

49. MELAMPYRUM Linnaeus, Sp. Pl. 2: 605. 1753.

山罗花属 shan luo hua shu

Chingyungia T. M. Ai.

Herbs, annual, hemiparasitic. Leaves opposite, entire. Flowers solitary in axils of bracts or congregated into racemes or spikes; bracts leaflike in shape, margin often with pointed or setose teeth, rarely entire. Calyx campanulate; lobes 4, upper 2 larger than lower. Corolla tube tubular, gradually expanded upward; limb dilated, 2-lipped; lower lip patent, base 2-plicate, apex 3-lobed; upper lip galeate, compressed, slightly shorter than upper lip, margin revolute, apex obtuse. Stamens 4, didynamous, enclosed by galea; anthers connivent, locules equal in size and base conically pointed, bearded along slit after dehiscence. Ovules 2 per locule. Stigma capitate, entire. Capsule ovoid, slightly compressed, straight or oblique, loculicidal, apex obtuse or tapered. Seeds 1–4, oblong, large, smooth.

About 20 species: Northern hemisphere; three species in China.

Melampyrum taxonomy is quite complex, and the number of recognized species varies with authors. There is a great deal of variation in certain characters, particularly in bract morphology. Chinese plants were once classified into 8 species, which are here treated as 2, in addition to 1 newly recorded species.

- 1a. Corolla yellowish white with orange on sides; corolla tube 3–4 × as long as limb; bracts ovate-orbicular to cordate-ovate, apex rounded; calyx lobes lanceolate to ovate 2. *M. laxum*
- 1b. Corolla purple to red with white on sides; corolla tube ca. 2 × as long as limb; bracts linear-lanceolate to ovate, apex slightly obtuse, acute, or acuminate; calyx lobes lanceolate, subulate-triangular, or triangular.
 - 2a. Bracts linear-lanceolate, often entire, sometimes 1- or 2-toothed; calyx lobes narrowly triangular to subulate-triangular; corolla 1.2–1.6 cm 3. *M. klebelsbergianum*
 - 2b. Bracts lanceolate to ovate, usually with awn-shaped or setoselike teeth; calyx lobes lanceolate; corolla 1.5–2 cm 1. *M. roseum*

1. *Melampyrum roseum* Maximowicz, Prim. Fl. Amur. 210. 1859.
山罗花 shan luo hua

Annuals, 15–80 cm tall, entirely sparsely with scaly short hairs. Stems erect, subquadrangular, branched or rarely simple, sometimes pubescent with multicellular hairs along 2 lines. Petiole ca. 5 mm; leaf blade linear, linear-lanceolate, elliptic, ovate-elliptic, or narrowly ovate, base rounded to cuneate, apex acuminate to sometimes obtuse. Bracts lanceolate to ovate with pointed teeth at base or whole margin with setoselike teeth, apex acute to acuminate. Calyx ca. 4 mm, often scabrous, often with multicellular hairs along veins; lobes narrowly triangular to subulate-triangular, short ciliate. Corolla purple, purple-red, or red, with white on sides, 1.5–2 cm; tube ca. 2 × as long as limb; galea densely barbate inside. Capsule ovoid, 8–10 mm, scaly hairy or rarely glabrous, apex truncate to oblique. Seeds black, ca. 3 mm. Fl. summer–autumn.

Thickets on slopes, among high grasses; below 1500 m. Anhui, Fujian, Gansu, Guangdong (Lianxian), Guizhou, Hebei, Heilongjiang, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Jilin, Liaoning, Shaanxi, Shandong, Shanxi, Zhejiang [Japan, Korea, Russia (Far East)].

Melampyrum roseum is very variable, particularly in leaf shape, bract shape and margin, and shape of calyx lobes. Some forms are closely correlated with geographical distribution but others are not. The species has sometimes been treated as six or seven species, but the variation appears to sort into four varieties.

- 1a. Leaves linear to linear-lanceolate; bracts lanceolate 1b. var. *setaceum*
- 1b. Leaves lanceolate, elliptic, ovate-lanceolate, or narrowly ovate; bracts ovate to ovate-lanceolate.
 - 2a. Leaf apex ± obtuse; bract apex ± obtuse to acute, margin often with short awn-shaped teeth 1d. var. *obtusifolium*
 - 2b. Leaf apex acuminate; bract apex acute to narrowly acuminate, margin with long setoselike teeth, sometimes with pointed teeth near base.
 - 3a. Leaves narrowly ovate; calyx lobes narrowly acuminate to caudate 1c. var. *ovalifolium*
 - 3b. Leaves lanceolate to ovate-lanceolate; calyx lobes narrowly triangular to subulate-triangular 1a. var. *roseum*

1a. *Melampyrum roseum* var. *roseum*
山罗花(原变种) shan luo hua (yuan bian zhong)
Melampyrum laxum Miquel var. *henryanum* Beauverd, p.p.; *M. roseum* subsp. *hirsutum* (Beauverd) Soó; *M. roseum* var. *hirsutum* Beauverd.

Leaf blade lanceolate to ovate-lanceolate, 2–8 × 0.8–3 cm, base rounded to cuneate, apex acuminate. Bracts green, acute to narrowly acuminate, with pointed teeth at basal margin or with long setoselike teeth along whole margin, margin rarely entire. Calyx lobes

narrowly triangular to subulate-triangular. Fl. summer–autumn.

