiole 1.4–18 cm, spreading pubescent or strigose; blade simple, rarely ternate, 3-partite or 3-sect, pentagonal or broadly ovate, 1.2–4.5(–5) × 1.5–4.6(–6) cm, papery, strigose, base subtruncate or cordate-truncate, central segment rhombic-cuneate or rhombic-obovate, 3-lobed, incised-dentate; lateral lobes rhombic-cuneate or rhombic-

obovate, 3-lobed, incised-dentate; lateral segments oblique rhombic or oblique flabellate, unequally 2-cleft; central leaflet of ternate leaves broadly rhombic, 3-partite, petiolulate; lateral leaflets unequally 2-partite, petiolulate. Lower stem leaves similar to basal ones; upper stem leaves 3-sect. Monochasium terminal, 2- or 3-flowered; bracts leaflike. Flowers 0.6–1(–1.5) cm in diam. Pedicel 0.5–6 cm, densely appressed puberulent. Receptacle puberulent. Sepals 5, ovate or oblong, 4–5 mm, abaxially pubescent. Petals (3–)5, oblong or obovate-oblong, 3.2–6(–8) × 1.6–4 mm, nectary pit covered by a scale, apex rounded. Stamens numerous; anthers oblong. Aggregate fruit subglobose, 4.5–7 mm in diam.; carpels numerous. Achene flat, obliquely broadly obovate, 2–3.5 × 1.8–2.8 mm, glabrous, narrowly marginate; style persistent, 0.5–0.8 mm. Fl. Mar–Sep.

• 1300–3300 m. SW Sichuan, SE Xizang, Yunnan.

The authors have seen no material of *Ranunculus shuichengensis* L. Liao (Acta Phytotax. Sin. 35: 57. 1997), described from Guizhou, but the protologue suggested that it is very closely related to *R. trigonus*. It was distinguished by the more broadly obovate petals, 5–6 × 4–5 mm, more compressed, narrowly marginate, suborbicular achenes, and the crenate-serrate leaf margins.

1a. Stems spreading pubescent, sometimes appressed pubescent above; petiole spreading pubescent; petals 3.2–6 mm 108a. var. *trigonus*

1b. Stems and petiole densely strigose; petals 7–8 mm ..... 108b. var. *strigosus*

**108a. *Ranunculus trigonus* var. *trigonus***

棱喙毛茛(原变种) leng hui mao gen (yuan bian zhong)

Stems spreading pubescent, sometimes appressed pubescent above. Petiole spreading pubescent. Petals 3.2–6 mm.

• Grassy slopes, meadows, woods, by streams or lakes; 1300–3300 m. SW Sichuan, SE Xizang (Zayü Xian), Yunnan.

**108b. *Ranunculus trigonus* var. *strigosus*** W. T. Wang, Bull. Bot. Res., Harbin 16: 164. 1996.

伏毛棱喙毛茛 fu mao leng hui mao gen

Stems and petioles densely strigose. Petals 7–8 mm.

• Scrub; ca. 1700 m. SW Yunnan (Gengma Xian).

**109. *Ranunculus meyerianus*** Ruprecht, Fl. Cauc. 1: 25. 1869.

短喙毛茛 duan hui mao gen

*Ranunculus pseudoparviflorus* H. Léveillé.

Herbs perennial. Stems 25–70 cm, retrorse hispid below, strigose above, branched. Basal leaves ca. 4; petiole 10–23 cm, retrorse hispid or subglabrous; blade 3-sect, reniform-pentagonal, 3–8 × 5–10 cm, papery, strigose, base cordate, central segment rhombic, 3-partite, rarely 3-lobed; lobes 2 × dissected, ultimate lobules linear-

lanceolate or ovate; lateral segments obliquely flabellate, unequally 2-partite, lobes 2 or 3 × dissected. Stem leaves 2 or 3, shortly petiolate or sessile, palmatisect; segments dissected or undivided, linear. Monochasium 2–5-flowered. Flowers 1.9–2.6 cm in diam. Pedicel 1–4 cm, strigose. Receptacle puberulent. Sepals 5, ovate, 5–7 mm, abaxially villous. Petals 5, broadly obovate, 9–13 × 9–12 mm, nectary pit covered by a scale, apex rounded-truncate. Stamens numerous; anthers oblong. Aggregate fruit subglobose, 6–7 mm in diam. Achene elliptic, 2–3 × 1.5–2.8 mm, glabrous; style persistent, triangular, 0.8–1 mm, straight or slightly curved at apex. Fl. and fr. Jul.

