

Notes on wool-alien species of *Crassula* from Blackmoor, North Hants., 1970-74

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INTRODUCTION

Over 50 species of *Crassula* L. section *Tillaeoideae* Schönl. have been described, the majority occurring in the Southern Hemisphere. Schönland (1916, 1929) gave detailed descriptions of 35 species from S. Africa, and a modern taxonomic revision is being undertaken by Tolken. Unfortunately the taxonomy of the Australian and S. American species has not yet been satisfactorily resolved. Since many of the wool-alien species originate from these continents, it has not been possible to identify them all unambiguously, nor even to match them precisely with material from the rather limited collection in K. Moreover many specimens collected in Britain grew under adverse winter conditions in the open, or were cultivated under glass. Thus sometimes the fruit was not properly developed, and the plants were etiolated or stunted, making identification even more uncertain. In the following list of species collected from Blackmoor, N. Hants., v.c. 12, between 1970 and 1974, I have included some brief comments and notes in an attempt to establish criteria for identification, and to point out some of the problems. Voucher specimens have been sent to K.

ARTIFICIAL KEY

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| 1. Carpels 1-seeded | 2. <i>C. natans</i> |
| 1. Carpels 2-12-seeded | |
| 2. Carpels 6-12-seeded | |
| 3. Petals twice as long as sepals; sepals united below | 6. <i>C. purpurata</i> |
| 3. Petals equalling sepals; sepals free | 5. <i>C. macrantha</i> |
| 2. Carpels 2-seeded | |
| 4. Flowers 4-merous | |
| 5. Flowers on slender axillary branches; sepals 1 mm | |
| | 1. <i>C. thunbergiana</i> |
| 5. Flowers in sessile axillary clusters with one flower often rather long-pedicellate; sepals 2 mm | 4. <i>C. sieberana</i> |
| 4. Flowers 5-merous | |
| 6. Leaves blunt; petals wide-spreading; sepals acute | |
| | 1. <i>C. thunbergiana</i> |
| 6. Leaves acute or hair-tipped; petals not wide-spreading; sepals acuminate or hair-pointed | |
| 7. Petals up to two-thirds as long as sepals; carpels shorter than petals | 3. <i>C. campestris</i> |
| 7. Petals and sepals equal; carpels longer than petals | |
| 8. Erect; many flowers in each axillary cluster; beaks of carpels curved | 7. <i>C. colorata</i> |
| 8. Decumbent; few flowers in each axillary cluster; beaks of carpels recurved | 8. <i>C. intricata</i> |

LIST OF SPECIES

1. *C. thunbergiana* Schultes (*C. zeyherana* Schönl.) Widespread in S. Africa. 1971, 1974, det. H. R. Tolken
Small diffuse annual; leaves cylindrical, blunt, 1–2 mm; flowers usually 5-merous but sometimes 4-merous, on slender, axillary branches; petals shorter than the 1 mm sepals; carpels 2-seeded. Schönland (1929) equated *C. thunbergiana* with *C. decumbens* Thunb., but according to Tolken (pers. comm. 1974) it is conspecific with *C. zeyherana*, which was first described by Schönland (1916). The Blackmoor plants have widely spreading petals, so that the flowers are almost flat.
2. *C. natans* Thunb. S. Africa, Australia. 1970, 1971, det. B. Verdcourt and H. R. Tolken
Far-creeping annual; leaves relatively long and narrow with 1–2 tiny, pedicelled flowers in the axils; petals 1 mm, slightly longer than the sepals; calyx of 4 short, obtuse sepals which are united for over half their length to form a tube; carpels 1-seeded. Described in detail by Schönland (1916).
3. *C. campestris* (E. & Z.) Endl. S. Africa. 1971
Annual; leaves flat, often hair-tipped; stem internodes usually very short; flowers 5-merous, in axillary clusters; sepals and petals lanceolate-acuminate or hair-pointed; petals 1 mm, shorter than the 2 mm sepals; carpels shorter than the petals, 2-seeded. The Blackmoor plant is doubtfully referred to this common S. African species, described in detail by Schönland (1916).
4. *C. sieberana* (Schultes) Druce Australia, New Zealand. 1970
Annual; leaves 1–2 mm, subacute; inflorescence subspicate; flowers 4-merous in sessile, axillary clusters, with one flower frequently raised on a rather long pedicel; sepals (2 mm) and petals (1 mm) acute; carpels 1 mm, 2-seeded. The Blackmoor plant is young, and does not match herbarium material well, although the flower structure agrees closely with the diagram in Black (1963). The S. American *C. erecta* (Hook. & Arn.) Berger has rather similar flowers, according to Cabrera (1967), but in mature plants the inflorescence often seems to be less densely spicate, and the sepals and petals more acuminate.
5. *C. macrantha* (Hook. f.) Diels & Pritzel Australia, New Zealand. 1970, 1971, 1974
Suberect or prostrate annual; leaves 3–5 mm, mucronate or acute; flowers 4-merous, rather large (to 3 mm), with pedicels 4–10 mm long; inflorescence finally a corymbose panicle; sepals equalling the petals, acute; carpels 6- or more seeded. Described in detail by Black (1963). According to Tolken (pers. comm. 1974) and Ostenfeld (1918) the Australian species comes near to the S. African *C. decumbens* Thunb. I cannot find any convincing difference between these species, although Lousley (1960) suggested that in *C. decumbens* the flowers are smaller, with the petals shorter than the 2 mm long sepals.
6. *C. purpurata* (Hook. f.) Domin (*C. peduncularis* (Sm.) Meiger, *C. bonariensis* Cambess.) Australia, New Zealand, S. America, naturalized in Europe. 1970, 1974
Small prostrate annual; leaves acute or short-awned; flowers 4-merous, solitary in the leaf-axils; petals twice as long as the ovate sepals; pedicels elongating to about 1 cm in fruit; carpels 6–12-seeded. Described in detail

by Black (1963) under *C. bonariensis*. Laundon (1961) has discussed the equivalence of *C. purpurata* and *C. bonariensis*.

7. *C. colorata* (Nees) Ostenf. (*Tillaea acuminata* Reader) Australia. 1970, 1971, 1972

Erect annual; leaves subacute; flowers 5-merous, in dense axillary clusters forming a dense or interrupted spike; petals equalling the sepals, both lanceolate-acuminate; carpels long oblong-ovate, with a long, acuminate beak, 2-seeded. A good description was given by Black (1916). According to Tolken (pers. comm. 1974) and Ostenfeld (1918) this plant is very closely related to the S. African *C. campestris*, but the latter has petals distinctly shorter than the sepals and has shorter carpels.

8. *C. intricata* (Nees) Ostenf. Australia. 1971

According to Ostenfeld (1918) this differs from *C. colorata* in the decumbent and much branched habit, solitary or few sessile flowers in the leaf axils, and the recurved beak of the fruiting carpels, but may only be a coastal vicariant. In the Blackmoor material the leaves are hyaline-tipped, and the fruit mostly immature.

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