

129. CHRISTIA Moench, Suppl. Meth. 39. 1802.

蝙蝠草属 *bian fu cao shu*

Huang Puhua (黄普华 *Huang Pu-hwa*); Hiroyoshi Ohashi

Herbs or subshrubs, erect or diffuse. Leaves pinnately 3-foliolate or only 1-foliolate, stipellate. Flower small, 3–6 mm. Panicles or racemes terminal, rarely axillary. Calyx membranous, campanulate, accrescent, 5-lobed; lobes ovate-lanceolate, ca. as long as tube and slightly broader. Corolla ca. as long as calyx or more; standard broad, base attenuate, clawed; wings adherent to keel; keel obtuse. Stamens diadelphous (9+1); anthers uniform. Ovary many ovuled; style linear, incurved; stigma capitate. Legume many jointed, articles folded, reticulate veined, enclosed by calyx.

About 13 species: tropical Asia and Australia; five species (one endemic) in China.

- 1a. Terminal leaflet much longer than broad, lateral veins 10–15 on each side of midvein; upper 2 lobes of calyx connate; articles 2–4, pubescent 1. *C. campanulata*
- 1b. Terminal leaflet much broader than long, lateral veins 2–5 on each side of midvein; upper 2 lobes of calyx free or slightly connate; articles 4 or 5, glabrous (only *C. hainanensis* with 2 or 3 articles, extremely shortly uncinately pubescent).
 - 2a. Upper 2 lobes of calyx free, tube 3–4 × as long as lobes, calyx not half-hyaline, with dense uncinately hairs, small verrucae, and obscure reticulate veins; terminal leaflet obovate-rhombic, sometimes nearly square; subshrubs 2. *C. constricta*
 - 2b. Upper 2 lobes of calyx slightly connate, lower lobes ca. as long as tube, calyx dry-membranous, half-hyaline, obviously reticulate veined; herbs.
 - 3a. Terminal leaflet mostly rhombic or narrowly rhombic, 4–6 × broader than long 3. *C. vespertilionis*
 - 3b. Terminal leaflet mostly reniform, orbicular-triangular, obovate, or nearly obtriangular, less than 3 × broader than long.
 - 4a. Terminal leaflet mostly reniform, orbicular-triangular, or obovate, 5–15 × 10–20 mm; articles 4 or 5, glabrous 4. *C. obcordata*
 - 4b. Terminal leaflet nearly obtriangular, 20–30 × 15–25 mm; articles 2 or 3, shortly uncinately pubescent 5. *C. hainanensis*

1. *Christia campanulata* (Benth.) Thothathri, Cur. Sci. 32: 178. 1963.

台湾蝙蝠草 *tai wan bian fu cao*

Lourea campanulata Benth. in Miquel, Pl. Jungh. 215. 1852; *Desmodium formosanum* Hayata; *Uria formosana* (Hayata) Hayata; *U. latiseptala* Hayata.

Shrubs or subshrubs. Stem erect, simple, densely hirsute or villous. Leaves pinnately 3-foliolate, rarely 1-foliolate; petiole 1.5–3 cm, with dense brown uncinately hairs; terminal leaflet blade oblong or elliptic, 5–8 × 3–5 cm, lateral ones 4–6 × 2–2.5 cm, lateral veins 10–15 on each side of midvein, abaxially densely appressed gray pubescent, adaxially appressed gray pubescent, base cuneate or slightly oblique, apex obtuse, mucronate. Inflorescences 15–20 cm, with rust-colored uncinately hairs, 1- or 2-flowered at each node of rachis. Pedicel ca. 3 mm, densely hairy as inflorescences. Calyx grayish yellow pubescent and ciliate outside; upper lobes connate. Corolla 4–6 mm; standard broadly orbicular or obovate; wings oblong; keel cymbiform. Legume 2–4-jointed; articles ellipsoidal, ca. 3 × 2 mm, slightly reticulate veined, pilose, wholly enclosed by calyx. Fl. and fr. Sep–Dec.

Waste grassy slopes, roadsides; 400–1100 m. Fujian, ?Guangdong, SW Guangxi, SW Guizhou, S Taiwan, S Yunnan [India, Myanmar, Thailand, Vietnam].

This species resembles plants in the genus *Uria*, but the calyx is accrescent and envelops the folded legume, which is characteristic of *Christia*. In *Advances Legume Syst.* (1: 299. 1981), Ohashi et al. considered this as belonging to *Uria*.

2. *Christia constricta* (Schindler) T. C. Chen, Acta Phytotax. Sin. 8: 348. 1963.

长管蝙蝠草 *chang guan bian fu cao*

Lourea constricta Schindler, Bot. Jahrb. Syst. 54: 64. 1916.

Subshrubs, prostrate, ca. 1 m or longer, base branched. Young parts densely grayish yellow tomentose and pubescent. Leaves 1-foliolate or 3-foliolate; petiole 0.8–1.5 cm, densely hairy as young branchlets; terminal leaflet obovate-rhombic, sometimes nearly square, 1.5–2.5 × 1.5–2.5 cm, lateral veins 4–6 on each side of midvein, both surfaces pilose, lateral ones narrowly elliptic or square and 1–1.2 × 0.9–1.1 cm, base slightly cordate, apex truncate. Inflorescences ca. 20 cm, spreading pubescent. Pedicel extremely short at anthesis, to 3–4 mm after anthesis. Calyx initially ca. 4 mm, to 8–10 mm at fruiting; lobes 5, upper 2 free, 1/4–1/3 as long as tube. Legume 4- or 5-jointed, reticulate veined, glabrous. Fl. Aug–Sep, fr. Nov.