Forests; ca. 1500 m. N Xinjiang [Kazakhstan; SW Asia, E Europe].

**110. *Ranunculus polyanthemus*** Linnaeus, Sp. Pl. 1: 554. 1753.

多花毛茛 duo hua mao gen

Herbs perennial. Stems 20–65 cm, hispid or subglabrous, branched. Basal leaves ca. 5; petiole 7–14 cm; blade 3-sect, reniform-pentagonal, 3–6 × 4–9 cm, papery, strigose, base cordate, central segment rhombic, 3-partite, lobes 1 or 2 × lobed or partite, ultimate lobules oblique ovate or linear; lateral segments oblique flabellate, unequally 2-partite. Stem leaves shortly petiolate or sessile, 3-sect. Monochasium 3- or 4-flowered. Flowers ca. 1.8 cm. Pedicel 3–8 cm, sparsely strigose. Receptacle puberulent. Sepals 5, ovate, ca. 7 mm, abaxially villous. Petals 5, obovate, ca. 10 × 7 mm, nectary pit covered by a scale, apex rounded. Stamens numerous; anthers narrowly oblong. Aggregate fruit subglobose, ca. 7 mm in diam. Achene obliquely obovate, ca. 3 × 2 mm, glabrous, narrowly marginate; style persistent, triangular, ca. 1 mm, hooked at apex. Fl. and fr. Aug.

By streams, swamps. NW Xinjiang [Kazakhstan, Russia (Siberia); Europe].

**111. *Ranunculus sinovaginatus*** W. T. Wang, Bull. Bot. Res., Harbin 6(1): 34. 1986.

褐鞘毛茛 he qiao mao gen

*Ranunculus vaginatus* Handel-Mazzetti, Symb. Sin. 7: 303. 1931, not Sommerauer (1833).

Herbs perennial. Roots fibrous, subequally thick. Stems ascending or erect, 2–28 cm, appressed or spreading hispid, strigose above, branched or simple. Basal leaves ternate; petiole 3–9.5 cm, spreading or appressed hispid; blade pentagonal or broadly ovate, 1–4 × 1.4–7.6 cm, papery, strigose, central leaflet petiolulate, less often sessile, rhombic or broadly so, margin 3-lobed or 3-partite, few dentate, apex acute; lateral leaflets obliquely flabellate, unequally 2-partite. Stem leaves similar to basal ones, with shorter petioles. Flowers

solitary, terminal, 1.1–1.5 cm in diam. Receptacle sparsely pilose. Sepals 5, reflexed, narrowly ovate, 4–6 mm, abaxially strigose. Petals 5, narrowly obovate or narrowly elliptic, 6.5–11 × 3–4.2 mm, nectary pit covered by a scale, apex rounded. Stamens numerous; anthers broadly oblong. Aggregate fruit subglobose, 5–6 mm in diam.; carpels 10–17. Achene flat, obliquely broadly obovate, 2.2–3 × 2–3.3 mm, glabrous, narrowly marginate; style persistent, 1.7–2 mm. Fl. Apr–Sep.

•Grassy places, forests, by streams; 1500–3200 m. S Gansu, S Shaanxi, W Sichuan, NW Yunnan.

**112. *Ranunculus diffusus*** de Candolle, Prodr. 1: 38. 1824.  
铺散毛茛 *pu san mao gen*

*Ranunculus diffusus* f. *mollis* Wallich.

