

Pierre-Joseph Redouté

“Raphael of the Succulents”

PIERRE-JOSEPH REDOUTÉ— “RAPHAEL OF THE SUCCULENTS”

With bibliographical and botanical details of over two hundred published plates.

By GORDON D. ROWLEY

No one, to my knowledge, has attempted a survey of famous illustrators of succulent plants, or laid down rules for our guidance on what constitutes a good picture of one. It seems to have been taken for granted that succulents differ in no wise from other garden plants in the demands they make on the botanical artist: if he excels at the one it is assumed that he will naturally excel at the other, too. This is but one of the many interesting points that arise in considering the work of one of the most gifted, fortunate, prolific and certainly the most popular of all botanical painters: Pierre-Joseph Redouté (1759–1840).

Since the invention of printing the scope of botanical illustration has ranged from woodcuts to lithographed plates; from hand-coloured drawings to habitat photographs; from the crudest inaccuracies and “arty” bouquets to volumes of plates so superbly drawn and reproduced that each one can be framed as a work of art and sold at a high price to collectors. A good published illustration of a plant is something to be marvelled at. It proclaims a concerted effort from a team of experts: a painter who is both artist and botanist, skilled engravers, block-makers and other technicians to reproduce his work with minimum distortion, and, most important of all, a sponsor willing to risk money on the whole costly proceeding. The fame of Redouté today—and to judge from current prices none of his rivals is more sought after—rests on just this rare coincidence of events. As Blunt has pointed out²⁰ Redouté is by no means the only claimant to the title of “The Raphael of the Flowers,” but his equals lacked the means to publish and popularise their work, or had to be content with inferior reproductions of it.

Pierre-Joseph Redouté was born in St. Hubert, Luxembourg, but spent much of his life in and around Paris. Historians describe him as short, thick-set, ugly and stumpy-fingered, betraying in his appearance little of the geniality, diligence, delicacy of touch and exquisite artistic sensibility that brought him renown, and had every aspiring artist in Paris longing to be his pupil. He studied botanical draughtsmanship in Paris under G. van Spaendonck, founder of the French school of flower painting which was to achieve unrivalled heights in the half-century preceding the death of Redouté and Turpin in 1840. His botanical training came mainly from C. L. L'Héritier, for many of whose books he did the illustrations. During the short period that Redouté held office as draughtsman to the cabinet of Queen Marie Antoinette an incident occurred that is our first record of his encounter with succulents, and may well have initiated the great work he was later to do on these plants. During her long imprisonment in the Temple, Marie Antoinette kept up her spirits by watching the daily growth of buds on a favourite night-blooming *Cereus*.²² When the great day arrived for the first flower to open, Redouté was summoned and painted the flower at midnight before the assembled court and royal family. Doubtless the plant was *Selenicereus grandiflorus*: it would be interesting to know if the painting survives among the large collection of vellums in Paris. At all events, we can be sure that when L'Héritier later suggested to Redouté the idea of a book devoted to succulents, the artist responded eagerly. L'Héritier, for his part, felt the need of good pictures of succulents, as they were impossible to preserve adequately in herbaria and often flowered for brief periods only. Redouté had been experimenting on an improved method of colour-printing, and was glad of a chance to put it into practice. He combined stipple engraving, which allows the finest gradations of shading, with colour printing from a single plate which was re-inked after each impression. The result was then touched up by hand so that finally it had the appearance and merits of an original watercolour.

By the time the “Plantes Grasses” was contemplated, Redouté had gained the blessing of the Empress Josephine, who not only assembled a great collection of rare plants in her garden at Malmaison, but subsidised the publication of Redouté's paintings of them in books such as this and “Les Liliacées” (1802-16), “Jardin de la Malmaison” (1803-5), “Descriptions des Plantes Rares Cultivées à Malmaison...” (1812-7) and “Les Roses” (1817-24). All that was needed to complete the “Plantes Grasses,” the first of this noble series, was a botanist to write the text for each picture. L'Héritier, apparently, did not wish to do this himself. Here again fate played into their hands by conjuring up a keen, twenty-year-old Swiss student: Augustin Pyramus de Candolle, destined to become one of the great names in systematic botany.

