

6. HYLOTELEPHIUM H. Ohba, Bot. Mag. (Tokyo) 90: 46. 1977.

八宝属 ba bao shu

Herbs perennial, glabrous or hairy. Roots fibrous or tuberous, often carrot-shaped. Rhizome short, fleshy or woody; young branches not covered with scales. Flowering stem arising from lateral bud of previous year, annual and abscising from base or persisting and basally woody. Stem leaves alternate, opposite, or 3–5-verticillate; leaf blade flat, glabrous, spurless. Inflorescence terminal, sometimes also subterminal and thus paniculate, cymose, often corymbiform, sometimes umbel-like, many flowered, bracteate. Flowers bisexual or unisexual, unequally (4 or)5-merous, sometimes reduced. Sepals usually shorter than petals, base subconnate and spurless. Petals usually free, purple, red, pink, or white, occasionally yellowish or greenish. Stamens 2 × as many as petals, inserted basally on corolla. Nectar scales oblong-cuneate to linear-oblong, apex rounded or subemarginate. Carpels free, base narrow, substipitate. Follicles erect, many seeded. Seeds narrowly winged.

About 33 species: Asia, Europe, North America; 16 species (six endemic) in China.

- 1a. Basal leaves 2 1. *H. bonnafousii*
 1b. Basal leaves not 2.
 2a. Stems mostly ascending, less than 20 cm.
 3a. Leaves orbicular to orbicular-flabellate, 3-verticillate 5. *H. sieboldii*
 3b. Leaves neither orbicular nor orbicular-flabellate, alternate, opposite, or 3-verticillate.
 4a. Leaves alternate 2. *H. tatarinowii*
 4b. Leaves opposite or 3-verticillate.
 5a. Leaves opposite, margin usually entire 3. *H. ewersii*
 5b. Leaves opposite or 3-verticillate, margin slightly crenulate 4. *H. mongolicum*
 2b. Stems erect, more than 30 cm.
 6a. Inflorescences both terminal and axillary, interrupted elongate in outline 6. *H. angustum*
 6b. Inflorescences all terminal or nearly so, corymbiform or capitate-umbellate in outline.
 7a. Inflorescences capitate-umbellate 16. *H. subcapitatum*
 7b. Inflorescences corymbiform.
 8a. Leaves usually 3–5-verticillate, sometimes basal ones opposite; leaf axil bulbils often present.
 9a. Leaves usually longer than internodes, 4–8 × 2.5–3.5 cm 7. *H. verticillatum*
 9b. Leaves usually shorter than internodes, 2–4 × 0.7–1.2 cm 8. *H. viviparum*
 8b. Leaves usually opposite or alternate, rarely 3-verticillate; leaf axil bulbils absent.
 10a. Leaves usually opposite, rarely 3-verticillate; anthers violet or purple.
 11a. Stamens not exerted from corolla 9. *H. erythrostickum*
 11b. Stamens exerted from corolla.
 12a. Leaf base cuneate; petals purplish 10. *H. spectabile*
 12b. Leaf base subcordate and amplexicaul; petals reddish 11. *H. pseudospectabile*
 10b. Leaves usually alternate; anthers yellow (brown-red in *H. tangchiense*).
 13a. Stems ± flexuous; leaves elliptic-obovate or suborbicular.
 14a. Basal stem leaves elliptic-obovate, to 8.5 × 3 cm, base attenuate; anthers yellow 12. *H. mingjinianum*
 14b. Basal stem leaves suborbicular, 5–10 × 4–9 cm, base abruptly narrowed; anthers brown-red 13. *H. tangchiense*
 13b. Stems erect; leaves elliptic-lanceolate, oblong-ovate, or oblong.
 15a. Roots carrot-shaped; petals purplish red 15. *H. triphyllum*
 15b. Roots not carrot-shaped; petals white or reddish 14. *H. pallescens*

1. *Hylotelephium bonnafousii* (Raymond-Hamet) H. Ohba, Bot. Mag. (Tokyo) 90: 48. 1977.
 川鄂八宝 chuan e ba bao

Sedum bonnafousii Raymond-Hamet, J. Bot. 54(Suppl. 1): 30. 1916.