Herbs perennial. Roots fibrous, subequally thick. Stems ascending or prostrate, 10–40 cm, spreading pubescent, branched, rooting at lower nodes. Basal leaves 1–3; petiole 4–9 cm, spreading pubescent; blade simple or ternate, 3-partite or 3-sect, simple leaf pentagonal, 1.4–2.6 × 2–4 cm, papery, appressed puberulent, base cordate, central segment rhombic-obovate or cuneate-obovate, irregularly dentate; lateral segments obliquely flabellate, unequally 2-lobed; ternate leaves with blade 2.8–4.5 × 3–5.5 cm, petiolules short; central leaflet ovate, 3-lobed; lateral leaflets unequally 2-lobed. Lower stem leaves similar to basal ones, upper stem leaves with shorter petioles. Flowers leaf-opposed, 0.8–1.5 cm in diam. Pedicel 1–5.5 cm, puberulent. Receptacle puberulent. Sepals 5, elliptic-ovate, 4–6 mm, abaxially puberulent. Petals 5(or 6), narrowly obovate or oblong-obovate, 5–7 × 2–4 mm, nectary pit covered by a scale, apex rounded. Stamens numerous; anthers oblong or ellipsoid. Aggregate fruit subglobose, 4–9 mm in diam.; carpels numerous. Achene flat, broadly elliptic or obovate, 2.5–3 × 1.8–2 mm, glabrous, punctate, narrowly marginate; style persistent, ca. 0.8 mm. Fl. Mar–Jun.

Grassy places, rocks, by streams; 1100–3100 m. S Xizang, W and N Yunnan [Afghanistan, Bhutan, N India, N Myanmar, Nepal, N Pakistan, Sikkim].

**113. *Ranunculus sieboldii*** Miquel, Ann. Mus. Bot. Lugduno-Batavi 3: 5. 1876.

扬子毛茛 *yang zi mao gen*

*Ranunculus arcuans* S. S. Chien; *R. cantoniensis* de Candolle var. *sieboldii* (Miquel) Kitamura ex Hatusima; *R. pensylvanicus* Linnaeus var. *sieboldii* (Miquel) Ito; *R. sardous* Crantz var. *monanthos* Finet & Gagnepain; *R. sieboldii* var. *arcuans* (S. S. Chien) H. Hara.

Herbs perennial. Roots fibrous, subequally thick. Stems ascending or subprostrate, 8–50 cm, hirsute, branched, rarely simple, rooting at lower nodes. Basal leaves 3–7; petiole 2.5–14 cm, hirsute; blade ternate, ovate in outline, 1.5–5.4 × 2.6–7 cm, papery, strigose; central

leaflet petiolulate, broadly rhombic or broadly rhombic-ovate, margin 3-cleft to middle, few dentate; lateral leaflets petiolulate, obliquely broadly obovate, unequally 2-lobed or 2-partite. Stem leaves similar to basal ones, with shorter petioles. Flowers leaf-opposed, 0.9–1.8 cm in diam. Pedicel 0.7–4.6 cm, densely strigose. Receptacle puberulent. Sepals 5, reflexed, narrowly ovate, 4–6 mm, abaxially strigose. Petals 5, narrowly obovate or long elliptic, 5–9 × 2.5–4 mm, nectary pit covered by a scale, apex rounded. Stamens numerous; anthers oblong. Aggregate fruit subglobose, 8–10 mm in diam.; carpels numerous. Achene flat, obliquely obovate, 3–4 × 2.2–3 mm, glabrous, broadly marginate; style persistent, ca. 1 mm, curved at apex. Fl. Mar–Oct.

Grassy places, scrub, by rivers; 50–2500 m. S Anhui, Fujian, S Gansu, W and N Guangxi, Guizhou, S Henan, Hubei, Hunan, S Jiangsu, Jiangxi, S Shaanxi, N Shandong, Sichuan, Taiwan, NE Yunnan, Zhejiang [Japan].

*Ranunculus taiwanensis* Y. C. Liu & F. Y. Lu (Quart. J. Chin. Forest. 11 (3): 108. 1978), is known only from the type, which could not be located. The protologue, particularly the description of 4 mm long achenes, suggests a relationship to *R. sieboldii*. However, the leaves of *R. taiwanensis* are more divided, and Michio Tamura (pers. comm.) believes that it is a distinct species.

**114. *Ranunculus cantoniensis*** de Candolle, Prodr. 1: 43. 1824.

禺毛茛 *yu mao gen*

*Hecatonia pilosa* Loureiro, Fl. Cochinch. 1: 303. 1790, not *Ranunculus pilosus* Humboldt (1821); *R. brachyrhynchus* S. S. Chien.

