

39. LAGOTIS Gaertner, *Novi Comment. Acad. Sci. Imp. Petrop.* 14: 533. 1770.

兔耳草属 tu er cao shu

Gymnandra Pallas.

Herbs, perennial, fleshy, glabrous. Rhizomes stout. Lateral roots few to numerous. Stems 1 to numerous, or main stem inconspicuous, unbranched. Leaves mostly basal; petiole winged, base often dilated; leaf blade margin entire, serrate, or pinnately parted. Scapes 1 to numerous. Inflorescences narrowly spicate or capitate, densely flowered; bracts imbricate. Bracteoles absent. Calyx spathe-like, lower side splitting to base, upper side lobed or splitting to base, membranous, margin ciliate. Corolla 2-lipped; lower lip 2–4-lobed; upper lip entire or 2-lobed. Stamens 2, inserted at corolla sinuses or filaments adnate to margin near base of upper lip and as long as lip or shorter; anthers mostly reniform. Ovary 2-loculed. Stigma capitate or 2-lobed. Fruit drupaceous. Seeds 1 or 2.

About 30 species: northern hemisphere; 17 species in China.

1a. Plants without conspicuous main stem.

2a. Plants stoloniferous; corolla 4–6 mm.

3a. Root crown enclosed by fibrous remnants of old leaves; leaves entire 1. *L. brachystachya*

3b. Root crown without remnants of old leaves; leaves pinnately parted 2. *L. pharica*

2b. Plants not stoloniferous; corolla 6–10 mm.

4a. Flowering stems not scapose; spikes elongated; rhizomes short 5. *L. decumbens*

4b. Flowering stems scapose; spikes ovoid; rhizomes long.

5a. Petioles and leaves abaxially purple-red; bracts to 1.5 cm, subleathery 3. *L. praecox*

5b. Petioles and leaves abaxially not purple-red; bracts ca. 0.8 cm, papery 4. *L. ramalana*

1b. Plants with conspicuous erect stem.

6a. Corolla tube straight; style short.

7a. Leaf blade thin, papery; anther subsagittate.

8a. Stem leaves sessile, smaller than basal leaves; calyx at anthesis slightly longer than bract 10. *L. yunnanensis*

8b. Stem leaves short petiolate, as large as or slightly smaller than basal leaves; calyx at anthesis shorter than bract 11. *L. wardii*

7b. Leaf blade thick, somewhat fleshy or subleathery; anther reniform.

9a. Corolla tube longer than limb; inflorescences elongated to more than 1/2 stem length 6. *L. crassifolia*

9b. Corolla tube as long as or slightly shorter than limb; inflorescences mostly capitate, less than 1/2 stem length.

10a. Root crown often with remnants of old petioles; bracts suborbicular 7. *L. brevituba*

10b. Root crown without remnants of old petioles; bracts ovate, obovate, or ovate-lanceolate.

11a. Plants ca. 5 cm tall; stems usually erect 8. *L. humilis*

11b. Plants more than 6 cm tall; stems prostrate, diffuse or obliquely ascending 9. *L. alutacea*

6b. Corolla tube slightly curved forward; style long.

12a. Filaments adnate to base of upper corolla lip margin; style exerted.

13a. Root crown without remnants of old petioles; calyx ca. 2 × as long as bract above middle of inflorescence 12. *L. clarkei*

13b. Root crown usually with remnants of old petioles; calyx shorter than bract 13. *L. integrifolia*

12b. Filaments inserted at corolla sinuses; style included or reaching mouth of corolla tube (slightly exerted in *L. kongboensis*).

14a. Inflorescences subcapitate; bracts linear-oblong to spatulate 14. *L. angustibracteata*

14b. Inflorescences elongated; bracts ovate, obovate, or ovate-lanceolate.

15a. Bract margin entire; basal leaf blade 4–11 cm, margin entire or sparsely and irregularly serrulate 17. *L. integra*

15b. Bract margin serrate; basal leaf blade 2–4.5 cm, margin coarsely or obtusely toothed.

16a. Corolla tube 2–3 × as long as limb 15. *L. macrosiphon*

16b. Corolla tube slightly longer than limb 16. *L. kongboensis*

1. Lagotis brachystachya Maximowicz, *Bull. Acad. Imp. Sci. Saint-Petersbourg* 27: 525. 1881.

短穗兔耳草 duan sui tu er cao

Kokonoria stolonifera Keng & P. C. Keng.