Rhizome stout. Stem erect, slender, 10–30 cm. Basal leaves 2, opposite; leaf blade semiorbicular to broadly ovate, 4–10 cm, margin subentire to crenulate. Stem leaves alternate, sessile, obovate-oblong, 0.8–1 × 0.25–

0.5 cm, margin entire, apex acute. Cymes terminal and subterminal, lax, forming a panicle, 8–15 × 4–8 cm. Sepals triangular-lanceolate, 1.2–2 × 1–1.5 mm, apex acute and mucronate. Stamens shorter than petals, glabrous. Nectar scales obovate to almost square, apex emarginate. Follicles erect, ovoid-lanceolate, base narrow, apex acuminate. Seeds obovoid-oblong.

• W Hubei (Badong Xian), E Sichuan (Wushan Xian).

2. *Hylotelephium tatarinowii* (Maximowicz) H. Ohba, Bot. Mag. (Tokyo) 90: 52. 1977.

华北八宝 hua bei ba bao

Roots tuberous, usually with carrot-shaped rootlets. Stems numerous, simple, erect or ascending, leafy, 8–15 cm. Leaves alternate, pseudopetiolate; leaf blade linear-lanceolate, lanceolate, narrowly oblanceolate, or oblong, margin entire or sparsely serrate to lobed, apex obtuse to acuminate. Cyme flat topped, 3–5 cm; pedicels 2–3.5 mm. Sepals ovate-lanceolate, 1–2 mm, apex subacute. Petals reddish. Stamens subequaling petals; filaments white; anthers purple. Nectar scales subsquare, apex emarginate. Carpels erect, ovoid-lanceolate. Styles ± recurved, ca. 1 mm. Fl. Jul–Aug, fr. Sep.

Rock crevices in mountainous areas; 1000–3000 m. Hebei, Nei Mongol, Shaanxi [Mongolia].

1a. Stem leaves oblanceolate to lanceolate, margin remotely serrate to lobed 2a. var. *tatarinowii*

1b. Stem leaves linear-lanceolate to oblong, margin entire 2b. var. *integrifolium*

2a. *Hylotelephium tatarinowii* var. *tatarinowii*

华北八宝(原变种) hua bei ba bao (yuan bian zhong)

Sedum tatarinowii Maximowicz, Bull. Acad. Imp. Sci. Saint-Petersbourg, Sér. 3, 29: 134. 1883; *Sedum definitum* H. Léveillé.

Stems 10–15 cm. Stem leaf blades oblanceolate to lanceolate, margin remotely serrate to lobed. Fl. Jul–Aug, fr. Sep.

Rock crevices in mountainous areas; 1000–3000 m. Hebei, Nei Mongol, Shaanxi [Mongolia].

2b. *Hylotelephium tatarinowii* var. *integrifolium* (Palibin)

S. H. Fu in S. H. Fu & K. T. Fu, Fl. Reipubl. Popularis Sin. 34(1): 52. 1984.

全缘华北八宝 quan yuan hua bei ba bao

Sedum tatarinowii Maximowicz var. *integrifolium* Palibin, Trudy Imp. S.-Peterburgsk. Bot. Sada 14: 120. 1895; *Hylotelephium almae* (Fröderström) K. T. Fu & G. Y. Rao; *Sedum almae* Fröderström; *S. pekinense* H. Léveillé & Vaniot.

Stems 8–12 cm. Stem leaf blades linear-lanceolate to oblong, margin entire. Fl. Jul, fr. Sep.

• N Hebei, S Nei Mongol (Urad Qianqi).

3. *Hylotelephium ewersii* (Ledebour) H. Ohba, Bot. Mag. (Tokyo) 90: 50. 1977.

圆叶八宝 yuan ye ba bao

Sedum ewersii Ledebour, Icon. Pl. 1: 14. 1829.

Roots slender, cordlike. Rhizome branched, woody. Stems many, branched near base, ascending, purplish brown, 5–25 cm, woody near base, glabrous. Leaves opposite, sessile, usually with brown spots, broadly ovate to suborbicular, 1.5–2 × 1.5–2 cm, margin entire or inconspicuously dentate, apex obtuse, tip acuminate. Cyme umbel-like, crowded, 2–3 cm wide. Sepals free, lanceolate, ca. 2 mm. Petals purplish red, ovate-lanceolate, ca. 5 mm, apex acute. Stamens shorter than

petals; filaments reddish; anthers purple. Nectar scales ovate-oblong, apex emarginate. Follicles erect, 3–4 mm, base narrow, apex shortly beaked. Seeds brown, lanceolate. Fl. Jul–Aug.