Redouté enjoyed much popularity during his lifetime, and was little affected by the French Revolution and other political upheavals around him. By his own endeavours he earned fame and fortune, but he was not thrifty, and in later years was reduced to producing “pot-boilers” or selections of his earlier plates, and even to selling furniture and valuables to make ends meet. He died in poverty in his eighty-first year while sketching a vast flower painting that would have brought him fresh laurels and a temporary release from financial worries.

PUBLISHED PLATES OF SUCCULENTS. I THE “PLANTES GRASSES”

Redouté's great work on succulents is the “Plantes Grasses” or “Plantarum Succulentarum Historia” authored by A. P. De Candolle, although at least four other works contain his illustrations of succulents and, ironically, by far the best of them. Publication of the “Plantes Grasses” began serially in 1799 (or perhaps December, 1798) in fascicles of six plates at a time with one page of text (rarely more) per plate. Both in pagination and collation the book has been a bibliographic nightmare. Up to 1805 things went fairly smoothly and 28 fascicles of the projected 50 appeared. Then a quarrel took place between De Candolle and the publisher Garnery over quite another matter, with the result that no further text was forthcoming and publication ceased. For a whole 24 years the two were estranged, but ultimately Garnery approached De Candolle again in 1829 and suggested a continuation of the work. The latter, having no wish to go on with the text, passed the task over to a younger botanist, Guillemin, so that on resumption three of the descriptions were by De Candolle and the rest bore Guillemin's initials. However, the continuation was brief and soon stopped altogether. Just how long it lasted, or what constitutes a complete copy of the “Plantes Grasses,” has been debated ever since. What seems to have happened is that a tailing off took place and in 1837 the firm of Garnery realised the end had come and decided to clear their stock of existing plates. To make up saleable copies fresh title pages (dated 1837) were printed, an index to fascicles 1-30, and probably a number of odd plates to complete sets. This last is clear from the very different quality of paper for certain plates in copies I have examined. In a very few cases they bound in extra plates which had been printed but never actually circulated. As found today the work is almost always incomplete, at least beyond fascicle 28 (page 159). The last published fascicle (No. 31) is excessively rare, but since at least four copies are known complete with pp. 172-7 of text, it must be assumed to have been published. The largest number of plates in any copy that I can find recorded is 192, and outside France there is such a set in the Library of the Royal Botanic Gardens at Kew. These four extra plates (a fifth is merely a duplicate of p. 88) beyond the published 187 are reproduced here for the first time (figs. 1-4): I have seen no text for them or any indication that it was written.

PIERRE-JOSEPH REDOUTÉ—Four unpublished plates for “Plantes Grasses” (? Fascicle 32).



Fig. 1. *Piaranthus decorus* (Mass.) N.E.Br.



Fig. 2. *Sesuvium portulacastrum* L.



Fig. 3. Unidentifiable, perhaps fictitious
(See footnote Page 12).



Fig. 4. *Crassula scabra* L. minor Schonl.

The "Plantes Grasses" was issued in two sizes. The "large paper" issue has a sheet size of $21\frac{1}{2} \times 14$ in. and came out in a limited edition of 100 copies. While it makes a magnificent collector's piece, the "small paper" issue is easier to handle and more convenient to botanists, as well as costing less. The text has been reduced in size, but the plates are exactly the same, and with narrower page margins ($14 \times 10\frac{1}{2}$ in.) present a more dramatic appearance to the eye, especially for tiny plants like *Tillaea* which are lost in a sea of white in the full folio page. The resetting of the text for the small paper edition has led to a few discrepancies of spelling between the two versions (as p. 83) and in critical cases both should be consulted. The wrappers for each fascicle give us the information that parts were sold at 50 francs, large paper, and 12 francs, small paper, but these covers were apparently printed in bulk each year as needed and the part number added by hand. Thus the dates they bear according to the old French calendar ("An. VIII", "An. X", "An. XI", "An. XII — 1804" and "An. XIII — 1804") seem to bear no relation to actual dates of issue, and the bland statement that "Il en paraîtra une chaque mois" ("It will appear one per month") was later dropped as extravagantly optimistic.

Further problems arise from the idiotic practice of not numbering the plates.²¹ The only way in which plates can be referred to is via the number of the adjacent text, and by no means all copies are bound up in identical fashion. There are sometimes two or more text pages devoted to a single plant, in which case successive leaves repeat the page number with one or more asterisks. Sometimes, however, the asterisk has been forgotten on either the folio or quarto edition. In the following table numbers enclosed in square brackets are missing from one or both editions and are supplied here for convenience of future reference. Fortunately the indices give both fascicle and plate numbers.

