
Family 35. PORTULACACEAE

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Annual or perennial herbs or subshrubs, often succulent. Leaves opposite or alternate, simple, entire. Stipules absent or represented by a tuft of hairs, otherwise plants glabrous. Flowers bisexual, actinomorphic, solitary or in clusters at the ends of branches or in terminal racemes or panicles. Sepals 2, free or united below. Petals 4–6, free or united below. Stamens 4–numerous, free or attached to the base of the petals. Ovary inferior or semi-inferior, 1-celled; ovules many; placentation free-central or basal; style simple with 2–9 branches. Fruit a capsule, dehiscent by valves or circumscissile, 1–many seeded.

- 1. Fruit dehiscent longitudinally by valves; flowers pedicellate; stipules absent
1. *Talinum*
- + Fruit circumscissile; flowers sessile; stipules hair-like **2. *Portulaca***

1. TALINUM Adans.

Perennial herbs. Leaves alternate, succulent. Stipules absent. Flowers pedicellate, in terminal racemose panicles. Petals 5. Stamens c.25. Ovary superior; style filiform, 3-branched. Capsule dehiscent longitudinally by 3 valves, many-seeded.

1. **T. portulacifolium** (Forsskal) Asch. ex Schweinf. (1896 p.172). Syn.: *Orygia portulacifolia* Forsskal (1775 p.103); *Portulaca cuneifolia* Vahl (1790 p.33); *Talinum cuneifolium* Willd., Sp. pl. 2: 864 (1799). Illustr.: Collenette (1985 p.411). Type: Yemen (N), *Forsskal* (C).

Perennial herb; stems erect, up to 2m, from a thickened rootstock. Leaves fleshy, subsessile, narrowly to broadly obovate, 2–6(–9) × 1–3cm, rounded or obtuse and mucronate at the tip, the base cuneate. Sepals ovate, 4–6mm. Petals crimson, pink or purple, obovate, 9–12mm. Capsule globose, 5–7mm diam. **Map 205, Fig. 32.**

On rocky outcrops and terrace-walls in dry, open shrubland; 10–1500m.

Saudi Arabia, Yemen (N & S) Socotra, Oman. Widely distributed throughout Africa and also in India.

Schwartz (1939) also records *T. triangulare* (Jacq.) Willd. from Yemen (S). This is a native of the New World and undoubtedly confused with the above species.

2. PORTULACA L.

Annual or perennial herbs. Leaves alternate or opposite, fleshy. Stipules represented by a tuft of hairs. Flowers sessile, solitary or in 2–10-flowered clusters at the ends of branches, surrounded by 2–several leaves. Petals 4–6, free or united at the base. Stamens 7–15, inserted at the base of the corolla. Ovary semi-inferior; style simple, 3–6-branched. Capsule circumscissile, many-seeded.

A very provisional treatment with several of the Arabian species requiring further study.

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|---|-------------------------|---|
| 1. Leaves opposite; stipular hairs intra- and interpetiolar (surrounding the nodes) | 2. P. quadrifida | 2 |
| + Leaves alternate; stipular hairs axillary | | |
| 2. Leaves obovate to spatulate, flattened; axillary hairs inconspicuous; sepals distinctly keeled | 1. P. oleracea | |
| + Leaves linear, cylindrical; axillary hairs conspicuous or inconspicuous; sepals not keeled | | 3 |
| 3. Flowers yellow or orange; stipular hairs numerous around the flowers but few at the nodes | 3. P. foliosa | |
| + Flowers red; stipular hairs numerous both at the flowers and at the nodes | | 4 |
| 4. Stamens 10 | 4. P. kermesina | |
| + Stamens 15–30 | 5. P. pilosa | |

1. *P. oleracea* L., Sp. pl.: 445 (1753). Illustr.: Fl. Qatar pl.20; Collenette (1985 p.410); Cornes (1989 p.89); Western (1989 p.36).

Annual herb; stems prostrate or spreading, up to 30cm. Leaves alternate, subsessile or shortly petiolate, obovate or spatulate, 10–30 × 2–10mm, rounded at the tip, flattened; stipular hairs few, soon deciduous. Flowers solitary or in up to 10-flowered clusters. Sepals united below, oblong-ovate, 2–4mm. Petals yellow, obovate, 4–8mm. Seeds minutely tuberculate with star-shaped tubercles. **Map 206, Fig. 32.**

A common weed of cultivation, waysides and waste places; 0–2400m.

Saudi Arabia, Yemen (N & S), Socotra, Oman, UAE, Qatar, Bahrain, Kuwait. A widespread weed of the tropics and subtropics.

P. oleracea is a polyploid complex within which nine subspecies have been described. Two of these are recorded from Arabia: subsp. *oleracea* (2n = 54); and subsp. *granulato-stellulata* (Poelln.) Danin & H.G.Baker (2n = 36). The subspecies are apparently autogamous and recognized mainly by their seed-coat sculpturing (see Danin et al. (1978) in *Israel J. Bot.* 27: 177–211).