Herbs, 4–8 cm tall. Lateral roots numerous, fascicled, to 10 cm, fleshy; root crown with fibrous remnants of old petioles. Rhizomes less than 3 cm. Stolons purplish red, more than 30 cm, 1–2 mm in diam. Leaves basal,

rosulate; petiole 1–5 cm, broadly winged, flattened; leaf blade broadly linear to lanceolate, 2–7 cm, base tapering, margin entire, apex acuminate. Scapes few, slender, prostrate to erect, not exceeding leaves; spikes dense, 1–1.5 cm; bracts ovate-lanceolate, 4–8 mm, papery. Calyx as long as or slightly shorter than corolla tube, apex of upper side split for more than 1/3 length, margin long ciliate. Corolla white, reddish, or purple, 5–6 mm; tube straight, longer than limb; lower lip lobes 2, oblong, 1–1.2 mm wide; upper lip unlobed, ovate to ovate-oblong, 1.5–2 mm wide. Stamens shorter than upper lip. Disc 4-lobed. Style exserted; stigma capitate. Fruit red, ovate. Fl. and fr. May–Aug.

• Alpine grassland, sandy grassland on riverbanks and lake shores; 3200–4500 m. Gansu, Qinghai, Sichuan, Xinjiang.

The whole plant is used medicinally.

2. *Lagotis pharica* Prain, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 65(2): 62. 1896.

裂叶兔耳草 lie ye tu er cao

Lagotis incisifolia Handel-Mazzetti.

Herbs, 4–15 cm tall. Lateral roots fascicled, fleshy; root crown with 2–4 scarios brown ovate scales. Rhizomes short, slender. Stolons more than 7 cm. Leaves 2–6, basal; petiole 1.2–7 cm, narrowly winged, flattened, base dilated and sheathlike; leaf blade ovate to oblong, as long as or shorter than petiole, pinnately parted; segments 3–5, linear, margin obtuse-serrate. Scapes 1–3, ascending, nearly as long as leaves; spikes 1.5–2.5 cm; bracts broadly obovate to ovate-oblong, 4–6 mm, thick, pubescent, margin entire, apically crenate. Calyx 2-lobed; lobes lanceolate, 2–3 mm. Corolla violet, 4–5.5 mm; tube straight, nearly as long as limb; lower lip lobes 3, linear-oblong; upper lip 2-lobed. Filaments as long as or longer than lips. Style shorter than lips, slender; stigma small, capitate to emarginate. Fruit narrowly ovoid-globose. Fl. May.

Alpine grassland; ca. 4300 m. W Sichuan, SE Xizang [Bhutan].

3. *Lagotis praecox* W. W. Smith, Notes Roy. Bot. Gard. Edinburgh 11: 217. 1919.

紫叶兔耳草 zi ye tu er cao

Herbs, 5–18 cm tall. Lateral roots to 25 cm, fleshy; root crown with remnants of old petioles. Rhizomes to 6 cm. Leaves basal, subleathery; petiole abaxially purple-red, 4–7(–11) cm, narrowly winged, base much dilated into a sheathlike scale; leaf blade reniform, orbicular, or ovate, 4–7 cm, abaxially purple-red, base cordate, truncate, or broadly cuneate, margin coarsely crenate, apex rounded to obtuse. Scapes 1–5, ascending, nearly as long as leaves; spikes ovoid, 1.5–2.5 cm; bracts densely imbricate, obovate to suborbicular, to 1.5 cm, subleathery, enclosing flowers. Calyx lower side 2-lobed; lobes lanceolate-oblong, margin finely fimbriate. Corolla blue, ca. 6 mm; tube straight, as long as limb; lower lip lobes 2 or 3, lanceolate; upper lip ovate,

emarginate or 2-lobed. Stamens exserted. Stigma capitate. Fruit elliptic-oblong, ca. 7 mm. Fl. and fr. Jul–Aug.

• Alpine grassland, sandy and gravelly areas; 4500–5200 m. W Sichuan, NW Yunnan.