In addition to text and plates, a "complete" copy of the book has a title page, half title, preface and index. At least two title pages (dated 1799 or 1837) exist and three indices (to fascicles 1-20, 1-24 and 1-30). From the different types it appears that a former owner sometimes printed his own index. Copies are often bound as two volumes, but "Vol. I" and "Vol. II" has no bibliographic significance, as the break varies and depends on the completeness of the whole set.

Since many species are described and illustrated for the first time, it is important to know the exact date of publication of each plate. This is now possible for most plates, thanks to Mr. W. T. Stearn's valuable collation¹⁸ which is here slightly modified as a result of examining the unbound fascicles. For the issues after 1805 there is still some doubt: Stearn gives the date as 1829, Nissen as 1828-31 and Lasègue as 1832. 1828 is certainly incorrect as De Candolle in his memoirs states that he did not hear from Garnery until 1829 regarding its continuation.²²

A. P. DE CANDOLLE & P. -J. REDOUTÉ

Plantarum Succulentarum Historia ou Histoire Naturelle des Plantes Grasses

Collation of Plates

L = Large and S = Small paper editions

Fascicle and presumed date	Page	De Candolle's name	Modern name	Authority
1 Dec. 1798 or Jan. 1799	1	<i>Crassula coccinea</i>	<i>Rochea coccinea</i> (L.) D.C.	Harv. in Fl. Cap. II
	2	<i>Crassula acutifolia</i>	<i>Crassula acutifolia</i> Lam.	Schonl.
	3	<i>Talinum anacampseros</i> (<i>Portulaca anacampseros</i>)	<i>Anacampseros telephiastrum</i> D.C.	Berg.
	4	<i>Sedum aizoides</i>	<i>Aichryson x domesticum</i> Praeg. <i>aizoides</i> (Lam.) Praeg.	Praeg.
	5	<i>Mesembryanthemum</i> <i>calamiforme</i>	<i>Cylindrophyllum calamiforme</i> (L.) Schwant.	Berg. (as Mesem. calamiforme L.)
	6	<i>Mesembryanthemum</i> <i>dolabriforme</i>	<i>Rhombophyllum dolabriforme</i> (L.) Schwant.	Berg. (as Mesem. dolabriforme L.)
	7	<i>Crassula ciliata</i>	<i>Crassula ciliata</i> L.	Schonl.
	8	<i>Anthericum annuum</i>	<i>Bulbine annua</i> (L.) Willd.	Bak. in Fl. Cap. VI
	9	<i>Sesuvium portulacastrum</i>	<i>Sesuvium portulacastrum</i> L. sessile G. Don	Don III
2 1799	10	<i>Mesembryanthemum</i> <i>noctiflorum</i>	<i>Aridaria noctiflora</i> (L.) N. E. Br.	N. E. Br. in J. Bot. 1928
	11	<i>Mesembryanthemum</i> <i>aureum</i> (<i>Mesembryanthemum</i> in S)	<i>Lampranthus aureus</i> (L.) N. E. Br.	Berg. as Mesem. aureum L.
	12	<i>Cacalia kleinia</i>	<i>Senecio kleinia</i> (L.) Less.	Berg. as Kleinia neriifolia Haw.
	13	<i>Crassula perfoliata</i>	<i>Crassula perfoliata</i> L.	Schonl.
	14	<i>Anthericum frutescens</i> (<i>Bulbine caulescens</i>) Fig. 5	<i>Bulbine caulescens</i> L.	Bak. in Fl. Cap. VI
	15	<i>Aloe rubescens</i>	<i>Aloe vera</i> L. <i>officinalis</i> (Forsk.) Bak.	Berg.
	16	<i>Aloe viscosa</i>	<i>Haworthia viscosa</i> (L.) Haw.	Berg.
	17	<i>Mesembryanthemum</i> <i>geniculiflorum</i>	<i>Aridaria geniculiflora</i> (L.) N. E. Br.	N. E. Br. in J. Bot. 1928
	18	<i>Cacalia laciniata</i>	<i>Senecio articulatus</i> (L.f.) Sch. Bip.	Berg as Kleinia articulata (L.f.) Haw.
3 1799	19	<i>Crassula tetragona</i>	<i>Crassula tetragona</i> L.	Schonl.
	20	<i>Yucca aloifolia</i>	<i>Yucca aloifolia</i> L.	Trelease in 13th Ann. Rep. Miss. Bot. Gdn. 1902, 88.
	21	<i>Aloe variegata</i>	<i>Aloe variegata</i> L.	Reyn.
	22	<i>Sedum album</i>	<i>Sedum album</i> L.	Praeg.
	23	<i>Tetragonia decumbens</i>	<i>Tetragonia decumbens</i> Mill. <i>ovalifolia</i> Sond.	Sond. in Fl. Cap. II
	24	<i>Mesembryanthemum</i> <i>echinatum</i> (M. ech. luteum on S plate)	<i>Delosperma echinatum</i> (Ait.) Schwant.	Berg. as Mesem. echinatum Ait.
	25	<i>Crassula perfoffa</i>	<i>Crassula perfoffa</i> Lam.	Higgins in Nat. Cact. & Succ. J. X, 1955, 29.
	4 1799			
	5 1800			