Thickets on slopes, among high grasses; below 1500 m. Anhui, Fujian, Gansu, Hebei, Heilongjiang, Henan, Hubei, Hunan, Jiangsu, Jiangxi, Jilin, Liaoning, Shaanxi, Shandong, Shanxi, Zhejiang [Japan, Korea, Russia (Far East)].

1b. *Melampyrum roseum* var. *setaceum* Maximowicz ex Palibin, Trudy Imp. S.-Peterburgsk. Bot. Sada 18: 168. 1900. 狭叶山罗花 *xia ye shan luo hua*

Melampyrum setaceum (Maximowicz ex Palibin) Nakai. Leaf blade linear to linear-lanceolate, 3–8 mm wide, apex acuminate. Bracts purple-red to green, lanceolate, margin entire or with long setoselike teeth, apex narrowly acuminate. Fr. Oct. Liaoning [Korea, Russia (Far East)].

1c. *Melampyrum roseum* var. *ovalifolium* (Nakai) Nakai ex Beauverd, Mém. Soc. Phys. Genève 38: 549. 1916.

卵叶山罗花 *luan ye shan luo hua*

Melampyrum ovalifolium Nakai, Bot. Mag. (Tokyo) 23: 6. 1909.

Leaf blade narrowly ovate, base shallowly cordate, rounded, or broadly cuneate, apex acuminate. Bract margins with long setoselike teeth, apex acuminate to narrowly acuminate. Flowers crowded. Calyx lobes narrowly acuminate to caudate. Fl. Jun–Aug.

Open slopes; below 900 m. Zhejiang (Tianmu Shan, Tiantai Shan) [W. Japan, Korea].

1d. *Melampyrum roseum* var. *obtusifolium* (Bonati) D. Y. Hong, Fl. Reipubl. Popularis Sin. 67(2): 367. 1979.

钝叶山罗花 *dun ye shan luo hua*

Melampyrum obtusifolium Bonati in Pampanini, Nuovo Giorn. Bot. Ital., n.s. 17: 713. 1910; *M. henryanum* (Beauverd) Soó, p.p.; *M. laxum* Miquel var. *henryanum* Beauverd, p.p.; *M. laxum* var. *obtusifolium* (Bonati) Beauverd; *Scutellaria esquirolii* H. Léveillé & Vaniot.

Leaf blade elliptic to ovate-lanceolate, base often cuneate and attenuate, apex ± obtuse. Bracts ovate, margin often with short awn-shaped teeth, apex ± obtuse to acute. Calyx lobes triangular to narrowly triangular. Fl. Jun–Jul.

• Mountain woods or grasses; 700–1000 m. Guangdong (Lianxian), Guizhou, Hubei (Xingshan Xian, Junxian).

2. *Melampyrum laxum* Miquel, Ann. Mus. Bot. Lugduno-Batavum 2: 123. 1866.

圆苞山罗花 *yuan bao shan luo hua*

Annuals 25–35 cm tall. Stems erect, branched, pubescent with multicellular hairs along 2 lines. Leaf blade ovate, 2–4 × 0.8–1.5 cm, with short scaly hairs. Flowers evenly distributed to ± crowded; bracts cordate-ovate to ovate-orbicular, apex rounded; lower bract margins basally with 1–3 pairs of coarse teeth; upper bract margins with numerous short awn-shaped teeth. Flowers evenly distributed to ± crowded. Calyx lobes lanceolate to ovate, 2–3 mm at anthesis, ca. 4 mm in fruit, sparsely pubescent on veins, apex acute to

obtuse. Corolla color unknown but possibly yellowish white, with throat orange on sides, 1.6–1.8 cm; tube 3–4 × as long as limb; galea densely barbate inside.

Capsule ovoid, tapered, slightly oblique, ca. 1 cm, with sparse short scaly hairs. Fl. Aug.

Trailsides on forest slopes. Fujian, Zhejiang (Lishui Xian) [Japan].

None of the three Chinese specimens seen by the authors recorded flower color.

3. *Melampyrum klebelsbergianum* Soó, J. Bot. 65: 144. 1927, p.p. excl. spec. from Gansu and Shanxi.

滇川山罗花 *dian chuan shan luo hua*

Chingyungia scutellarioidea T. M. Ai; *M. henryanum* Soó, p.p.

Annuals, 20–60 cm tall. Stems erect, quadrangular, branched, pubescent along 2 lines. Petiole ca. 5 mm; leaf blade lanceolate, rarely ovate-lanceolate or linear-lanceolate, 2–5 × ca. 1.5 cm, scabrous, apex acuminate to an obtuse tip. Flowers starting from 5th to 9th node of stem; bracts linear-lanceolate, margin often entire but basally sometimes with 1 or 2 short to rarely long teeth, apex ± obtuse. Calyx 4–5 mm; lobes lanceolate, ciliate, puberulent on veins. Corolla purple-red to red, with white sides, 1.2–1.6 cm; tube ca. 2 × as long as limb; galea densely barbate inside. Capsule ovoid-conical, 8–10 mm, scabrous, apex truncate to oblique. Seeds black, 2.5–3 mm. Fl. Jun–Aug.

• Grassy slopes, forests; 1200–3400 m. Guizhou (Guiding Xian), S Sichuan, NW Yunnan.