Herbs perennial. Roots fibrous, subequally thick. Stems 20–65 cm, hirsute, branched. Basal and lower stem leaves with petiole 4.5–20 cm, hirsute; blade ternate, broadly ovate in outline, 3–14 × 3.8–17 cm, thinly papery, sparsely strigose; leaflets petiolulate; central leaflet rhombic-ovate or broadly ovate, broadly cuneate or rounded-base truncate, margin 3-partite, denticulate; lateral leaflets obliquely broadly ovate, unequally 2-sect or 2-partite. Upper stem leaves smaller, shortly petiolate. Compound monochasium terminal, corymbose, 4–10-flowered; bracts leaflike. Flowers 0.9–1.3 cm in diam. Pedicel 1–4 cm, strigose. Receptacle hirtellous. Sepals 5, reflexed, narrowly ovate, 3–4 mm, strigose. Petals 5, narrowly elliptic or obovate, 4–7.5 × 2–3.8 mm, nectary pit covered by a scale, apex rounded. Stamens numerous; anthers oblong. Aggregate fruit subglobose, 7–9 mm in diam.; carpels numerous. Achene flat, obliquely obovate, 2.5–3 × 2.2–3 mm, glabrous, narrowly marginate; style persistent, triangular, ca. 1 mm, straight or uncinatate at apex. Fl. Mar–Sep, fr. Apr–Nov.

By streams, grassy slopes, forest margins; 100–1700 m. S and W Anhui, Fujian, Guangdong, Guangxi, Guizhou, Henan, W Hubei, Hunan, S Jiangsu, Jiangxi, S Shaanxi, Sichuan, Taiwan, SE Yunnan, Zhejiang [Bhutan, Japan, S Korea, Nepal].



Material of this species has been incorrectly named as *Ranunculus fibrosus* Wallich. There has also been confusion with *R. chinensis*, which was treated as a synonym of *R. cantoniensis* in Fl. Pakistan.

**115. *Ranunculus silerifolius*** H. Léveillé, Repert. Spec. Nov. Regni Veg. 7: 257. 1909.

钩柱毛茛 *gou zhu mao gen*

Herbs perennial. Roots subequally thick. Stems 28–95 cm, hirsute below, strigose above, branched. Basal and lower stem leaves with petiole 7–30 cm, hirsute; blade ternate, occasionally biternate, or 3-partite, pentagonal in outline, 2.6–5 × 2.6–7 cm, papery, strigose, base cordate, leaflets petiolulate; central leaflet rhombic-ovate or ovate, base broadly cuneate or rounded, margin 3-partite or 3-lobed, denticulate; lateral leaflets obliquely broadly ovate, unequally 2- or 3-cleft. Upper stem leaves smaller, shortly petiolate. Compound monochasium terminal, 4- to many flowered; bracts leaflike. Flowers ca. 0.9 cm in diam. Pedicel 0.5–3 cm, strigose. Receptacle hirtellous. Sepals 5, reflexed, elliptic-ovate, 3.5–4 mm, abaxially strigose. Petals 5, obovate, 4–10 mm, nectary pit covered by a scale, apex rounded. Stamens numerous; anthers oblong. Aggregate fruit subglobose, 5–8 mm in diam.; carpels numerous. Achene flat, obliquely obovate, 2–2.8 × 1.8–2 mm, glabrous, narrowly marginate; style persistent, narrowly triangular or subulate, 0.7–1.2 mm, hooked at apex. Fl. Apr–Oct, fr. Apr–Nov.

By streams, forests, grassy slopes; 100–2500 m. Fujian, N Guangdong, N and E Guangxi, Guizhou, SW Hubei, Hunan, S Jiangxi, W and SE Sichuan, Taiwan, S and E Yunnan [Bhutan, NE India, Indonesia, Japan, Korea].

1a. Basal leaf blades ternate to biternate.

Petals 4–5 mm. .... 115a. var. *silerifolius*

1b. Basal leaf blades 3-partite. Petals

6–10 mm ..... 115b. var. *dolichanthus*

**115a. *Ranunculus silerifolius* var. *silerifolius***

钩柱毛茛(原变种) *gou zhu mao gen* (yuan bian zhong)

*Ranunculus ternatus* Thunberg var. *hirsutus* H.

Boissieu.

Roots fibrous. Basal leaf blades ternate to biternate.