Forests, rock crevices on sides of ravines; 1800–2500 m. Nei Mongol, Xinjiang, Xizang [Afghanistan, India, Kazakstan, Kyrgyzstan, Mongolia, Pakistan, Russia, Tajikistan].

4. *Hylotelephium mongolicum* (Franchet) S. H. Fu in S. H. Fu & K. T. Fu, Fl. Reipubl. Popularis Sin. 34(1): 60. 1984.

承德八宝 cheng de ba bao

Sedum fabaria Koch var. *mongolica* Franchet, Nouv. Arch. Mus. Hist. Nat., sér. 2, 6: 10. 1883.

Root cap woody. Stems many, ascending, leafy, 4–16 cm, glabrous. Leaves opposite or 3-verticillate, sessile, ovate-oblong to obovate, 2.2–3.5 × 0.7–1.5 cm, base subattenuate, distal margin sparsely crenulate, apex obtuse to acute. Cyme flat topped, 0.5–4 × 2–6.5 cm, many flowered. Flowers 5–6 mm in diam.; pedicel 1.5–4 mm. Sepals reddish, ca. 1 mm, apex acute. Petals reflexed from middle, pinkish or white, lanceolate, ca. 6 × 1.2 mm, apex acuminate. Epipetalous stamens slightly longer than petals; anthers purple. Nectar scales square. Carpels ovoid, apex with a slender beak. Follicles ovoid-lanceolate, 6–7 mm. Seeds numerous, brownish, oblong. Fl. Jul–Aug, fr. Sep.

• Rock crevices on mountain slopes or summits; ca. 900 m. NE Hebei (Chengde, Xinglong Xian).

5. *Hylotelephium sieboldii* (Sweet ex Hooker) H. Ohba var. *chinense* H. Ohba, J. Jap. Bot. 67: 199. 1992.

圆扇八宝 yuan shan ba bao

Roots tuberous, carrot-shaped, slender, fleshy. Stems creeping-ascending, 10–15 cm. Leaves 3-verticillate, subsessile; leaf blade orbicular to orbicular-flabellate, 1–1.5 × 1.2–2 cm, base cuneate to broadly so, margin ± undulate to subentire, apex subacute to obtuse-rounded. Cyme umbel-like, flat topped, 2–4 cm in diam.; bracts ovate; pedicels 3–5 mm. Sepals triangular, ca. 1.5 mm, base connate. Petals reddish, oblong-lanceolate, 4–5 × ca. 2 mm, apex acute. Antepetalous stamens longer than petals; epipetalous ones subequaling petals; anthers yellow. Nectar scales oblong-spatulate, ca. 0.8 mm, apex truncate to subemarginate. Carpels erect, narrowly ovoid, 2.5–3 mm. Styles ca. 1.5 mm. Fl. Sep.

• Rocks on slopes. SW Hubei (Lichuan Xian).

Hylotelephium sieboldii var. *sieboldii* is endemic to Japan.

6. *Hylotelephium angustum* (Maximowicz) H. Ohba, Bot. Mag. (Tokyo) 90: 48. 1977.

狭穗八宝 xia sui ba bao

Sedum angustum Maximowicz, Bull. Acad. Imp. Sci. Saint-Petersbourg, Sér. 3, 29: 138. 1883; *S. telephium* Linnaeus subsp. *angustum* (Maximowicz) Fröderström.

Roots slender, fibrous. Stem erect, 50–100 cm. Leaves 3–5-verticillate; leaf blade oblong, 4–7.5 × 1.5–2 cm,

base attenuate, margin with a few obtuse crenulations, apex obtuse to acuminate. Cymes terminal and axillary, in 2 or more widely spaced whorls, pedunculate, flat topped, to more than 30 cm × ca. 5 cm overall, densely many flowered; pedicels nearly equaling flowers. Sepals free, lanceolate, ca. 1 mm. Petals free, reddish, oblong, ca. 3 mm, base attenuate, apex obtuse, tip acuminate. Stamens equaling or longer than petals. Nectar scales oblong, ca. 0.8 × 0.4 mm. Carpels free. Follicles erect, oblong, ca. 4 mm, base attenuate, apex shortly beaked. Seeds few. Fl. Aug.

• Woodlands, sides of ravines near thickets, rocky slopes; 1400–3500 m. Gansu, Hubei, Ningxia, Qinghai, Shaanxi, Shanxi, Sichuan, Yunnan.