Fascicle and presumed date	Page	De Candolle's name	Modern name	Authority
6 1800	26	Anthericum alooides	Bulbine alooides (L.) Willd.	
	27	Aloe vulgaris	Aloe abyssinica Lam.	Berg.
	27*			
	27**			
	28	Mesembryanthemum barbatum	Trichodiadema barbatum (L.) Schwant.	Berg. as Mesem. barbatum L.
	29	Mesembryanthemum stellatum	Trichodiadema hirsutum (Haw.) Stearn	Stearn ; N. E. Br. MSS as M. hirsutum Haw.
	30	Aizoon hispanicum (Airoon h. on plate)	Aizoon hispanicum L.	Don III
	31	Aloe marginalis	Lomatophyllum purpureum (Lam.) Dur.	Berg.
	32	Aloe ferox	Aloe ferox Mill.	Reyn.
	33	Sedum anacampseros	Sedum anacampseros L.	Praeg.
7 1800	34	Tetragonia crystallina	Tetragonia crystallina L'Her.	Don III
	35	Mesembryanthemum splendens	Aridaria plenifolia (N. E. Br.) Stearn	N. E. Br. in J. Bot. 1928 as A. fastigiata (Haw.) N. E. Br.
	36	Mesembryanthemum veruculatum	Ruschia verruculata (L.) Rowl.	See†
	37	Crassula lactea	Crassula lactea Ait.	Schonl.
	38	Aloe arborescens	Aloe arborescens Mill.	Reyn.
	39	Aloe humilis	Aloe humilis (L.) Mill.	Reyn.
	40	Sedum altissimum (Sempervivum sediforme)	Sedum sediforme (Jacq.) Pau	Praeg. (as Sedum altissimum Poir.)
	41	Mesembryanthemum bellidiflorum	Acrodon subulatus (Mill.) N. E. Br.	N. E. Br. in J. Bot. 1928
	42	Cacalia repens	Senecio serpens Rowl.	Berg. as Kleinia repens (L.) Haw.
	43	Crassula orbicularis	Crassula orbicularis L.	Schonl.
8 1800	44	Aloe rhodacantha	Aloe glauca Mill.	Reyn.
	45	Aloe retusa	Haworthia retusa (L.) Haw.	Berg.
	46	Euphorbia neriifolia	Euphorbia neriifolia L.	Berg.
	47	Mesembryanthemum expansum	Prenia pallens (Ait.) N. E. Br.	N. E. Br. in G.C. 1928; see also Bothalia I, 1922, 157.
	48	Cacalia cylindrica	Othonna cylindrica (Lam.) D.C.	Berg.
	49	Crassula spathulata	Crassula spatulata Thunb.	Schonl.
	50	Aloe arachnoides	Haworthia arachnoides (Ait.) Haw.	Berg.
	51	Aloe atrovirens	Haworthia herbacea (Mill.) Stearn	Stearn
	52	Cactus grandiflorus	Selenicereus grandiflorus (L.) Br. & R.	Br. & R.
	53	Mesembryanthemum deltoides	Oscularia majus (West.) Schwant.	N. E. Br. in J.L.S. 1920, 118 as Mesem. del- toides L. majus Weston
9 1800	54	Mesembryanthemum uncinatum	Ruschia uncinata (Mill.) Schwant.	Sond. in Fl. Cap. II as Mesem. uncinatum Mill.