Petals 4–5 × ca. 2 mm. Fl. Apr–Oct, fr. Apr–Nov.

By streams, forests, grassy slopes; 100–2500 m. Fujian, N Guangdong, N and E Guangxi, Guizhou, SW Hubei, Hunan, S Jiangxi, W and SE Sichuan, Taiwan, S and E Yunnan [Bhutan, NE India, Indonesia, Japan, Korea].

**115b. *Ranunculus silerifolius* var. *dolichanthus*** L. Liao, Acta Phytotax. Sin. 35: 59. 1997.

长花毛茛 *chang hua mao gen*

Roots thickened. Basal leaf blades 3-partite. Petals 6–10 mm. Fl. May

•Grassy slopes near cultivation; 1200–1300 m. Guizhou.

The authors have seen no material of this variety.

**116. *Ranunculus tachiroei*** Franchet & Savatier, Enum. Pl. Jap. 2: 267. 1876.

长嘴毛茛 *chang zui mao gen*

*Ranunculus cantoniensis* de Candolle subsp. *tachiroei* (Franchet & Savatier) Kitamura.

Herbs perennial. Roots fibrous, subequally thick. Stems 70–80 cm, spreading hispid below, strigose and branched above. Basal and lower stem leaves with petiole 7–18 cm, spreading hispid; blade biternate, ca. 12 × 16 cm, papery, strigose; central leaflet petiolulate, broadly rhombic, ca. 5 × 4.5 cm, 3-partite, tertiary lobes cuneate, 2- or 3-lobed and few denticulate; lateral leaflets subsessile, smaller, oblique. Upper stem leaves shortly petiolate, ternate or simple, 3-sect. Compound monochasium terminal, corymbose, lax flowered; bracts 3-sect, segments lanceolate-linear. Flowers 1.1–1.3(–1.8) cm in diam. Pedicel 1.1–1.2 cm, strigose. Receptacle hirtellous. Sepals 5, reflexed, broadly ovate, ca. 4 mm, abaxially strigose. Petals 5(or 6), oblong or obovate, 5–7(–9) × 2–5(–6.2) mm, nectary pit covered by a scale, apex rounded. Stamens numerous; anthers oblong. Aggregate fruit subglobose, 8–9 mm in diam.; carpels numerous. Achene bilaterally compressed, obliquely broadly obovate, ca. 3 × 2.6 mm, glabrous, narrowly marginate; style persistent, 1.2–1.6 mm. Fl. Jul.

Moist grassy places. E Jilin, SE Liaoning [Japan, Korea].

**117. *Ranunculus repens*** Linnaeus, Sp. Pl. 1: 554. 1753.

匍枝毛茛 *fu zhi mao gen*

*Ranunculus repens* var. *brevistylus* Maximowicz; *R. repens* f. *polypetalus* S. H. Li & Y. H. Huang.

Herbs perennial. Stolons present. Stems ascending or suberect, 10–60 cm, subglabrous or sparsely puberulent, branched above. Basal leaves with petiole 7–20 cm; blade ternate, 3-partite, rarely 3-sect, central leaflet broadly rhombic, 2–4.2 × 1.8–3.8 cm, glabrous or adaxially appressed puberulent, base broadly cuneate, secondary lobes lobed or more deeply divided; lateral leaflets oblique, unequally 2- or 3-lobed or -partite. Stem leaves similar to basal ones, smaller and shortly petiolate upward. Monochasium terminal, 2- to several flowered; bracts 3-sect or undivided, lanceolate-linear. Flowers 1.5–2.2 cm in diam. Pedicel 1–8 cm, appressed puberulent. Receptacle puberulent. Sepals 5, elliptic-ovate, 5–7 mm, abaxially appressed pubescent or subglabrous. Petals 5 (7–22 in f. *polypetalus*), obovate, 7–10 × 5–7 mm, nectary pit covered by a scale, apex rounded or rounded-truncate. Stamens numerous; anthers oblong. Aggregate fruit ovoid, 5–7 mm in diam.; carpels numerous. Achene bilaterally compressed, obliquely obovate, 2.2–3 × 1.8–2.1 mm, glabrous, narrowly marginate; style persistent, 0.5–0.8 mm. Fl. Apr–Aug, fr. May–Aug.

