The Cactus and Succulent Journal of Great Britain
Volume 40(4): 105-111 (1978)

Echeveria agavoides and the mysterious variety corderoyi

by J. C. van Keppel and Susan Roach*

It is always very satisfying when, after years of detective work and thought about a particular taxonomic problem, one sees one's efforts rewarded with the solving of an age-old mystery. But let me—just as with a jigsaw-puzzle—begin at the beginning and delve into history.

In the years 1860/1861 the Belgian nurseryman Verschaffelt introduced into Europe from Mexico an *Echeveria* unknown at that time. This was described by Lemaire (1863) as *E. agavoides* (resembling *Agave*). The first plants were put on the market for no less than a hundred francs, a huge sum of money in those days. Vegetative propagation was initially a difficult business. The plant does not (or only sparingly) form side-shoots, and propagation from leaf-cuttings—in contrast to other Echeverias—appeared to be practically impossible, because it is difficult to get the thick fleshy leaves away from the plant intact. Propagation was also carried out in the beginning by means of seeds, although later only one clone remained preserved in cultivation in Europe.

The first clear illustration of *E. agavoides* appeared in 1869 with a description by Baker, who set the clock back, however, by calling the plant *Cotyledon agavoides*. This coloured illustration (here reproduced in black and white as fig. 1) was designated as the neotype of the species by Walther (1972) which means that the illustration is to be taken as representing *E. agavoides* var. *agavoides*. W. W. Saunders, who grew the plant which was used for the illustration, obtained it from seeds which had been imported from northern Mexico. The plant described by Baker is clearly different from the plant which at present is generally known in cultivation in Europe as *E. agavoides*. I shall come back to this later; firstly something more about the systematic classification.

Although Lemaire described the plant as *Echeveria*, it was grouped by later writers (amongst others Baker) under *Cotyledon*. Rose (1903) even proposed a new genus for *E. agavoides* and several related species: *Urbinia*, based on the habit of the plant and the form of the calyx. The differences are, however, so slight that nowadays not a single expert recognises *Urbinia* as an independent genus, and *Urbinia agavoides*, *U. purpusorum* and *U. lurida* (synonym of *E. tobarensis*) are classified under *Echeveria* again.

Walther (1972) included *E. agavoides* in his series *Urceolatae*, plants whose flowers are urn-, cylinder- or cone-shaped. This group is rather heterogeneous and will certainly need further division in the future, but that is not important for our subject, so we will not pursue the matter at this point.

Echeveria agavoides var. **agavoides**

The original description by Lemaire does not really give many clues as to what the plant he described looked like. The description by Baker, supplemented by the colour-plate (fig. 1) does give a good picture of *E. agavoides* as it appeared in cultivation in Europe around 1870. We are struck by the compact rosette with very light bluish green, wide, short leaves, of which the older ones show a faint red flush at the edges. The flowers (there are only 4-6) are arranged in a cyme or cincinnus. Saunders, who was a good observer, remarks correctly that *E. agavoides* is more like a *Haworthia* than an *Agave*!

If we compare Baker's illustration with the plant in my collection (fig. 2; van K. 6805), which I received in 1968 from the American *Echeveria* expert Dr. Reid Moran, then our attention is caught by the striking similarity between the two plants. Moran's plant was collected in the wild at an altitude of 2500 m. near Santa Rosa, Guanajuato, Mexico (*Moran* 14735). I sowed seeds (obtained by self-pollination) from this plant, and the seedlings, which are now fully grown, are completely identical to the mother-plant and have been sent to all the most important *Echeveria* collections in Europe.

