

87. *Clematis songarica* Bunge, Del. Semin. Hort. Dorpat. 8 (1839).

Syn.: *Clematis recta* subsp. *songarica* Kuntze

Shrub 40-120 cm high. **Stem** erect, branching. **Leaves** grey green, thick, lanceolate, petiolate. **Flowers** in panicles, sepals 4, 1-2 cm, white, oblong obovate, abaxially sparsely puberulous, adaxially glabrous. **Seeds** - achenes flat, densely pubescent. Fl. VI-VIII, Fr. VIII.

Habitat: On rocky slopes, salty soil, creeping on shrubs

Distribution: Tian Shan, Tarbagatai, Dzhungar, Pamiro-Alai

Cultivation: In normal garden conditions.



87.

88. *Oxygraphis glacialis* (Fisch. ex DC.) Bunge, Verz. Altai Pfl. 46-47 (1836).

Syn.: *Ficaria glacialis* Fisch. ex DC., *Caltha glacialis* (Fisch. ex DC.) Spreng., *Ranunculus kamtschaticus* DC., *Caltha kamtschatica* Spreng.

Dwarf caespitose plant 1,5-6 cm, with thick radial roots. **Stem** very short, thick and ribbed. **Leaves** all in rosette, petioles thick, widened at base with membranaceous margin, blade equal to petiole, 1-2 cm long, thick, juicy, rounded to ovate. **Flowers** solitary, 15-20 mm large, sepals 5, ovate, 5-9 mm long, light green, persistent in fruits, petals 11-15, oblong to linear, yellow, 6-7 mm long, 1.5 mm wide. **Seeds** flat, elliptic, glabrous, narrowing to short nose, dark purple, with fine 5 ribs. Fl. VI-VII, Fr. VII-VIII.

Habitat: In alpine zone, in scree lichenous tundra, along alpine streams, near snow fields and glaciers, 4000- 4800 m.

Distribution: Central Asia (Tien Shan, Pamiroalai, Dzhungar, Tarbagatai; Mongolia, Altai, Siberia, Arctic, China)

Cultivation: In peat blocs or cold csree.



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87. Ketmen, 2000 m, VH.

88 Trans-Ily Ala Tau, 3200 m, VH.

89. Chon Ashu, 3200 m, VH.

89.





100.

100. *Gymnospermium altaicum* (Pall.) Spach,
Hist. Nat. Vég. 8: 67 (1839).

Syn.: *Leontice altaica* Pall.

Small tuberose plant 5-25 cm high, gray green waxy. **Tuber** rounded, 10-25 mm in diameter, tuberculate. **Stems** erect, thin with 1 leaf under inflorescence, short petiole with 2 basal bracts, blade trifoliate, leaflets on long petioles, palmately dissected to 4-5 lobes, oblong-elliptic, entire, up to 3 cm long. **Flowers** in terminal racemes, bracts rounded, equal to twice shorter than peduncles, peduncles drooping down in fruits, sepals orange yellow purplish outside, oblong elliptic, 2-2.5 longer than petals, petals-nectaria cuneate, with 2 dents directed to sides. **Seed** capsules rounded, to 8 mm wide, sharp style on top, seeds 3-4, rounded, dark brown to black, Fl. III-IV. Fr. IV.

Habitat: From montane zone, on stony slopes and screes in shrubland and open apple or fir woodland.

Distribution: Central Asia: Tian Shan, Dzhungar, Tarbagatai, W Siberia (Altai).

Cultivation: Dry scree, hot place, needs a dry period (dormancy) in summer.

101. *Gymnospermium darvasicum* (Regel) Takht.
in Bot. Journ. URSS 55:1192 (1970).

Syn.: *Leontice darvasica* Regel.

Small tuberose plant 15-20 (-30) cm high, gray green waxy. **Tuber** rounded, flattened on top, 5-6 cm in diameter, roughly tuberculate. **Stems** erect, thin, with 1-2 leaves. Basal **leaves** 1-3, long petiolate, trifoliate, leaflets sessile or on short petioles up to 15 mm, elliptic, stem leaves under inflorescence, trifoliate, sessile or on petioles up to 8 mm, rounded on apex, 2-3 cm long, entire or with 1-2 lobes. **Flowers** in terminal

racemes, peduncles directed up, in fruits drooping, sepals 5-6, oblong ovate, creamy yellow, dirty violet on spine, petals 5-6, 3-times shorter than sepals, 4 mm long, oblong, emarginated, dentate or 3-incised. **Seed** capsules ovate rounded, seeds 1-4, large, rounded, matte, dark brown, Fl. III-V. Fr. V-VII

Habitat: Shrubland, stony slopes and screes, 1500-2000 m.

Distribution: endemic to Pamiroalai: Hissar-Darvas, Khalaikhumb. **Cultivation:** Dry scree, hot place, needs a dry period (dormancy) in summer.

102. *Gymnospermium albertii* (Regel) Takht. in
Bot. Journ. 55:1192 (1970).

Syn.: *Leontice albertii* Regel.

Small tuberose plant 10-25 cm high, gray green waxy. **Tuber** rounded, flattened on top, 5-6 cm in diameter, roughly tuberculate. **Stems** erect, thin. Basal **leaves** 1-3, long petiolate, trifoliate, leaflets palmately divided to 3-5 (-7) lobes, obovate, with pointed, mucronate apex, stem leaves 1-2, under inflorescence, trifoliate, lobes long petiolate, over 15 mm, palmately divided to 3-5 lanceolate lobes, with bent margins down during flowering. **Flowers** in terminal racemes, peduncles horizontal or drooping down, sepals 5-6, elliptic, 7-12 mm long, creamy yellow, dirty violet on spine, petals 5-6, 3-times shorter than sepals, oblong, 3-incised. **Seed** capsules rounded, seeds 2-4, large, rounded, matte, dark brown to black, Fl. III-VI. Fr. V-VII

Habitat: From submontane to subalpine zones, in steppes, juniper shrubland, stony slopes and screes, 600-3000 m.

Distribution: Central Asia: Pamiroalai, W Tien Shan.

Cultivation: Dry scree, hot place, needs a dry period (dormancy) in summer.



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102.





114.

115. *Corydalis glaucescens* Regel in Bull. Soc. Imp. Naturalistes Moscou 43(1): 253 (1870).

Syn.: *Corydalis kolpakovskiana* Regel; *C. kolpakovskiana* var. *hennigii* Fedde; *Pistlochchia glaucescens* (Regel) Soják

Tuberose plant 10-25 cm high, tuber rounded, 1-2.5 cm. **Stems** thin, ascending, with many axillary stems. **Leaves** glaucous, blade 2-3 × pinnately divided, leaflets entire or deeply cleft into ovate to lanceolate entire obtuse lobes, 4-12 × 2-3 mm. **Flowers** in long racemes, laxly 5-12(-22)-flowered, nodding, bracts rhombic-ovate, outer petals pale pink to white with purple to green dark keels, upper petal 2-2.5 cm; spur slightly upcurved, 10-14(-17) mm. **Capsules** broadly lanceolate, 11-17 × 4 mm, seeds rounded, 1.7-2 mm, black. **Fl.** V-VI, **Fr.** V-VI.

Habitat: In rocky slopes among shrubs, forest margins, 1300-1800 m.

Distribution: C and W Tian Shan, Dzhungar, Xinjiang, Pamiro-Alai.

Cultivation: In scree.

115.