Meadows, moist places, by streams; 300–3300 m. Heilongjiang, Jilin, Liaoning, Nei Mongol, Shanxi, Xinjiang, NW Yunnan [Japan, Kazakhstan, Kyrgyzstan, Mongolia, Pakistan, Russia (Siberia); Europe, North America].

**118. *Ranunculus chinensis*** Bunge, Enum. Pl. China Bor. 3. 1833.

茴茴蒜 hui hui suan

*Ranunculus pensylvanicus* Linnaeus var. *chinensis* (Bunge) Maximowicz.

Herbs perennial or annual. Roots fibrous, subequally thick. Stems 10–50 cm, densely hispid, simple or branched. Basal leaves several; petiole 4–20 cm, hispid; blade ternate, ovate in outline, 4–8 × 4–10.5 cm, papery, strigose; central leaflet stalked, rhombic or broadly rhombic, 3-partite, secondary lobes rhombic-cuneate, 2- or 3-lobed; lateral leaflets smaller, shortly stalked, oblique flabellate, unequally 2-partite. Lower stem leaves similar to basal ones, upper stem leaves smaller, shortly petiolate, 3-sect. Compound monochasium terminal, 3- to several flowered; bracts leaflike. Flowers 0.7–1.2 cm in diam. Pedicel 0.5–2 cm, strigose. Receptacle densely puberulent. Sepals 5, reflexed, elliptic-ovate, 3–5 mm, abaxially strigose. Petals 5, obovate or ovate, 5–6 × 2.8–3 mm, nectary pit covered by a scale, apex rounded. Stamens numerous; anthers oblong. Aggregate fruit ovoid-cylindric or ovoid, 6–10 × 4–6 mm; carpels numerous. Achene bilaterally compressed, obliquely obovate, 2–2.5 × 1.6–2 mm, glabrous, narrowly marginate; style persistent, ca. 0.2 mm. Fl. Apr–Sep.

By streams and rivers, wet grassy places, grassy slopes, meadows; below 3000 m. Anhui, Gansu, Guizhou, Hebei, Heilongjiang, Henan, Hubei, Hunan, Jiangsu, Jilin, Liaoning, Nei Mongol, Ningxia, E Qinghai, Shaanxi, Shandong, Shanxi, W Sichuan, Xinjiang, E Xizang, Yunnan, E Zhejiang [Bhutan, N India, Japan, Kazakhstan, Korea, Mongolia, N Pakistan, Russia (Siberia), Thailand]. Chinese material named as *Ranunculus pensylvanicus* Linnaeus belongs here.

**119. *Ranunculus sardous*** Crantz, Stirp. Austr. Fasc. 2: 84. 1763.

欧毛茛 ou mao gen

Herbs annual. Stems ca. 40 cm, strigose, branched. Basal leaves ca. 6; petiole 6–7 cm; blade mostly ternate, ovate or broadly ovate, 1.8–2.6 × 1.6–2.9 cm, papery; central leaflet subpentagonal, petiolule 1–8 mm, base broadly cuneate, margin 3-partite, incised-lobulate; lateral leaflets smaller, sessile or shortly petiolulate, oblique, unequally 3-cleft, simple, 3-lobed, to nearly 3-sect. Stem leaves long or shortly petiolate, ternate or 3-sect. Compound monochasium 2–5-flowered. Flowers ca. 1.8 cm in diam. Pedicel 1.5–4.5 cm, strigose. Receptacle pubescent. Sepals 5, narrowly ovate, ca. 6 mm, abaxially hispid. Petals 5, obovate, ca. 10 × 7 mm, nectary pit covered by a scale, apex rounded. Stamens numerous. Aggregate fruit ovoid, ca. 7 × 6 mm. Achene complanate, orbicular-obovate, ca. 2.5 × 2 mm, glabrous, verrucose along margin, narrowly marginate; style persistent, ca. 0.5 mm. Fl. May.

Recently naturalized in waste places. Shanghai [native to Europe].