The following is the description of *Echeveria agavoides* (var. *agavoides*) according to Baker (1869), and the remarks that Saunders appended:

'Glabrous, not at all caulescent. The *leaves* fifteen to twenty in a dense rosette, ovate, an inch and a half to two inches long, by an inch broad half-way up, narrowed above to a rigid spiny point, the centre of the blade three-eighths of an inch thick, the upper surface slightly concave, the back much rounded, both sides a very pale glaucous-green, and distinctly reticulated with papillae, the old ones faintly tinged with red at the edge. *Flowering branch* eight to twelve inches long, slender, with only a very few small bract-like leaves. *Flowers* four to six in a sparse cyme. The *bracts* linear, very minute. The *pedicels* half to three-fourths of an inch long. *Calyx* under one-eighth of an inch deep, the lobes deltoid, equal, ascending. *Corolla* orange, half to five-eighths of an inch deep, scarcely at all pentagonal.

A very distinct species.—J.G.B.'

*Author's address: Jonkerlaan 14, Wassenaar, Netherlands. This article is a translation, with revisions, of one which was published in the Dutch journal Succulenta 55(9): 166-174 (1976). The illustrations, by F. Noltee and J. C. van Keppel, are reproduced by courtesy of Succulenta.

Fig. 1. *A reproduction of the original plate of E. agavoides from Saunders' Refugium Botanicum vol.* 1, *t.* 67 (1869)

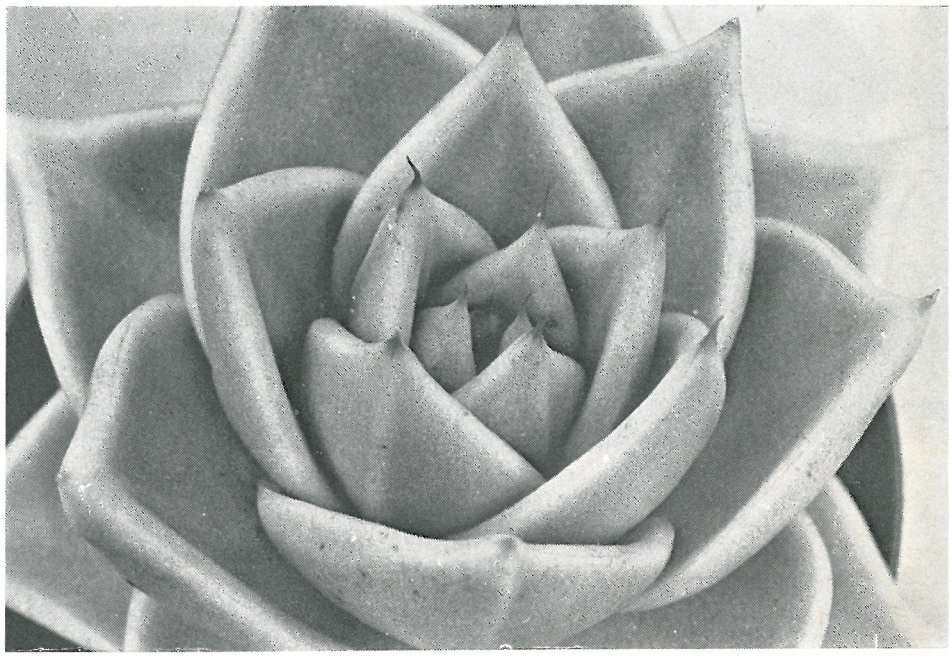

Fig. 2. E. agavoides var. agavoides (K. 6805), a plant collected by Reid Moran near Santa Rosa, Guanajuato, Mexico (Moran 14735)

'This is another species hitherto rare in collections, and difficult of increase except by seeds. The plant requires much of the same treatment as the last, and greatly resembles an Aloe of the section Haworthia, notwithstanding that it has been likened to an Agave, whence its name: I have raised the plant from Northern Mexican seeds, presented to me by H. Moberly, Esq. I am also indebted to the Royal Gardens at Kew for a plant of this interesting species.—W.W.S.'