4. *Lagotis ramalana* Batalin, Trudy Imp. S.-Peterburgsk. Bot. Sada 14: 177. 1895.

圆叶兔耳草 yuan ye tu er cao

Herbs, 5–8 cm tall. Lateral roots to 15 cm or longer, fleshy. Rhizomes obliquely elongated, to 5 cm. Leaves 3–6, basal; petiole 1–5 cm, flattened, broadly winged, base sheathlike; leaf blade ovate, nearly as long as petiole, base broadly cuneate, margin crenate, apex rounded. Scapes 2 to few, erect or ascending, slightly longer or rarely shorter than leaves; spikes ovoid, 1.5–2 cm; bracts obovate to spatulate, ca. 8 mm, basally on inflorescence, papery. Calyx 2-lobed; lobes lanceolate, 2–3 mm, membranous, margin ciliate. Corolla blue-purple, 6–7 mm; tube straight, ca. 2 × as long as limb; lower lip lobes 2, narrowly elliptic; upper lip unlobed, ovate to oblong, 1.5–2 mm wide, emarginate to truncate. Stamens exserted. Style slightly shorter than corolla; stigma minute, capitate. Fruit elliptic, ca. 7 mm, 1-seeded. Fl. and fr. May–Aug.

Alpine grassland; 4000–5300 m. Gansu, Qinghai, NW Sichuan, Xizang [Bhutan].

5. *Lagotis decumbens* Ruprecht, Mém. Acad. Imp. Sci. Saint Pétersbourg, Sér. 7, 14(4): 64. 1869.

倾卧兔耳草 qing wo tu er cao

Lagotis glauca Gaertner subsp. *australis* Maximowicz.

Herbs, 8–15 cm tall. Old root crown with 1–3 series of ovate scales. Rhizomes short, ca. 6 mm in diam. Stems 1–3, prostrate to ascending, 5–20 cm, slender. Basal leaves 5–10; petiole 6–7 cm; leaf blade ovate-oblong to ovate-elliptic, 2.5–6 cm, base broadly cuneate, margin coarsely serrate, apex obtuse. Stem leaves 3 or 4, sessile or short petiolate; leaf blade ovate, much smaller than basal leaves, margin obscurely toothed, apex acute. Spikes ca. 2.5 cm, dense; bracts broadly elliptic, to 1 cm. Calyx 2-lobed nearly to base. Corolla pale blue, ca. 1 cm; tube ± straight, much longer than limb; lower lip 3- or 4-parted, spreading flat; upper lip suborbicular, apex entire or emarginate. Filaments short. Style included. Fl. Jun–Jul.

Moraines, along streams, stony slopes; 4800–5500 m. Xinjiang, Xizang [Kyrgyzstan, Tajikistan].

6. *Lagotis crassifolia* Prain, J. Asiat. Soc. Bengal, Pt. 2, Nat. Hist. 65(2): 63. 1896.

厚叶兔耳草 hou ye tu er cao

Herbs, 2–12 cm tall. Lateral roots few, fibrous. Rhizomes elongated, coarse, fleshy. Stems to 8, ascending. Basal leaves numerous, thick, fleshy; petiole stout, 2–7 cm, flattened, base expanded, sheathlike; leaf blade ovate to ovate-oblong, 2–6 cm, thick, base cuneate, margin coarsely toothed, apex obtuse, acuminate tipped. Stem leaves 3 or 4, subsessile, smaller than basal leaves. Spikes elongated, more than

1/2 as long as stem; bracts ovate, shorter than flower, margin subentire, apex acute. Calyx apex of upper side 2-lobed. Corolla blue-purple or white, 1–1.3 cm; tube straight, ca. 2 × as long as limb; lower lip lobes 2 or 3, lanceolate; upper lip unlobed, ovate-oblong. Filaments short; anthers reniform. Style shorter than corolla tube; stigma capitate or 2-lobed. Fruit oblong. Fl. and fr. Jul–Sep.

Alpine grassland; 4200–5300 m. Xizang (Yadong Xian) [Bhutan, Sikkim].

7. *Lagotis brevityba* Maximowicz, Bull. Acad. Imp. Sci. Saint-Petersbourg 27: 524. 1881.