- 1a. Axillary inflorescences short cymes, forming 2 or more dense whorls, contiguous and concealing peduncles 6a. var. *angustum*
1b. Axillary inflorescences long pedunculate panicles subtended by well-developed leaves 6b. var. *longipedunculatum*

6a. *Hylotelephium angustum* var. *angustum*

狭穗八宝(原变种) xia sui ba bao (yuan bian zhong)

Axillary inflorescences short cymes, forming 2 or more dense whorls, contiguous and concealing peduncles.

• Woodlands, sides of ravines near thickets, rocky slopes; 1800–3500 m. Gansu, Hubei, Ningxia, Qinghai, Shaanxi, Shanxi, Sichuan, Yunnan.

6b. *Hylotelephium angustum* var. *longipedunculatum* J. M. Zhang & K. T. Fu, Guihaia 19: 207. 1999.

长穗八宝 chang sui ba bao

Axillary inflorescences long pedunculate panicles subtended by well-developed leaves.

• Slopes; 1400–2000 m. Gansu, Shaanxi.

7. *Hylotelephium verticillatum* (Linnaeus) H. Ohba, Bot. Mag. (Tokyo) 90: 54. 1977.

轮叶八宝 lun ye ba bao

Sedum verticillatum Linnaeus, Sp. Pl. 1: 430. 1753, not (J. D. Hooker & Thomson) Raymond-Hamet (1912); *S. telephium* Linnaeus f. *verticillatum* (Linnaeus) Fröderström; *S. telephium* subsp. *verticillatum* (Linnaeus) Fröderström.

Roots slender, fibrous. Stem simple, erect, 0.4–2 m. Leaves mostly (4 or)5-verticillate, basal ones usually 3-verticillate or opposite, petiolate, longer than internodes; leaf blade abaxially usually glaucous, oblong-lanceolate to ovate-lanceolate, 4–8 × 2.5–3.5 cm, base cuneate, margin few dentate, apex acute, tip obtuse. Cyme subglobose, 2–6 cm wide, densely flowered; bracts ovate. Flowers pedicellate. Sepals triangular-ovate, 0.5–

1 mm, base subconnate. Petals free, greenish to yellowish white, oblong-elliptic, 3.5–5 mm, base attenuate, apex acute. Antesepalous stamens slightly longer than petals; epipetalous ones slightly shorter than petals. Nectar scales linear-cuneate, apex emarginate. Carpels shortly stipitate, obovoid to oblong, 2.5–5 mm. Styles short. Seeds brownish, narrowly ovoid. Fl. Jul–Aug, fr. Sep.

Grassland slopes, shady moist places on sides of ravines; 900–2900 m. Anhui, Gansu, Henan, Hubei, Jilin, Liaoning, Shaanxi, Shandong, Shanxi, Sichuan, Zhejiang [Japan, Korea, Russia].

This species is used medicinally.

8. *Hylotelephium viviparum* (Maximowicz) H. Ohba, Bot. Mag. (Tokyo) 90: 55. 1977.

珠芽八宝 zhu ya ba bao

Sedum viviparum Maximowicz, Bull. Acad. Imp. Sci. Saint-Petersbourg, Sér. 3, 29: 137. 1883; *S. telephium* Linnaeus subsp. *viviparum* (Maximowicz) Fröderström.

Roots short, fibrous. Stems 1 to several, simple, erect, 15–60 cm; leaf axils with whitish, fleshy, viviparous buds. Leaves 3- or 4-verticillate, subsessile, usually shorter than internodes; leaf blade ovate-lanceolate to ovate-oblong, 2–4 × 0.7–1.2 cm, base attenuate, margin sparsely and shallowly dentate, apex acuminate, tip obtuse. Cyme dense, flat topped, apex hemispheric; bracts resembling stem leaves but smaller. Sepals ovate, ca. 1 m. Petals yellowish white to yellowish green, ovate to oblong, ca. 3 × 1.5 mm, apex acute. Antesepalous stamens subequaling or slightly longer than petals; epipetalous ones slightly shorter than petals; anthers yellow, globose. Nectar scales linear-cuneate. Carpels broadly ovoid, ca. 2 mm, base tapering into a short stipe. Styles linear. Seeds ovoid, small. Fl. Aug–Sep.

Rocks on slopes in forests; ca. 900 m. Jilin, Liaoning [Korea, Russia].