2. *P. quadrifida* L., Syst. nat. ed. 12, 2: 328 & Mant. pl. 1: 73 (1767); Syn.: *P. hareschata* Forsskal (1775 pp.CXII, 92); *P. imbricata* Forsskal (1775 p.92); *P. linifolia* Forsskal (1775 p.92). Illustr.: Collenette (1985 p.411); Cornes & Cornes (1989 p.89).

Annual herb; stems prostrate or ascending, up to 25cm, rooting at the nodes. Leaves opposite, subsessile, oblong-elliptic to ovate, 3–10 × 1–4mm, acute or obtuse at the tip, flattened; stipular hairs numerous, 3–5mm long, persistent. Flowers solitary or in up to 4-flowered clusters. Sepals united below, triangular, 2–4mm. Petals yellow or pink, elliptic to ovate. Seeds minutely tuberculate with rounded tubercles. **Map 207, Fig. 32.**

A weed of cultivated ground, gardens, and rocky slopes in *Acacia* shrubland; 0–3000m.

Saudi Arabia, Yemen (N & S), Socotra, Oman, Bahrain. A widespread weed of the tropics and subtropics.

Two forms of *P. quadrifida* occur in Arabia: a widespread form with small flowers (4–5mm across) and four petals; and a less common form (recorded only from Saudi Arabia) which has larger flowers (c.15mm diam.) and four to six petals. Both are illustrated in Collenette (loc. cit.). There are also several plants, similar in facies to *P. quadrifida*, but differing in being perennials with tuberous roots, stems which do not root at the nodes and distinct seed-surface sculpturing. These have been collected in the Dhofar region of Oman, on the island of Abd al Kuri and on Socotra and may represent two or possibly three new species.

3. *P. foliosa* Ker Gawl. in Edward's Bot. Reg. 10: t.793 (1824).

Robust annual or perennial herb; stems prostrate or erect, sometimes woody-based, up to 35cm. Leaves alternate, sessile, linear, up to 25 × 3mm, acute or obtuse at the