†Ruschia verruculata (L.) Rowl. n. comb.
=Mesembryanthemum verruculatum L. in Sp. Plant. Edn. I, 1753, 486 ; Haw. in Misc. Nat. 1803, 81 ; Syn. Plant. Succ. 1812, 238-8 ; Revis. Plant. Succ. 1821, 155 (incl. α dillenii and β candollii) ; Sond. in Fl. Cap. II, 1862, 428 ; Berg. in Mesem. & Port. 1908, 126-7 ; L. Bolus in Notes on Mesem. I, 1928, 57.

Fascicle and presumed date	Page	De Candolle's name	Modern name	Authority
Dec. 1800 or Jan. 1801	55	Crassula rubens	Sedum rubens L.	Praeg.
	56	Aloe spiralis	Astroloba spiralis (L.) Uitew.	Berg. as Apicra spiralis (L.) Bak.
	57	Aloe margaritifera	Haworthia margaritifera (L.) Haw. minima (Ait.) Uitew.	Berg. as Haworthia margaritifera (L.) Haw.
	58	Cactus peruvianus	polyphylla (Haw.) Uitew. Cereus peruvianus (L.) Mill.	Salm-Dyck in Cact. in Hort. Dyck. 1849, 46 as Cereus peru- vianus Tabern.
	59	Cactus parasiticus	Rhipsalis fasciculata (Willd.) Haw.	Br. & R.
	60	Mesembryanthemum filamentosum	Erepisia mutabilis (Haw.) Schwant.	Berg. & N. E. Br. MSS. as Mesem. mutabile Haw.
	61	Crassula obvallata	Crassula obvallata L.	Schonl.
	62	Aloe rigida	Haworthia rigida (D.C.) Haw.	Berg.
	63	Aloe carinata	Gasteria verrucosa (Mill.) Haw.	Berg.
	64	Kalanchoe aegyptiaca	Kalanchoe aegyptiaca † D.C.	Berg.
11 1801	65	Kalanchoe spathulata	Kalanchoe spathulata † D.C.	Berg.
	66	Mesembryanthemum hispidum	Drosanthemum hispidum (L.) Schwant.	Berg. as Mesem. hispidum L.
	67	Crassula glomerata	Crassula glomerata L.	Schonl. (as "t.57")
	68	Aloe linguiformis	Gasteria sulcata (S.D.) Haw.†† ?	
	[68*]	Aloe linguiformis verrucosa	Gasteria angustifolia (Ait.) Haw.	N. E. Br. MSS.
	69	Cotyledon hispida (C. mucizonia)	Mucizonia hispida (Lam.) Berg.	
	70	Sedum villosum	Sedum villosum L.	Praeg.
	71	Mesembryanthemum linguiforme	Glottiphyllum longum (Haw.) N. E. Br.	N. E. Br. in J.L.S. 1920
	72	Mesembryanthemum pugioniforme	Conicosia sp. aff. fusiformis N. E. Br.	N. E. Br. in G.C. 1932
	73	Tillaea muscosa	Crassula muscosa (L.) Roth.	Don III as Tillaea muscosa L.
13 1801	74	Bulliarda vaillantii (Tillaea aquatica Lam non L. ; T. vaillantii Willd.)	Crassula vaillantii (Willd.) Roth	Schonl.
	75	Aloe plicatilis	Aloe plicatilis (L.) Mill.	Reyn.
	76	Cotyledon orbiculata	Cotyledon orbiculata L.	Harv. in Fl. Cap. II
	77	Euphorbia officinarum	Euphorbia officinarum L.‡	Berg.
	77*			
	78	Mesembryanthemum tuberosum	Mestoklema sp. aff. tuberosum (L.) N. E. Br.	N. E. Br. in G.C. 1936
	79	Crassula portulacea	Crassula argentea Thunb.	Schonl.
	80	Aloe serra	Aloe brevifolia Mill. depressa (Haw.) Bak.	Reyn.
	81	Aloe brevifolia	Aloe brevifolia Mill.	Reyn. non N. E. Br.§
	82	Mesembryanthemum tenuifolium	Lampranthus tenuifolius (L.) Schwant.	Berg. as Mesem. tenuifolium L.

† Referred to synonymy under K. laciniata (L.) D.C. by R. Hamet ; to K. crenata Haw. by Britten in Fl. Trop. Afr. II, 395.

†† Baker refers this plate to G. disticha Haw. in Fl. Cap. VI ; Berger doubtfully assigns it to G. angustifolia (Ait.) Haw.