9. *Hylotelephium erythrostictum* (Miquel) H. Ohba, Bot. Mag. (Tokyo) 90: 50. 1977.

八宝 ba bao

Sedum erythrostictum Miquel, Ann. Mus. Bot. Lugduno-Batavi 2: 155. 1865; *S. alboroseum* Baker; *S. labordei* H. Léveillé & Vaniot; *S. telephium* Linnaeus subsp. *alboroseum* (Baker) Fröderström.

Roots tuberous, carrot-shaped. Stem simple, erect, 30–70 cm. Leaves opposite, rarely 3-verticillate, sessile, oblong to ovate-oblong, 4.5–7 × 2–5.5 cm, base attenuate, margin sparsely serrate, apex obtuse to acute. Cymes flat topped, densely flowered. Flowers ca. 1 cm in diam.; pedicel shorter than or equaling flowers. Sepals ovate, ca. 1.5 mm. Petals dense, white or pink, broadly lanceolate, 5–6 mm, apex acuminate. Stamens slightly shorter than or equaling petals; anthers purple. Nectar scales oblong-cuneate, ca. 1 mm, apex emarginate. Carpels nearly free, erect, ellipsoid. Fl. Aug–Oct.

Grasslands, sides of ravines; 400–1800 m. Anhui, Guizhou, Hebei, Henan, Jiangsu, Jilin, Liaoning, Shaanxi, Shandong, Shanxi, Sichuan, Yunnan, Zhejiang [Japan, Korea, Russia].
This species is used medicinally.

10. *Hylotelephium spectabile* (Boreau) H. Ohba, Bot. Mag. (Tokyo) 90: 52. 1977.

长药八宝 chang yao ba bao

Stem erect, 30–70 cm. Leaves opposite or 3-verticillate; leaf blade narrowly elliptic-oblong, oblong-ovate, ovate, or broadly so, 2.5–10 × 0.8–5 cm, base attenuate, margin entire, ± undulately dentate, or dentate, apex obtuse to acute. Cyme flat topped, dense, 7–11 cm wide. Flowers ca. 1 cm in diam. Sepals linear-lanceolate to broadly lanceolate, ca. 1 mm, apex acuminate. Petals purplish red to purple, lanceolate to broadly so, 4–5 mm. Stamens longer than corolla, 6–8 mm; anthers violet. Nectar scales rectangular, 1–1.2 mm, apex emarginate. Carpels narrowly ellipsoid, ca. 3 mm. Styles ca. 1.2 mm. Follicles erect. Fl. Aug–Sep, fr. Sep–Oct.

Forest margins, rocky slopes on low mountains. Anhui, Hebei, Heilongjiang, Henan, Jilin, Liaoning, Shaanxi, Shandong [Korea].

1a. Leaves ovate, broadly ovate, or oblong-ovate, 4–10 × 2–5 cm, margin entire or ± undulately dentate 10a. var. *spectabile*

1b. Leaves narrowly elliptic-oblong, 2.5–5 × 0.8–1.5 cm, margin dentate 10b. var. *angustifolium*

10a. *Hylotelephium spectabile* var. *spectabile*

长药八宝(原变种) chang yao ba bao (yuan bian zhong)
Sedum spectabile Boreau, Mém. Soc. Acad. Maine Loire 20: 116. 1866; *S. telephium* Linnaeus var. *kirinense* Komarov.

Leaf blade oblong-ovate, ovate, or broadly so, 4–10 × 2–5 cm, margin entire or ± undulately dentate.

Rocky slopes on low mountains. Anhui, Hebei, Heilongjiang, Henan, Jilin, Liaoning, Shaanxi, Shandong [Korea].
This variety is used as an ornamental.

10b. *Hylotelephium spectabile* var. *angustifolium* (Kitagawa) S. H. Fu, Bull. Bot. Lab. N. E. Forest. Inst., Harbin 1980(6): 73. 1980.

狭叶长药八宝 xia ye chang yao ba bao

Sedum spectabile Boreau var. *angustifolium* Kitagawa in Nakai et al., Rep. Exped. Manchoukuo, Sect. 4, 4: 86. 1936.

Leaf blade narrowly elliptic-oblong, 2.5–5 × 0.8–1.5 cm, margin dentate.

• Forest margins, rocky slopes. N Hebei, Jilin, Liaoning.