E. agavoides var. **corderoyi**

In 1874 Baker published the first description of *Cotyledon (Echeveria) corderoyi,* as follows:

'Glabrous, acaulescent. Leaves, 60 to 70 in a dense rosette, 7 to 8 inches broad and 3 to 4 inches deep, ovate, 2 to 2½ inches long, 1¼ to 1½ inch broad at the middle, half an inch thick, quite flat on the face in the upper half, rounded on the back, produced into a firm lanceolate mucro, both sides a very pale whitish-green, smooth and rather shining. Flower-stems 3-4 to a rosette, the scape below the cyme 15 to 18 inches long, terete, with only a few minute, scariose, bract-like leaves; cyme trichotomous, with 15-20 flowers on long red, flexuose branches; bracts minute, lanceolate; pedicels ½ to ¾ inch long, bright red; calyx rotate, ¼ inch broad, with lanceolate divisions reaching quite down to the pedicel; corolla urceolate, ⅜ inch long, bright red at the base, yellow upwards; the lanceolate divisions three times as long as the campanulate tube.

J. G. Baker.'

Cotyledon corderoyi was transferred by Morren the same year to *Echeveria* and, much later, treated by von Poellnitz (1936) as *E. agavoides* var. *corderoyi.*

Baker received the plant from Justus Corderoy, an amateur succulent collector, who lived at Blewbury, near Didcot, England, and named it in his honour. If he did not have personal contact with Corderoy, Baker at any rate corresponded regularly with him (see postscript).

The only information about the origin of the plant was that Corderoy had received it some years previously from Belgium. Baker, who had already described more than 40 species which he included in the subgenus *Echeveria,* saw enough differences from *E. agavoides* to make it a separate species. It has a much larger number of leaves; big, fully-grown specimens have 60–70, which are much narrower and fairly flat. The most striking feature, however, is the difference in inflorescence which has triple branching and smaller flowers than *E. agavoides.*

Nine years later, Baker (1883) returned once again to the plant with a drawing made from a photograph which he had received from Corderoy (fig. 3), saying once more that its origin had remained unknown. Not a single plant that had recently been imported from Mexico or the southern United States resembled the plant that he had described. From this it seems that *Cotyledon corderoyi* was wiped from the face of the earth. All subsequent publications about this plant point to the fact that the authors did not identify it with plants in cultivation. Morren merely changed the genus name *Cotyledon* for that of *Echeveria.* Berger (1930) placed the plant in his section *Urbinia* of the genus *Echeveria,* but not immediately under *E. agavoides* as one would have expected from someone who knew the plant well.

Von Poellnitz (1936) called the plant *E. agavoides* var. *corderoyi,* but probably based this more on a herbarium