短筒兔耳草 duan tong tu er cao

Herbs, 5–15 cm tall. Lateral roots few, to 10 cm, 1–1.5 mm in diam.; root crown often with remnants of old petioles. Rhizomes coarse, short. Stems 1–3, longer than leaves. Basal leaves 4–7; petiole 2–6.5 cm; leaf blade ovate to ovate-oblong, 1.6–6 cm, thick, margin irregularly crenate or rarely subentire. Stem leaves numerous, short petiolate to sessile, smaller than basal leaves. Spikes capitate to oblong, 2–3 cm, to 6 cm in fruit; bracts often longer than corolla tube, suborbicular. Calyx apex of upper side parted 1/4–1/3 of length; lobes ovate-orbicular. Corolla pale blue or white and purplish, 0.8–1.3 cm; tube straight, nearly equalling limb to slightly shorter; lower lip slightly longer than upper lip, 2-lobed, lobes linear-lanceolate; upper lip unlobed, obovate-oblong, apex entire or emarginate. Anthers reniform. Stigma capitate. Fruit narrowly ovoid, ca. 5 mm. Fl. and fr. Jun–Aug.

• Alpine grassland, sandy slopes; 3000–4500 m. SW Gansu, E Qinghai, Xizang.

8. *Lagotis humilis* P. C. Tsoong & H. P. Yang, Fl. Reipubl. Popularis Sin. 67(2): 404. 1979.

矮兔耳草 ai tu er cao

Herbs, ca. 5 cm tall. Rhizomes erect or oblique, short, narrow, with few lateral and fibrous roots. Stems 1 or 2, erect, slightly longer than leaves. Basal leaves 3–5; petiole 1.5–2 cm, flattened, base somewhat expanded; leaf blade ovate to broadly ovate, thick, shorter than or almost as long as petiole, base cuneate, margin coarsely crenate, apex acuminate and mucronate. Stem leaves 1–3, short petiolate to sessile, smaller than basal leaves. Spikes dense, capitate to oblong, 1–2.5 cm; bracts obovate, margin toothed above middle, apex acute. Calyx membranous, 2-lobed, veins conspicuous and almost reaching apex. Corolla blue to purple, 0.9–1.2 cm; tube straight; lower lip nearly as long as upper, lobes 2, narrowly lanceolate; upper lip oblong, emarginate. Anthers reniform. Style included; stigma 2-lobed. Fl. Jun.

• Grassland on mountain slopes, gravel slopes; 5100–5200 m. SW Xizang.

9. *Lagotis alutacea* W. W. Smith, Notes Roy. Bot. Gard. Edinburgh 11: 215. 1919.

革叶兔耳草 ge ye tu er cao

Herbs, 6–15 cm tall. Lateral roots numerous, to 12 cm, with few fibrous roots. Rhizomes oblique, to 7 cm, fleshy, unbranched. Stems 1–4, prostrate, diffuse or obliquely ascending. Basal leaves 3–6; petiole 2–5 cm, flattened, base expanded, sheathlike; leaf blade suborbicular, broadly ovate, or broadly ovate-oblong, 2–6 cm, thick, margin entire, obtusely serrate, or crenate. Stem leaves few, short petiolate to sessile, smaller than basal leaves. Spikes dense, ovoid to oblong, 2.5–7 cm; bracts obovate to ovate-lanceolate, longer than calyx, apex acute. Calyx 4–8 mm, apex of upper side lobed, primary veins 2, reaching lobe apex. Corolla pale-purple, blue, or whitish yellow, 0.9–1.5 cm; tube straight; lower lip lobes 2(or 3), narrowly lanceolate; upper lip lanceolate to oblong, margin entire, apex notched or shallowly 2(or 3)-lobed. Anthers reniform. Style included; stigma capitate or 2-lobed. Fl. May–Sep.

• Alpine grassland, sandy and stony slopes; 3400–5000 m. SW to W Sichuan, NW Yunnan.

1a. Plants 15–25 cm; bracts as long as calyx 9c. var. *foliosa*

1b. Plants 6–15 cm; bracts longer than calyx.

2a. Corolla 0.9–1.2 cm, upper lip entire

..... 9a. var. *alutacea*

2b. Corolla 1.2–1.5 cm, upper lip notched

or shallowly 2(or 3)-lobed 9b. var. *rockii*

9a. *Lagotis alutacea* var. *alutacea*

革叶兔耳草(原变种) ge ye tu er cao (yuan bian zhong)

Lagotis lancilimba H. L. Li.