**120. *Ranunculus trachycarpus*** Fischer & C. A. Meyer, Index Seminum (St Petersburg) 3: 46. 1836.

疣果毛茛 you guo mao gen

Herbs annual. Stems ca. 25 cm, sparsely hispid below, strigose above. Basal leaves ca. 6; petiole 6–12 cm, sparsely hispid; blade ternate, ovate in outline, 2.2–5 × 1.8–5 cm, papery, sparsely strigose or glabrescent; central leaflet long petiolulate, pentagonal-ovate, 3-partite, lobe margin incised-dentate, central lobe broadly rhombic-obovate, lateral lobes oblique obovate; lateral leaflets smaller, shortly petiolulate. Stem leaves petiolate or sessile, ternate. Monochasium 1–4-flowered; bracts 3-sect. Flowers ca. 1.6 cm in diam. Pedicel 1.5–4.5 cm, strigose. Receptacle puberulent. Sepals 5, ovate, ca. 6 mm, abaxially sparsely strigose. Petals 5, obovate, ca. 8 × 7 mm, nectary pit covered by a scale, apex rounded. Stamens numerous. Aggregate fruit cylindric, ca. 8 × 5 mm. Achene complanate, broadly obovate or orbicular-obovate, 2.2–2.5 × ca. 2 mm, glabrous, verrucose, narrowly marginate; style persistent, ca. 0.1 mm. Fl. Apr.

Naturalized on grassy slopes. C Hunan (Shaoyang Xian) [native to SE Europe and W Asia].

**121. *Ranunculus muricatus*** Linnaeus, Sp. Pl. 1: 555. 1753.

刺果毛茛 ci guo mao gen

Herbs annual. Stems 5–28 cm, glabrous, branched. Basal leaves 6–9; petiole 3.4–12 cm, subglabrous; blade 3-lobed, broadly ovate or orbicular-ovate, 1.6–5.5 × 1.8–4.2 cm, papery, glabrous, base subtruncate or truncate-cuneate; central lobe rhombic-obtrapeziform, 3-lobed or few dentate; lateral lobes obliquely ovate, unequally 2-lobed, incised-dentate. Lower stem leaves similar to basal leaves; upper ones shortly petiolate, broadly ovate. Flowers solitary, leaf-opposed, 1–1.6 cm in diam. Pedicel 1–3 cm, glabrous or pilose. Receptacle pilose. Sepals 5, narrowly ovate, 5–6 mm, abaxially sparsely pilose. Petals 5, narrowly obovate, 3–8 × 2.5–4 mm, nectary pit covered by a scale, apex rounded. Stamens numerous. Aggregate fruit subglobose, ca. 1.2 cm in diam. Achene complanate, elliptic or obovate, 4–5 × ca. 3 mm, glabrous, narrowly marginate, spiny, spines 0.5–1 mm; style persistent, ca. 2 mm. Fl. Mar–Apr.

Naturalized in grassy places, paddy fields, yards. Anhui, S Jiangsu, Zhejiang [native to W Asia and Europe].

**122. *Ranunculus arvensis*** Linnaeus, Sp. Pl. 1: 555. 1753.

田野毛茛 tian ye mao gen

Herbs annual. Stems ca. 30 cm, sparsely appressed puberulent, branched. Basal leaves 3–5; petiole 1.6–6 cm, sparsely puberulent; blade 3-lobed, 3-partite, or 3-sect, obovate or broadly rhombic, 1.5–3.5 × 1.5–4 cm, papery, sparsely appressed puberulent, base cuneate or broadly cuneate, lobes narrowly cuneate, 2- or 3-dentate at apex. Stem leaves petiolate or sessile, 1- or 2-ternate, ultimate lobes narrowly cuneate or linear-lanceolate. Flowers leaf-opposed, ca. 1 cm in diam. Pedicel 2–4 cm, appressed puberulent. Receptacle puberulent. Sepals 5, narrowly ovate, ca. 5 mm,

abaxially appressed puberulent. Petals 5, obovate, ca. 5 × 3.8 mm, nectary pit covered by a scale, apex rounded. Stamens numerous. Aggregate fruit subglobose, ca. 1.2 cm in diam. Achene complanate, elliptic, ca. 5 × 3.5 mm, glabrous, spiny, spines up to 2 mm; style persistent, ca. 2.6 mm. Fl. Apr–May.

Naturalized in sandy places along roads. Anhui, Hubei [native to W Asia and Europe].