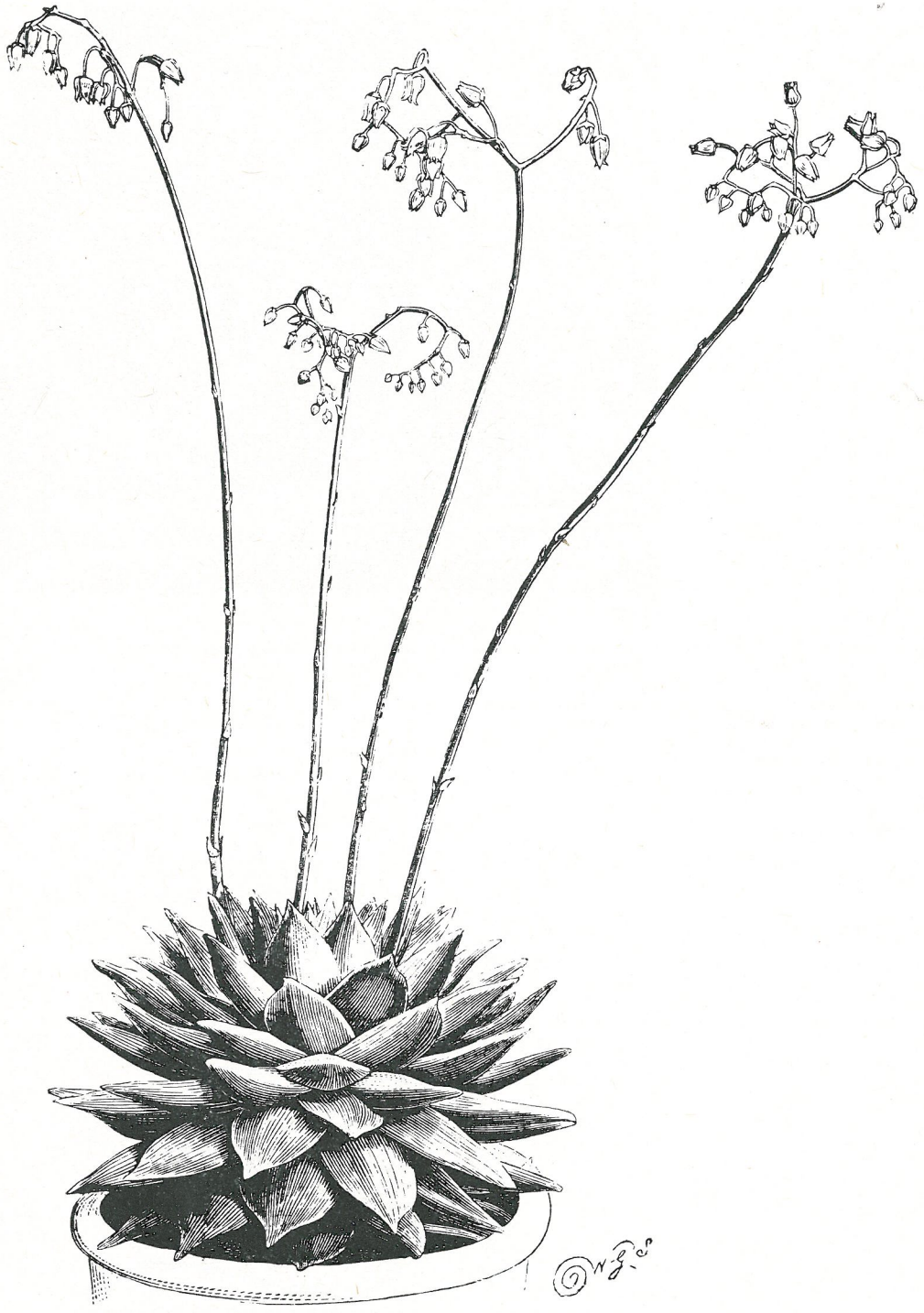

FIG. 56.—COTYLEDON CORDEROYI.

Fig. 3. The original illustration of E. agavoides var. corderoyi from the Gardeners' Chronicle, n.s. 1: 599 (1874).

Fig. 4. E. agavoides var. corderoyi (K. 5109). This form is generally grown in Europe as E. agavoides itself.