Bracts longer than calyx. Corolla 0.9–1.2 cm; upper lip lanceolate to oblong, margin entire. Fl. May–Sep.

• Alpine grassland, sandy slopes; 3600–4800 m. SW Sichuan, NW Yunnan.

9b. *Lagotis alutacea* var. *rockii* (H. L. Li) P. C. Tsoong ex H. P. Yang, Fl. Reipubl. Popularis Sin. 67(2): 336. 1979.

革叶兔耳草裂唇变种 ge ye tu er cao lie chun bian zhong

Lagotis rockii H. L. Li, Brittonia 8: 27. 1954.

Bracts longer than calyx. Corolla 1.2–1.5 cm; upper lip notched or shallowly 2(or 3)-lobed. Fl. May–Jul.

• Alpine grassland, stony slopes; 3400–5000 m. W Sichuan, NW Yunnan.

9c. *Lagotis alutacea* var. *foliosa* W. W. Smith, Notes Roy. Bot. Gard. Edinburgh 11: 219. 1919.

革叶兔耳草多叶变种 ge ye tu er cao duo ye bian zhong

Plants 15–25 cm. Leaves elliptic to ovate.

Inflorescences to 8 cm. Bracts as long as calyx.

• Stony moist pastures; ca. 3500 m. NW Yunnan.

10. *Lagotis yunnanensis* W. W. Smith, Notes Roy. Bot. Gard. Edinburgh 11: 219. 1919.

云南兔耳草 yun nan tu er cao

Herbs, 15–35 cm tall. Lateral roots numerous, to 15 cm, 1–2 mm in diam. Rhizomes to 6 cm. Stems 1 or 2, erect, longer than leaves. Basal leaves 4–6; petiole 6–10 cm; leaf blade ovate to oblong, 3.5–7(–12) cm, papery, base cuneate and tapering, margin broadly crenate or rarely entire, apex rounded and apiculate. Stem leaves 2–6, sessile, smaller than basal leaves. Spikes 4–10 cm, ca. 2 cm in diam.; bracts dark yellow-green, ovate to ovate-lanceolate, apex ± sharp. Calyx pale yellow-green, at anthesis slightly longer than bracts, margin thin fimbriate. Corolla white, rarely purple, 0.8–1.2 cm; tube straight, as long as or slightly longer than limb; lower lip lobes 2–4, lanceolate; upper lip unlobed, rarely 2-lobed, lobes oblong. Anthers subsagittate. Style included. Fl. Jun–Aug.

- Alpine grassland; 3300–4700 m. NW Sichuan, Xizang, NW Yunnan.

11. *Lagotis wardii* W. W. Smith, Notes Roy. Bot. Gard. Edinburgh 11: 218. 1919.

箭药兔耳草 jian yao tu er cao

Herbs, 12–22 cm tall. Lateral roots numerous. Rhizomes elongated. Stems 1, obliquely ascending, as long as leaves or slightly longer. Basal leaves 3 or 4; petiole 3–12 cm, base slightly expanded; leaf blade suborbicular, obovate, or ovate-oblong, 6–12 cm, papery when dry, margin broadly crenate, veins ± conspicuous. Stem leaves 2–5, short petiolate. Spikes nearly globose, at anthesis elongated to 7 cm; bracts narrowly lanceolate. Calyx at anthesis shorter than bracts, margin thin fimbriate, primary veins slightly exserted, forming 2 short points. Corolla whitish; tube straight, ca. 7 mm, slightly longer than calyx; lower lip lobes 2, narrowly lanceolate; upper lip unlobed, lanceolate to oblong. Anthers subsagittate, included. Stigma 2-lobed. Disc obliquely and shallowly cupular. Fl. Aug.

- Alpine grassland; 3700–4500 m. SE Xizang, Yunnan.

12. *Lagotis clarkei* J. D. Hooker, Fl. Brit. India 4: 559. 1885.