**123. *Ranunculus platyspermus*** Fischer, Prodr. 1: 37. 1824.

宽翅毛茛 kuan chi mao gen

Herbs perennial. Roots fibrous and tuberous. Stems 19–25 cm, puberulent, branched. Basal leaves 5; petiole 2–3 cm, puberulent; blade pinnate, subrhombic in outline, 2.5–4 × 2.5–4 cm, papery, abaxially sparsely appressed puberulent, adaxially subglabrous; pinnae 3 pairs, 1 or 2 × dissected, ultimate lobes lanceolate or linear. Stem leaves smaller, shortly petiolate or sessile, 3-sect, segments dissected or undivided and linear. Inflorescence terminal, 3–5-flowered. Flowers ca. 1.5 cm in diam. Pedicel 1.5–4.5 cm, sparsely puberulent.

Receptacle glabrous. Sepals 5, ovate, ca. 5 mm, abaxially puberulent. Petals 5, obovate, 7–8 × 4.5–6 mm, nectary pit covered by a scale, apex rounded. Stamens numerous; anthers narrowly oblong. Aggregate fruit ovoid, ca. 6 × 7 mm. Achene orbicular-ovate, 3–3.2 × 3.2–3.8 mm, glabrous; style persistent, triangular, ca. 0.5 mm, slightly curved at apex. Fl. and fr. Apr.

Meadows; ca. 700 m. W Xinjiang [Kazakhstan, Russia (W Siberia)]. *Ranunculus gobicus* Maximowicz (Enum. Pl. Mong. 15. 1889), was described from W Mongolia and might occur within Xinjiang. It is close to *R. platyspermus*, but differs by the 3-partite leaf blade with shallowly lobed lobes.

**124. *Ranunculus regelianus*** Ovczinnikov, Bjull. Moskovsk. Obsc. Isp. Prir., Otd. Biol. 44: 269. 1935.

扁果毛茛 bian guo mao gen

Herbs perennial. Roots fibrous and tuberous. Stems 13–22 cm, puberulent, simple or 1- or 2-branched above. Basal leaves 4–6; petiole 2–4 cm, puberulent; blade pinnate, broadly ovate or rhombic in outline, 1.5–5 × 0.8–3.8 cm, papery, sparsely puberulent; pinnae 3 pairs, lower ones petiolulate, 1–3 × dissected, ultimate lobes narrowly lanceolate or linear. Stem leaves 1 or 2, shortly petiolate or sessile, 3-sect, lobes linear, entire. Flowers terminal, solitary, 1.6–2.5 cm in diam.

Receptacle glabrous. Sepals 5, ovate, 5–7 mm, abaxially pubescent. Petals 5, obovate, 8–15 × 6–10 mm, nectary pit covered by a scale, apex rounded. Stamens numerous; anthers narrowly oblong. Carpels numerous, ca. 1.2 mm, glabrous; style persistent, ca. 0.5 mm, hooked. Fl. Apr–May.

Meadows, river banks; 700–1100 m. NW Xinjiang [Kazakhstan].

**125. *Ranunculus angustisepalus*** W. T. Wang, Bull. Bot. Res., Harbin 15: 320. 1995.

狭萼毛茛 xia e mao gen

Small perennial herb. Stems 1 or 2, ca. 10 cm, mostly glabrous, sparsely puberulent below flower, simple.

Basal leaves ca. 7; petiole 2–5 cm, glabrous; blade 3-lobed, pentagonal, 6–9 × 8–13 mm, papery, glabrous, base truncate-cordate; central lobe low obtuse-trapeziform, 3-dentate; lateral lobes unequally 3- or 4-dentate or 3-lobulate. Stem leaves 1 or 2, linear, ca. 7 mm, entire, glabrous. Flowers solitary, terminal, ca. 1.2 cm in diam. Receptacle glabrous. Sepals 4, navicular-linear or oblong, ca. 5 mm, glabrous, abaxially saccate-appendiculate at base. Petals 5, oblanceolate, ca. 6 × 0.3 mm, nectary pit without a scale. Androgynophore present, ca. 0.6 mm, glabrous. Stamens ca. 4; anthers elliptic. Carpels numerous; ovary 0.8 mm, glabrous; style ca. 0.3 mm. Fl. Aug.

• Grassy slopes; ca. 3600 m. SE Xizang (Bomi Xian).