Fig. 5. Inflorescence of E. agavoides var. corderoyi

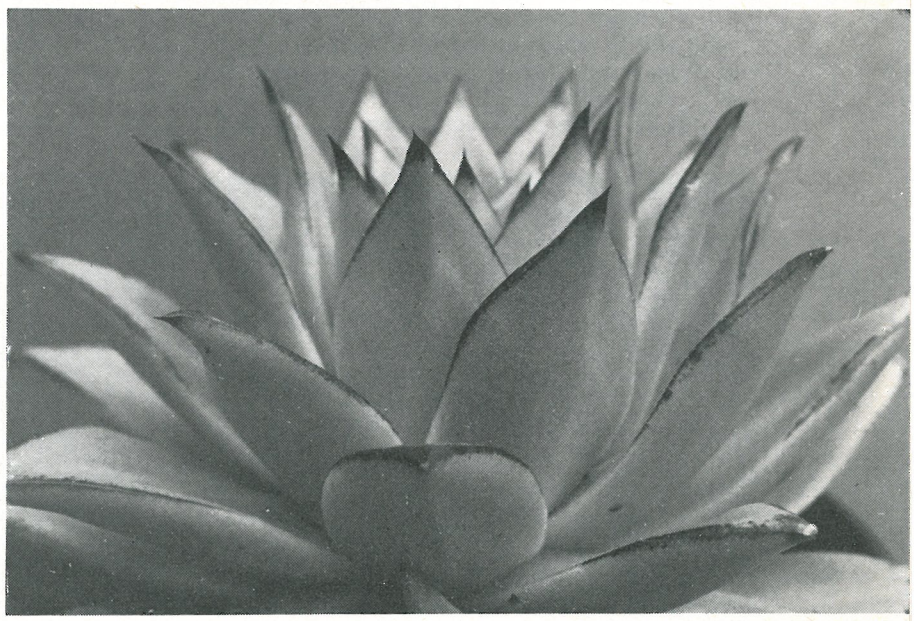

Fig. 6. E. agavoides cv. 'Red Edge', distributed by ISI (no. 322) as var. corderoyi.

specimen collected by Palmer in 1902 in south-east San Luis Potosi (*Palmer* 499). Even Walther did not know the plant, as he wrote (l.c. page 96) 'the imperfectly known *Echeveria agavoides* var. *corderoyi*'. He supposed that *E. agavoides* var. *prolifera,* a cultivated plant which he described, might be closest to it but he was wrong. *'Prolifera'* means 'producing issue' and indicates the formation of offsets, which was not mentioned by Baker and was also certainly not present, otherwise the plant would not have been described after nine years as 'still of rare occurence'.

Plants do crop up all the time in cultivation under the name *corderoyi* and they often differ greatly from the original description. Walther, for instance, found the name amongst plants which belong to *E. parrasensis.* For years there has also been a monstrose *E. agavoides* hybrid (van K. 6309) from Southern France circulating in Europe under the name *corderoyi.* This plant forms a large number of very small rosettes but no large main rosette. It does not testify to specialist knowledge on the part of the one who attached the name to the plant. In 1960 the International Succulent Institute (ISI) began the circulation of yet another plant under the name of *E. agavoides* var. *corderoyi* (ISI no. 322). Walther (l.c., page 84), however, described this plant as *E. agavoides* cv. 'Red Edge' (fig. 6). He found this form in 1937 growing wild near San Luis Potosi (Mexico).

'Red Edge' forms large rosettes with leaves which have a clearly delineated red border at the edge. Older plants form offsets easily. The flowers are more slender and more reddish than the var. *corderoyi.* The inflorescence is a three fold forked loose cyme. Why Walther described this plant, which is found in the wild, as a cultivar, when he described cultivated plants of unknown origin as a variety and sometimes even as a species (amongst others the hybrid *E. gilva*) is a mystery. In addition to the above-mentioned var. *prolifera* (which I strongly suspect belongs to the '*gilva*-complex') Walther described yet another variety, *multifida.* I do not know this variety from authentic material. According to the description it is generally a solitary plant, with strongly coloured leaf-edges and an inflorescence with quintuple branching. Because 'Red Edge' according to Walther was collected in the same habitat as var. *multifida,* it is not impossible that 'Red Edge' is a selected clone of this variety.

After this digression about the variation in *E. agavoides,* I must return to var. *corderoyi.* To which plant does this name really belong? In my opinion, *to the one clone of E. agavoides which has been spread over the whole of Europe and which has been regarded for decades as the 'species'.* This plant is the one that answers best to Baker's description and illustration. That none of the later investigators of the genus *Echeveria* have realized this is a result of the fact that we have only known that one clone. Thanks to the fact that I obtained new material for comparison I was able to establish the true identity of this plant. The question arises as to why this variety was preserved in cultivation whilst all other clones which were introduced or sown in Europe between—to estimate somewhat broadly—1860 and 1890 have disappeared?