11. *Hylotelephium pseudospectabile* (Praeger) S. H. Fu, Bull. Bot. Lab. N. E. Forest. Inst., Harbin 1980(6): 73. 1980.

心叶八宝 xin ye ba bao

Sedum pseudospectabile Praeger, J. Bot. 55: 40. 1917.

Roots tuberous, carrot-shaped, fleshy. Stems few, simple, erect, 30–60 cm; internodes subequaling or

longer than leaves. Leaves 3-verticillate, rarely opposite or 4-verticillate, sessile, obovate proximally on stem, ovate-oblong distally on stem, 3.5–7 × 1.5–4 cm, base subcordate and amplexicaul, margin entire or sparsely and shallowly dentate, apex obtuse to acute. Cyme flat topped, 4–5 × 5–7 cm; bracts few; pedicels shorter than flower. Sepals ovate-lanceolate, 1–1.5 mm. Petals reddish, ovate-lanceolate, 3.5–4.5 mm, apex acute. Stamens erect, to 6 mm, longer than corolla; filaments pink; anthers purple. Nectar scales rectangular-cuneate, ca. 0.6 mm. Carpels narrowly lanceolate, 3.5–4 mm. Styles ± recurved. Seeds brown, narrowly oblong, ca. 0.8 mm. Fl. Aug–Sep, fr. Oct.

Rocks on slopes; ca. 1000 m. Hebei, Jilin, Liaoning [Korea].

12. *Hylotelephium mingjinianum* (S. H. Fu) H. Ohba, Bot. Mag. (Tokyo) 90: 51. 1977.

紫花八宝 zi hua ba bao

Sedum mingjinianum S. H. Fu, Acta Phytotax. Sin., Addit. 1: 113. 1965.

Stem simple, erect, 20–40 cm. Basal leaves alternate; leaf blade elliptic-obovate, ca. 8.5 × 3 cm, base attenuate, margin entire, apex acute. Stem leaves alternate; leaf blade linear, ca. 2 × 0.2 cm, base attenuate, margin irregularly undulate and obtusely dentate, apex acute. Cyme flat topped, very dense, ca. 7 × 10 cm. Sepals oblong-lanceolate, 2–2.5 × ca. 0.7 mm. Petals erect and spreading, purple, obovate-oblong, ca. 5 × 1.5 mm. Stamens ca. 5 mm; anthers yellow. Nectar scales spatulate-rectangular, longer than wide, base subcuneate, apex rounded. Carpels erect, free, ovoid, ca. 5 mm; stipe ca. 1 mm. Styles ca. 1 mm. Seeds brown, linear, ca. 1 mm. Fr. Oct.

• Moist places on mountains, beside streams; ca. 700 m. Anhui, Guangxi, Hubei, Hunan, Zhejiang.

13. *Hylotelephium tangchiense* R. X. Meng, Bull. Bot. Res., Harbin 12: 243. 1992.

汤池八宝 tang chi ba bao

Stems 1–3, brownish, cespitose, stout, ± flexuous at nodes. Basal leaves broadly petiolate; leaf blade 5–10 × 4–9 cm, base abruptly narrowing, margin irregularly undulate and with obtuse teeth, apex rounded, obtuse, or acute. Stem leaves alternate, middle ones petiolate; leaf blade ovate, 5–9 × 2–5 cm, base tapering, apex obtuse to acute. Apical leaves subsessile; leaf blade oblanceolate to linear-elliptic, 1.7–5.5 × 0.6–1.8 cm. Cymes terminal and subterminal, dense, forming a flat-topped panicle, 2–8 × 2–9 cm; pedicels red, 6–10 mm. Sepals oblong-lanceolate, base connate, apex obtuse to acute. Petals purplish red, skiff-shaped, obovate-lanceolate, apex acute. Epipetalous stamens equaling petals; anthers brown-red. Nectar scales oblong-cuneate, ca. 0.5 mm, apex retuse. Carpels erect, ovoid, base

abruptly contracted and stipitate. Styles ca. 1 mm. Seeds ovoid-oblong, ca. 1 mm. Fl. Oct, fr. Nov–Dec.

• Rocks on hillsides. C Anhui (Lujiang Xian).

14. *Hylotelephium pallescens* (Freyn) H. Ohba, Bot. Mag. (Tokyo) 90: 51. 1977.