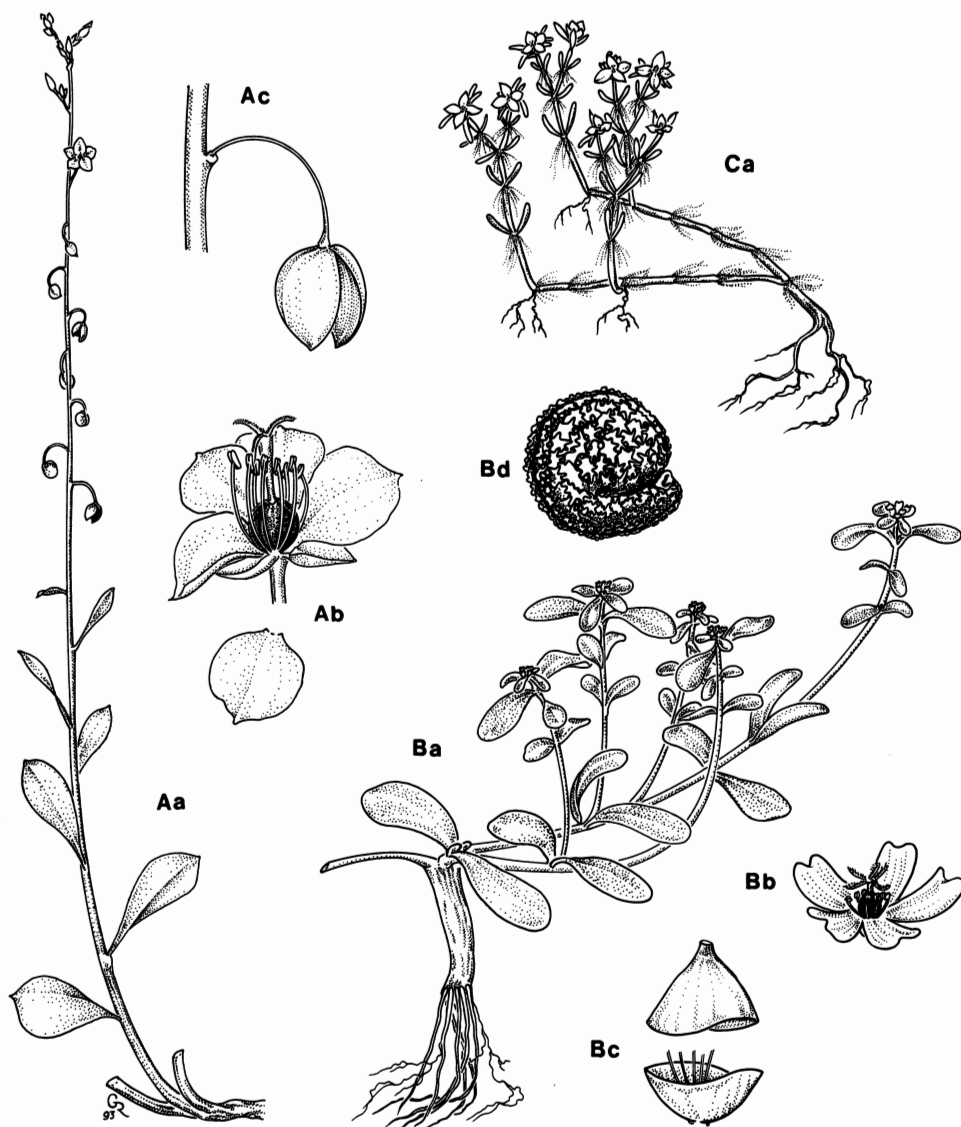


Fig. 32. Portulacaceae. A, *Talinum portulacifolium*: Aa, habit ($\times 0.6$); Ab, flower ($\times 3$); Ac, fruit ($\times 4$); B, *Portulaca oleracea*: Ba, habit ($\times 0.6$); Bb, flower ($\times 8$); Bc, fruit ($\times 8$); Bd, seed ($\times 50$). C, *P. quadrifida*: Ca, habit ($\times 0.6$).

tip, subcylindric; stipular hairs few, inconspicuous. Flowers c.1.3cm across, in (1-)2-6-flowered clusters, surrounded by tufts of hair. Sepals c.3mm. Petals yellow or orange, narrowly ovate, up to 8mm long. Capsule c.5 × 2.5mm. Seeds minutely tuberculate with stellate tubercles and a distinctive metallic sheen. **Map 208, Fig. 32.**

Over-grazed hillsides; 500–1300m.

Saudi Arabia, Yemen (N). Tropical Africa.

This species was first recorded from Arabia on J. Bura (Yemen) by Schweinfurth in the 19th century. It has recently been collected again from the same area and also from Saudi Arabia. *Portulaca foliosa* is basically a West African species which extends eastwards to western Ethiopia. Its status in Arabia needs further investigation. According to M. Gilbert (pers. comm.) the material of *P. foliosa* from Saudi Arabia is in fact referable to *P. grandiflora* Hook.

4. *P. kermesina* N.E.Br. in Bull. Misc. Inform. 1909: 91 (1909).

Similar to *P. foliosa* but with stipular hairs numerous both at the flowers and nodes; flowers smaller (c.4mm across), red. **Map 209, Fig. 32.**

In gravel pans amongst large granite boulders; 1300m.

Saudi Arabia. Tropical Africa.

In Arabia only from a single area (J. Shada in Saudi Arabia) where it is locally common. The Arabian plants are ephemerals with very small flowers and differ somewhat from typical African plants.

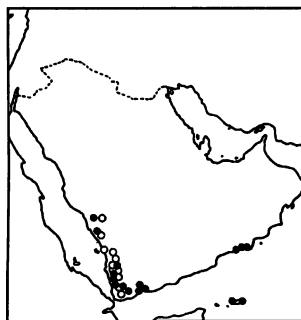
5. *P. pilosa* L., Sp. pl.: 445 (1775).

Similar to *P. kermesina* but an erect or ascending annual; leaves cylindrical, 5–20 × 2–4mm; petals purple-pink, 3–6 × 2.5–4.5mm. **Map 209.**

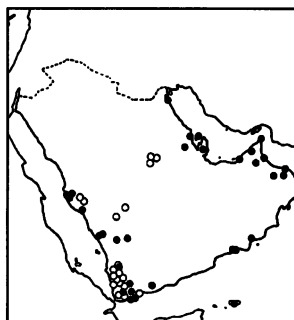
Weed; 20m.

Saudi Arabia. A native of tropical and subtropical America, naturalized in other parts of the world.

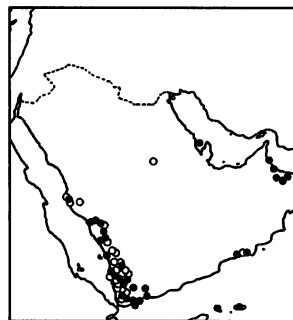
Mandaville (1990) reports that *P. pilosa* L. has spread and become a common weed around Dhahran in eastern Saudi Arabia since its introduction in the 1970s. It is an ascending herb with alternate linear, cylindrical leaves, conspicuous stipular hairs and red petals.



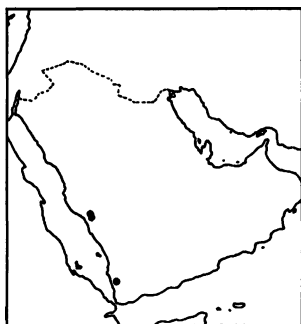
Map 205. *Talinum portulacifolium*



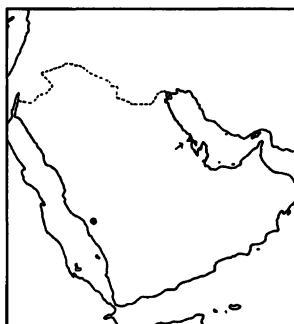
Map 206. *Portulaca oleracea*



Map 207. *P. quadrifida*



Map 208. *P. foliosa*



Map 209. *P. kermesina* ●
P. pilosa ▲