‡ See L. Croizat "De Euphorbia Antiquorum" 1934, 95.

§ "Not of Miller, which has the leaves spaced, amplexicaul, and spotted with white and spiny on the upper surface." N. E. Br. MSS.

Fascicle and presumed date	Page	De Candolle's name	Modern name	Authority
	83	Mesembryanthemum coccineum†	Lampranthus coccineus (Haw.) N. E. Br.	Berg. as Mesem. coccineum Haw.
	84	Mesembryanthemum violaceum	Lampranthus violaceus (D.C.) Schwant.	Sond. in Fl. Cap. II as Mesem. violaceum D.C.
15 1801 or 1802	85 [85*]	Aloe soccotrina	Aloe succotrina Lam.	Reyn.
	86	Cotyledon tuberculosa	Cotyledon grandiflora Burm. f.	N. E. Br. MSS.
	87	Cotyledon hemisphaerica	Adromischus hemisphaericus (L.) Lem.	Berg.
	88	Mesembryanthemum nodiflorum	Mesembryanthemum nodiflorum L.	N. E. Br. in G.C. 1928 as Cryophytum nodiflorum (L.) N. E. Br.
	89	Mesembryanthemum acinaciforme	Semnanthe lacera (Haw.) N. E. Br.	N. E. Br. MSS., syn. Mesem. dimidiatum Haw.
	90	Cacalia ficoides	Senecio ficoides (L.) Sch. Bip.	Berg. as Kleinia ficoides (L.) Haw.
16 1802	91 92 [92*]	Aloe obliqua Sedum telephium	Gasteria pulchra (Ait.) Haw. Sedum telephium L. telephium	Berg. Praeg. as S. telephium L. purpureum (Link) Praeg.
	93	Sedum dasyphyllum	Sedum dasyphyllum L.	Don III. Untypical, over-grown plant.
	94	Mesembryanthemum tortuosum	Sceletium expansum (L.) L. Bol.	Berg. and N. E. Br. MSS. as Mesem. expansum L.
	95	Mesembryanthemum caninum	Carruanthus caninus (Haw.) Schwant.	N. E. Br. in J. Bot. 1928
	96	Pelargonium tetragonum (Geranium tetragonum)	Pelargonium tetragonum (L.f.) L'Her.	Harv. in Fl. Cap. I
17 1802	97	Aloe picta	Aloe sp. aff. saponaria (Ait.) Haw.	Reyn. (p. 290)
	98	Aloe umbellata	Aloe saponaria (Ait.) Haw.	Reyn.
	99	Aloe mitraeformis (A. mitriformis)	Aloe mitriformis Mill.	Reyn.
	100	Kalanchoe laciniata (Cotyledon laciniata)	Kalanchoe laciniata (L.) D.C.	Berg.
	101	Sedum aizoon	Sedum aizoon L.	Praeg.
	102	Mesembryanthemum cordifolium	Aptenia cordifolia (L.f.) N. E. Br.	N. E. Br. in G.C. 1928
18 1802	103	Rochea falcata	Crassula falcata Wendl.	Schonl.
	104	Sempervivum tectorum	Sempervivum tectorum L.	Praeg.
	105	Sempervivum montanum	Sempervivum montanum L.	Praeg.
	106	Sempervivum arachnoideum	Sempervivum arachnoideum L.	Praeg.
	107	Sempervivum hirtum	Sempervivum hirtum L.	Praeg.
	108	Mesembryanthemum corniculatum	Cephalophyllum loreum (L.) Schwant.	Sond. in Fl. Cap. II as Mesem. cornicu- latum L.
19 1803	109	Trianthema monogyna (T. portulacastrum)	Trianthema monogyna L.	Don III
	110	Sedum populifolium	Sedum populifolium Pall.	Praeg.

† Text of some copies of large paper edition only headed "Mesembryanthemum croceum D.C." in error.