Nine years after the first description Baker was still talking about a rare plant. This indicates that the plant was difficult to propagate vegetatively. My oldest plant formed an offset in 1975 for the first time in 25 years. From my own experience I know that the plant can easily be propagated from seed, but this method is hardly ever used by professional nurserymen. So there must be another reason why this variety has not only been able to preserve itself but, moreover, occurs very frequently.

The solution is quite simple. There is a cristate form of this plant in cultivation which was illustrated as early as 1929 (Anon., 1929). It is a well-known characteristic that cristate forms have atavistic tendencies, i.e. the cristate form separates itself up into a large number of ordinary rosettes. These can serve for propagation and were indeed used for this. The clones which never or only seldom formed cuttings, and which also did not

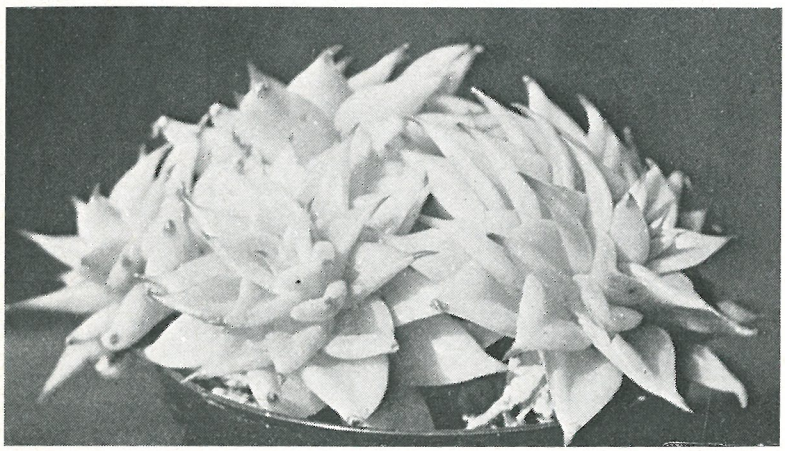

Fig. 7. A monstrose hybrid of E. agavoides which originated in southern France and is often grown as var. corderoyi (K. 6309).

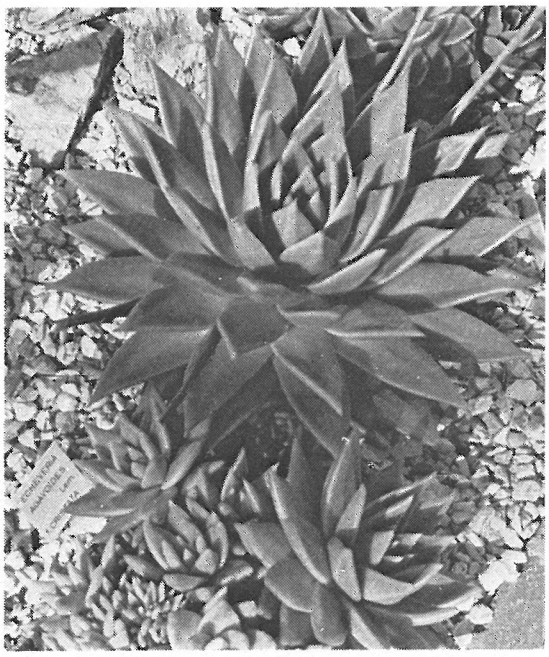

Fig. 8. E. agavoides var. corderoyi, showing normal shoots which have arisen by reversion from a cristate form. The cristate part of the plant is visible in the bottom left-hand corner of the photograph, which was taken in the Reference Collection belonging to Holly Gate Nurseries Ltd., Ashington, Sussex.

have a cristate form, slowly but surely died out in cultivation. I do not exclude the possibility that Corderoy's plant was a normal cutting of a cristate form whose descendants were spread simultaneously throughout Europe as *E. agavoides*. This would at the same time be an acceptable explanation of the fact that none of the experts connected this plant with the var. *corderoyi*, described by Baker.