大萼兔耳草 da e tu er cao

Herbs, 15–30 cm tall. Rhizomes 7–12 mm in diam. Lateral roots fascicled; root crown without remnants of old petioles. Stems 1 or 2, stout, ascending, longer than leaves. Basal leaves numerous, rosulate; petiole 4–7 cm, base sheathlike; leaf blade ovate to ovate-oblong, 4–9 cm, subleathery when dry, margin irregularly serrate. Stem leaves numerous, subsessile, smaller than basal leaves. Spikes to 10 cm, slender, often recurved; bracts ovate. Calyx wide and large, 1–2 × as long as bract, enclosing corolla; lobes ovate-triangular to suborbicular. Corolla blue-purple, 5–8 mm; tube slightly bowed, nearly as long as limb; lower lip lobes 3, lanceolate;

upper lip unlobed, obovate-orbicular, apex obtuse to praemorse. Filaments adnate to base of upper corolla lip margin. Style exserted; stigma 2-lobed. Fl. Aug–Sep.

- Open areas in alpine scrub, alpine grassland; 4600–5300 m. Xizang (Yadong Xian) [Bhutan, Nepal, Sikkim].

13. *Lagotis integrifolia* (Willdenow) Schischkin ex Vikulova, Fl. URSS 22: 502. 1955.

亚中兔耳草 ya zhong tu er cao

Gymnandra integrifolia Willdenow, Ges. Naturf. Freunde Berlin Mag. Neuesten Entdeck. Gesammten Naturk. 5: 392. 1811; *G. pallasii* Chamisso & Schlechtendal; *L. pallasii* (Chamisso & Schlechtendal) Ruprecht.

Herbs, 10–40 cm tall. Rhizomes to 4 cm. Lateral roots slender, 5–8 cm, with few fibrous roots; root crown with remnants of old petioles. Stems 1, stout, erect or somewhat flexuous, longer than leaves. Basal leaves 2–4; petiole 3–12 cm, base sheathlike; leaf blade ovate, ovate-elliptic, oblong, or ovate-lanceolate, nearly as long as petiole, fleshy, base cuneate, margin entire or obscurely undulate-toothed. Stem leaves usually 1–4, sessile or short petiolate, smaller than basal leaves. Spikes dense, 5–12 cm, elongated in fruit; bracts broadly ovate to oblong, apex apiculate. Calyx shorter than bract; lobes triangular. Corolla dull white, pale blue, or purple, 0.8–1.2 cm; tube longer than limb, basally curved forward; lower lip lobes 2 or 3, lanceolate, usually revolute in fruit; upper lip unlobed, oblong, margin entire or shortly 2- or 3-toothed, rarely 2-lobed. Filaments adnate to base of upper corolla lip margin. Style exserted; stigma capitate or emarginate. Fruit oblong, 5–6 mm. Fl. and fr. Jun–Aug.

- Thickets, gravel slopes; 2400–3100 m. Nei Mongol, Shanxi (Wutai Shan), Xinjiang [Kazakhstan, Kyrgyzstan, Mongolia, Russia].

14. *Lagotis angustibracteata* P. C. Tsoong & H. P. Yang, Fl. Reipubl. Popularis Sin. 67(2): 404. 1979.

狭苞兔耳草 xia bao tu er cao

Herbs, 5–14 cm tall. Lateral roots more than 4 cm; root crown without remnants of old petioles. Rhizomes ca. 6 mm in diam. Stems often 2, slightly longer than leaves. Basal leaves 4–6; petiole 4–10 cm; leaf blade broadly ovate to orbicular, 3–4 cm, margin crenate. Stem leaves 3 or 4, short petiolate or sessile, smaller than basal leaves, margin undulate to subentire. Spikes dense, subcapitate, 1–3 cm; bracts linear-oblong to spatulate, 8–10 mm. Calyx shorter than bracts, nearly as long as corolla tube, emarginate to subentire, primary veins 2. Corolla dull red, 0.9–1.1 cm; tube slightly longer than limb, curved; lower lip slightly longer than upper, 2-lobed; lobes oblong-lanceolate, apex acuminate; upper lip unlobed, oblong, ca. 3 mm. Stamens inserted at corolla sinuses. Style included; stigma capitate. Fl. Jun.

- Alpine gravelly areas with running water; 4600–4700 m. Qinghai.