Fascicle and presumed date	Page	De Candolle's name	Modern name	Authority
	111 111*	Cactus mammillaris	Mammillaria simplex Haw.	Br. & R. as Neo- mammillaria mam- millaris (L.) Br. & R.
	112	Cactus melocactus	Melocactus communis Lk. & Otto	Br. & R. as Cactus melocactus L.
	113	Tetragonia echinata (T. herbacea)	Tetragonia echinata Ait.	Sond. in Fl. Cap. II
	114	Tetragonia expansa	Tetragonia tetragonoides (Pallas) Kuntze	Don III as T. expansa Ait.
20 1803	115 116	Sedum rupestre Sedum reflexum	Sedum reflexum L. Sedum rupestre L.	N. E. Br. MSS. N. E. Br. MSS. non Praeg.
	[117] (as "17" in L.) 117*	Sedum acre	Sedum acre L.	Praeg.
	118	Sedum sexangulare	Sedum sexangulare L.	Praeg.
	119	Sedum saxatile	Sedum annuum L.	Praeg.
	120	Sedum atratum	Sedum atratum L.	Don III
21 1803	121 122	Crassula cordata Cotyledon hispanica (Cotyledon pistorinia)	Crassula cordata Thunb. Pistorinia hispanica (L.) D.C.	Schonl. Berg.
	123 123*	Portulaca oleracea	Portulaca oleracea L.	Sond in. Fl. Cap. II
	124	Euphorbia lophogona	Euphorbia lophogona Lam.	
	125	Sempervivum arboreum Inflorescence	Aeonium arboreum (L.) Webb & Berth.	Praeg.
	125*	Do. Branches		
22 1803	126	Furcroea gigantea (Agave foetida)	Furcraea cubensis Vent. inermis Bak.	J. R. Drummond in 18th Ann. Rep. Miss. Bot. Gdn. 1907, 72
	126*	Do. Flowering plant		
	127	Cactus flagelliformis ("flagilliformis" on plate)	Aporocactus flagelliformis (L.) Lem.	Br. & R.
	128 128*	Mesembryanthemum crystallinum	Mesembryanthemum crystallinum L.	N. E. Br. in G. C. 1928 as Cryophytum crystallinum (L.) N. E. Br.
	129	Mesembryanthemum brachiatum	Drosanthemum nitidum (Haw.) Schwant.	N. E. Br. in J. Bot. 1928 as Aridaria nitida (Haw.) N. E. Br.
	130	Mesembryanthemum striatum	Drosanthemum pallens (Haw.) Schwant.	Berg. as Mesem. stria- tum α pallidum D.C.
23 1803	131 132	Claytonia virginica Portulacaria afra (Claytonia portuiacaria)	Claytonia grandiflora Sweet Portulacaria afra Jacq.	Don III Berg.
	133	Crassula nudicaulis	Crassula nudicaulis L.	Schonl., who says : "Evidently grown in a damp atmos- phere . . ."
	134	Mesembryanthemum cuneifolium	Micropterum cuneifolium (Jacq.) Schwant.	
	135	Mesembryanthemum helianthoides	Carpantea calendulacea (Haw.) L. Bol.	N. E. Br. MSS.†

† "Carpantea candollei N. E. Br. (Mesemb. candollei Haw.)"

"=Macrocaulon candollei N. E. Br. This plate was published after 1806." Brown does not, however, indicate what the justification is for this later date.