Seasides, dry sandy soils. Guangdong, Hainan [Vietnam].

3. *Christia vespertilionis* (Linnaeus f.) Bakhuizen f. ex Meeuwen, Reinwardtia 6: 90. 1961.

蝙蝠草 *bian fu cao*

Hedysarum vespertilionis Linnaeus f., Suppl. Pl. 331. 1782; *Lourea vespertilionis* (Linnaeus f.) Desvaux.

Herbs, perennial, erect, 60–120 cm tall. Leaves usually 1-foliolate, rarely 3-foliolate; petiole 2–2.5 cm, pilose; terminal leaflet blade rhombic or narrowly rhombic, 0.8–1.5 × 5–9 cm,

base slightly cordate, apex broad and truncate or slightly emarginate; lateral ones obcordate or obtriangular, usually inequilateral, 0.8–1.5 × 1.5–2 cm, lateral veins 3 or 4 on each side of midvein, abaxially pilose, adaxially glabrous, base cuneate or nearly rounded, apex truncate. Inflorescences 5–15 cm, pubescent. Pedicel 2–4 mm, gray pubescent. Calyx half-hyaline, accrescent, 0.8–1.2 cm, reticulate veined, pubescent; lobes triangular, ca. as long as tube, upper 2 slightly connate. Corolla yellowish white, not exerted, ca. 6 mm. Legume 4- or 5-jointed; articles blackish brown at maturity, ca. 3 × 2 mm, reticulate veined, glabrous, wholly enclosed by calyx. Fl. Mar–May, fl. Oct–Dec.

Open grasslands, thickets, roadsides, seashores. Guangdong, Guangxi, Hainan [widespread in all tropical regions].

The whole plant is used medicinally for treating tuberculosis and snake bites. The leaves are used as a topical treatment for healing bone fractures.

4. *Christia obcordata* (Poiret) Bakhuizen f. ex Meeuwen, *Reinwardtia* 6: 91. 1961.

铺地蝙蝠草 pu di bian fu cao

Hedysarum obcordatum Poiret in Lamarck, *Encycl.* 6: 425. 1805; *Lourea obcordata* (Poiret) Desvaux.

Herbs, perennial, prostrate, 15–60 cm. Leaves often 3-foliolate, rarely 1-foliolate; petiole 8–10 mm, filiform, gray pilose; terminal leaflet blade mostly reniform, orbicular-triangular, or obovate, 0.5–1.5 × 1–2 cm, abaxially pilose, adaxially glabrous, base broadly cuneate, apex truncate and slightly emarginate; lateral ones obovate, cordate, or nearly orbicular, 6–7 × ca. 5 mm, lateral veins 3–5 on each side of midvein. Racemes

mostly terminal, 3–18 cm, 1-flowered at each node. Pedicel 2–3 mm. Calyx half-hyaline, initially ca. 2 mm, to 6–8 mm at fruiting, distinctly reticulate veined; lobes ca. as long as tube. Corolla bluish purple or roseate, 3–5 mm, slightly longer than calyx. Legume 4- or 5-jointed, wholly enclosed by calyx; articles orbicular, ca. 2.5 mm in diam., glabrous. Fl. May–Aug, fr. Sep–Oct.

Open grasslands, waste slopes, thickets; below 500 m. Fujian, Guangdong, Guangxi, Hainan, S Taiwan [Cambodia, India, Indonesia, Japan, Laos, Malaysia, Myanmar, New Guinea, Philippines, Thailand, Vietnam; N Australia].

5. *Christia hainanensis* Y. C. Yang & P. H. Huang, *Bull. Bot. Lab. N. E. Forest. Inst.*, Harbin 1980(8): 5. 1980.

海南蝙蝠草 hai nan bian fu cao

Herbs, perennial. Stems erect, to 100 cm tall. Leaves 3-foliolate; petiole 1.5–2 cm, grayish yellow uncinately and sparsely white pubescent; terminal leaflet blade nearly obtriangular, 2–3 × 1.5–2.4 cm, base broadly cuneate or nearly rounded, apex truncate or emarginate; lateral ones obovate, 1.5–2.4 × 0.9–1.4 cm, lateral veins 4 or 5 on each side of midvein, abaxially gray appressed pubescent, adaxially gray pubescent, base cuneate, apex truncate. Panicles terminal or axillary, 6–12 cm, 1- or 2-flowered at each node of rachis; internodes 5–8 mm. Pedicel 5–6 mm, densely grayish yellow uncinately pubescent. Calyx ca. 6 mm, upper 2 lobes connate. Legume 2- or 3-jointed, wholly enclosed by calyx; articles ellipsoidal, 2.5–3 × ca. 2 mm, reticulate veined, extremely shortly uncinately pubescent. Fl. and fr. Sep–Nov.

• Sparse forests; ca. 100 m. Hainan.