Other illustrations and synonyms

Finally, a few remarks about some illustrations of *E. agavoides* and the variety *corderoyi* which are not reproduced here, and some synonyms of minor importance. In Flore des Serres 19: t. 2003, 1873, there is a coloured drawing of *E. agavoides*; in Gard. Mag. 1873, p. 237, there is likewise an illustration which was reproduced by Morren in La Belgique Horticole 24: 156, fig. 4, 1874. Both represent a plant with rather more leaves than the one in Baker's drawing, but which is more in agreement as regards leaf-shape with Baker's *E. agavoides* than with *E. corderoyi*. The cristate form of var. *corderoyi* is illustrated in Succulenta 1960, p. 103, as *E. agavoides* 'Cristate'. *E. agavoides* var. *corderoyi* is illustrated in Jacobsen, Lexicon of Succulent Plants, t. 57(2) (1974) under the name *E. agavoides* var. *agavoides*.

The following are synonyms of *E. agavoides*: *E. yuccoides* hort. ex Morren (1874), a plant of which no description is known (therefore a *nomen nudum*); *E. obscura* (Rose) von Poellnitz (*Urbinia obscura Rose*), a plant with an abnormal number of rather large lower bracts on the peduncle. According to Walther the peduncle was normal again the next year.

Literature cited

ANON. (1929). *Echeveria agavoides* forma *cristata*. In Monatsschr. Deutsch. Kakt. Ges. 1: 226.

BAKER, J. G. (1869). *Cotyledon agavoides*. In Saunders, Refug. Bot. 1: t 67.

————(1874). *Cotyledon (Echeveria) corderoyi*. In Gard. Chron. n.s. 1: 599.

————(1883). *Cotyledon corderoyi*. In Gard. Chron. n.s. 19: 373, fig. 56.

BERGER, A. (1930). *Echeveria corderoyi*. In Engler, Nat. Pflanzenfam., ed. 2, 18a: 476.

KEPPEL, J. C. VAN (1968). Some observations on *Echeveria* x *gilva* Walther. In Nat. Cact. Succ. J. 23: 12–13.

LEMAIRE, C. (1863). *Echeveria agavoides*. In Ill. Hort. 10: misc. 78.

MORREN, E. (1874). *Echeveria corderoyi*. In Belg. Hort. 24: 159; *E. yuccoides*. L.c. 168.

POELLNITZ, K. VON (1936). *Echeveria agavoides* var. *corderoyi*. In Feddes Repert. 39: 258.

ROSE, J. N. (1903). *Urbinia agavoides* and *U. obscura*. In Bull. New York Bot. Gard. 3: 12.

WALTHER, E. (1972). Echeveria Handbook.

POSTSCRIPT

by David Hunt

The name Justus Corderoy, though not recorded in Desmond's 'Dictionary of British and Irish Botanists and Horticulturists' (1977), is one that is familiar to succulent plantsmen, being commemorated not only in *Echeveria agavoides* var. *corderoyi* but also in *Crassula justi-corderoyi*. Mr. Corderoy exchanged plants with Kew and corresponded with various staff members over a period of 35 years or more, and some of his letters are preserved in the archives. One letter, dated 17 January 1899 and addressed to, William Watson, at that time Assistant Curator, contains the following interesting references to *E. agavoides* and var. *corderoyi*:

> '. . . I have not quite made up my mind if I shall dispose of a young plant of *Echeveria corderoyi* but it is quite probable. I have only 3 young ones from the original in 30 years. The plant I had from Kew of Agavoides is not so large as one of my young plants 3 or 4 years old and I had that when the late Mr Smith first came to Kew; it has never flowered either . . .'

These remarks clearly substantiate Mr van Keppel's observations on the difficulty of propagation of the plants and the relative growth rate of var. *agavoides* and var. *corderoyi*. John Smith II was Curator of Kew from 1864 to 1886.