15. *Lagotis macrosiphon* P. C. Tsoong & H. P. Yang, Fl. Reipubl. Popularis Sin 67(2): 405. 1979.

大筒兔耳草 da tong tu er cao

Herbs, 10–15 cm tall. Lateral roots to 15 cm, with few fibrous roots. Rhizomes elongated, to more than 3 cm, 4–7 mm in diam. Stems 1–5, slightly longer than leaves. Basal leaves numerous; petiole stout, 4–10 cm, gradually expanding toward base to 8 mm wide; leaf blade broadly ovate, elliptic, or obovate, 3–4.5 cm, margin obtusely toothed. Stem leaves 2–4, ca. 2.5 cm. Spikes ovoid-globose to oblong, 2.5–6 cm; bracts ovate to obovate, shorter than corolla tube, margin serrate. Calyx membranous, transparent, apex of upper side shallowly lobed, margin praemorse, primary veins 2, not toothlike. Corolla white or purple, 1–1.2 cm; tube 2–3 × as long as limb, slightly bowed; lower lip nearly as long as upper, 2-lobed, ovate; upper lip unlobed, ovate-oblong, ca. 2 mm wide. Stamens less than 1 mm; anthers reniform. Disc large, obliquely cupular. Ovary ovoid. Style reaching mouth of corolla tube; stigma 2-lobed. Fl. Jun–Jul.

• Gravelly areas; 4600–4700 m. SW Xizang.

16. *Lagotis kongboensis* T. Yamazaki, J. Jap. Bot. 46: 242. 1971.

粗筒兔耳草 cu tong tu er cao

Herbs, 6–15 cm tall. Lateral roots ca. 6 cm; root crown without persistent leaf sheaths. Rhizomes ca. 3 cm, 6–10 mm in diam. Stems 1 or few, erect to decumbent, longer than leaves. Basal leaves 3–7; petiole 2.5–4.5 cm, base sheathlike; leaf blade elliptic to oblong-elliptic, 2–4 cm, margin usually coarsely double serrate. Stem leaves 3–5, sessile or short petiolate; leaf blade ovate to broadly so, much smaller than basal leaves, margin sharply toothed. Spikes 2–3.5 cm; bracts ovate, 6–8 mm, margin incised-serrate. Calyx ca. 5 mm; lobes lanceolate, ca. 1.2 mm, primary veins 2, reaching lobe apex. Corolla white or pale blue, ca. 7 mm; tube ca. 4 mm, slightly longer than limb, ± curved, inside hairy; lower lip as long as upper, 2-lobed, narrow; upper lip 2-lobed, lobes linear, ca. 3 × 0.7 mm. Style slightly exerted; stigma capitate. Fl. Aug.

• Mountain slopes; 4500–4600 m. S to SE Xizang.

17. *Lagotis integra* W. W. Smith, Notes Roy. Bot. Gard. Edinburgh 11: 216. 1919.

全缘兔耳草 quan yuan tu er cao

Lagotis micrantha Handel-Mazzetti.

Herbs, 7–50 cm tall. Lateral roots numerous, fascicled, to 16 cm, 1–2 mm in diam., with few fibrous roots. Rhizomes elongated to 6 cm or shortened and thick. Stems 1 to few, stout, longer than leaves. Basal leaves 4–8; petiole long, base sheathlike; leaf blade ovate to ovate-lanceolate, 4–11 cm, margin entire or sparsely and irregularly serrulate. Stem leaves 3–11, subsessile, much smaller than basal leaves, margin entire or obscurely incised. Spikes 5–15 cm; bracts ovate to ovate-

lanceolate, gradually decreasing in size upward, shorter than calyx, margin entire. Calyx large, longer than corolla tube, apex of upper side 2-lobed, lobes obtuse-triangular, ciliolate. Corolla pale yellow, green-white, or rarely purple, 5–8 mm; tube conspicuously curved forward, longer than limb; lower lip 2-lobed, lobes lanceolate; upper lip unlobed, elliptic, apex entire or emarginate. Style included. Fruit black, conical, 5–6 mm. Seeds 2. Fl. and fr. Jun–Aug.

• Alpine grassland, conifer forests; 3200–4800 m. S Qinghai, W Sichuan, E Xizang, NW Yunnan.

Roots used medicinally.