白八宝 bai ba bao

Sedum pallescens Freyn, Oesterr. Bot. Z. 45: 317. 1895; *Hylotelephium eupatorioides* (Komarov) H. Ohba; *Sedum eupatorioides* (Komarov) Komarov; *S. telephium* Linnaeus var. *albiflorum* Maximowicz; *S. telephium* var. *eupatorioides* Komarov; *S. telephium* var. *pallescens* (Freyn) Komarov.

Roots fasciculate. Rhizomes erect. Stem erect, 20–60(–100) cm. Leaves alternate, sometimes opposite, sessile, adaxially with numerous reddish brown spots, oblong-ovate to elliptic-lanceolate, 3–7(–10) × 0.7–2.5(–4) cm, base cuneate, margin entire or irregularly undulate and sparsely serrate distally, apex rounded. Cymes terminal and subterminal, densely branched, forming a flat-topped panicle, to 10 × 13 cm; pedicels 2–4 mm. Sepals lanceolate-triangular, 1–2 mm, apex acute. Petals erect, white or reddish, lanceolate-elliptic, 4–8 × ca. 1.8 mm, apex acute. Antesepalous stamens equaling or longer than petals; anthers yellow. Nectar scales rectangular-cuneate, ca. 1 mm, apex emarginate. Carpels free. Follicles erect, lanceolate-ellipsoid, base attenuate, apex shortly beaked. Seeds brown, narrowly oblong. Fl. Jun–Sep, fr. Aug–Sep.

Forests, grasslands, stony river beaches. Hebei, Heilongjiang, Jilin, Liaoning, Nei Mongol, Shanxi [Japan, Korea, Mongolia, Russia].

15. *Hylotelephium triphyllum* (Haworth) Holub, Folia Geobot. Phytotax. 18, 2: 204. 1983.

紫八宝 zi ba bao

Anacampteros triphylla Haworth, Syn. Pl. Succ. 111. 1813; *Hylotelephium purpureum* (Linnaeus) Holub; *Sedum purpureum* (Linnaeus) Schultes; *S. telephium* Linnaeus subsp. *purpureum* (Linnaeus) Schinz & Keller; *S. telephium* var. *purpureum* Linnaeus.

Roots numerous, tuberous, carrot-shaped. Stems 1 to few, erect, 20–70 cm. Leaves alternate, sessile distally on stem; leaf blade oblong to oblong-ovate proximally on stem, 2–7 × (0.4–) 1–3 cm, base rounded to cuneate, margin irregularly dentate, apex obtuse to acute. Cyme flat topped, dense; pedicels ca. 4 mm. Sepals ovate-lanceolate, ca. 2 mm, base connate, apex acute. Petals extrorsely reflexed from middle, purplish red, oblong-lanceolate, 5–6 mm, apex acute. Stamens subequaling petals; anthers yellow. Nectar scales linear-spatulate, ca. 1 mm, apex ± incised. Carpels erect, ellipsoid-lanceolate. Styles short. Seeds brown, ovoid-ellipsoid, minute. Fl. Jul–Aug, fr. Sep.

Shady moist places in forests, grasslands on slopes; 400–1600 m. Heilongjiang, Jilin, Liaoning, Xinjiang [Japan, Kazakstan, Russia; Europe, North America].

16. *Hylotelephium subcapitatum* (Hayata) H. Ohba, Bot. Mag. (Tokyo) 90: 52. 1977.

头状八宝 tou zhuang ba bao

Sedum subcapitatum Hayata, Icon. Pl. Formos. 3: 112. 1913.

Stem erect, ca. 14 cm, quadrangular-cylindric. Leaves alternate; pseudopetiole 1–2 mm; leaf blade straw-colored when dry, obovate-orbicular to oblong, 2.4–2.8 × 1.2–2 cm, veins 3, base abruptly narrowed, margin irregularly dentate to subentire, apex rounded. Cyme umbel-like, forming a dense head; pedicels ca. 2 mm. Sepals linear, ca. 1.3 mm, apex obtuse. Petals oblong, 3.5–4 × ca. 1.5 mm, base slightly narrowed, apex acute. Stamens equaling petals. Nectar scales oblong, 0.6–0.7 mm, apex emarginate. Carpels free, lanceolate-fusiform, ca. 3 mm, apex acute. Styles ± curved, ca. 1 mm. Seeds obovoid-fusiform, ca. 1.3 mm, minutely reticulate veined, narrowly winged at apex. Fl. Jul, fr. Sep–Oct.

• Alpine summits; 3000–3900 m. Taiwan.