Fascicle and presumed date	Page	De Candolle's name	Modern name	Authority
24 1804	136	Aizoon canariense	Aizoon canariense L.	Sond. in Fl. Cap. II
	137	Cactus coccinellifer ("cochenillifer" on plates)	Opuntia tomentosa S.D.	Br. & R. "fide Berger."
		In flower		
	137*	In fruit		
	138	Cactus opuntia nana	Opuntia humifusa Rafin.	Br. & R. as Opuntia opuntia (L.) Karst.
25 1804	138*	Cactus opuntia tuna	Opuntia vulgaris Mill.	Br. & R.
	[138**]	Cactus opuntia inermis	Opuntia stricta Haw.	Br. & R.
	[138***]	Cactus opuntia polyanthos	Opuntia tuna (L.) Mill.	Br. & R.
	139	Euphorbia meloformis ("Euforbia" on L text)	Euphorbia infausta N. E. Br.	N. E. Br. in Fl. Cap. V
	140	Euphorbia canariensis Habit	Euphorbia canariensis L.	Berg.
	140*	Do. Stem and flower close-up		
	141	Sempervivum canariense Inflorescence	Aeonium canariense (L.) Webb & Berth.	Praeg.
	[141*]	Do. Barren rosette		
	142	Mesembryanthemum pinnatifidum	Micropterum pinnatifidum (L.f.) Schwant.	Berg. as Mesem. pin- natifidum L.f.
	143	Sedum rhodiola (Rhodiola rosea) Male plant	Sedum rosea Scop.	Praeg. as Sedum roseum Scop.
26 1804		Female plant		
	143*			
	144	Euphorbia tridentata (E. anacantha Ait.)	Euphorbia tridentata Lam.	N. E. Br. in Fl. Cap. V
	145	Cactus phyllanthus (page heading) Cactus phyllanthus (in syns. and on plate)	Epiphyllum phyllanthus (L.) Haw.	Br. & R.
	146	Mesembryanthemum glaucum ("claucum" on S text)	Lampranthus glaucus (L.) N. E. Br.	Berg. as Mesem. glaucum L.
	147	Mesembryanthemum longistylum ("longiftylum" on S text)	Aridaria reflexa (Haw.) N. E. Br.	N. E. Br. in J. Bot. 1928
	148	Stapelia cespitosa (in text)	Duvalia radiata (Sims) Haw. hirtella (Jacq.) W. & S.	W. & S. ; N. E. Br. MSS. as "D. hirtella non D. coespitosa."
	148*	Stapelia coespitosa (on plate)		
	149	Stapelia variegata	Stapelia variegata L. planiflora (Jacq.) N. E. Br.	N. E. Br. in Fl. Cap. IV
	150	Euphorbia caput-medusae	Euphorbia bergeri N. E. Br.	N. E. Br. in Fl. Cap. V
27 1804 or 1805	151	Euphorbia uncinata	Euphorbia stellata Willd.	N. E. Br. in Fl. Cap. V
	152	Mesembryanthemum felinum	Faucaria felina (West.) Schwant.	N. E. Br. in J.L.S. 1920 as Mesem. felinum Hill.
	153	Mesembryanthemum spectabile	Lampranthus spectabilis (Haw.) N. E. Br.	Berg. as Mesem. spectabile Haw.
	154	Zygophyllum album	Zygophyllum album L.f.	Don I
	155	Sedum nudum	Sedum nudum Ait.	Praeg.
	156	Sempervivum tortuosum	Aichryson x domesticum Praeg.†	Praeg.
28 1805				

† N. E. Br. MSS. : "D.C. not of Ait. S. lindleyi Webb" (=Aeonium lindleyi Webb & Berth.).

Fascicle and presumed date	Page	De Candolle's name	Modern name	Authority
	157	Sempervivum monanthos	Monanthes polyphylla Haw.	Praeg.
	158	Mesembryanthemum micans	Drosanthemum micans (L.) Schwant.	Berg. as Mesem. micans L. "t. 167"
	159	Mesembryanthemum viridiflorum	Aridaria viridiflora (Ait.) L. Bol.	N. E. Br. in G.C. 1928 as Sphalmanthus viridiflorus (Ait.) N. E. Br.
29 ?	[160]	Stapelia hirsuta	Stapelia hirsuta L.	N. E. Br. in Fl. Cap. IV "not seen."
1829 plates ; 1832 text	[161]	Cactus royeri (C. lanuginosus)	Harrisia gracilis (Mill.) Br. & R.	Salm-Dyck in Cact. in Hort. Dyck. 1849, 44 as Cereus repandus Haw. non L.
	162	Umbilicus pendulinus	Umbilicus rupestris (Salisb.) Dandy	Dandy in Riddelsdell Flora of Gloucs. 1948, 622.
	[163]	Anthericum asphodeloides	Bulbine asphodeloides (L.) Spreng.	
	[164]	Mesembryanthemum lateriflorum	Drosanthemum erigeriflorum (Jacq.) Stearn	Stearn
	[165]	Mesembryanthemum scabrum	Lampranthus scaber (L.) N. E. Br.	
30 ?	166	Stapelia asterias	Stapelia asterias Mass.	N. E. Br. in Fl. Cap IV
1829 plates ; 1832 text	167	Stapelia reticulata (Huernia reticulata)	Huernia reticulata (Mass.) Haw.	
	168	Cotyledon unguata	Cotyledon decussata Sims†	
	169	Mesembryanthemum albidum	Machairophyllum albidum (L.) Schwant.	
	170	Mesembryanthemum tuberculatum (M. hispifolium)	Drosanthemum hispifolium (Haw.) Schwant.	Sond. in Fl. Cap. II as Mesem. striatum Haw. ♂ hispifolium S.D.
	171	Mesembryanthemum radicans	Disphyma australe (Sol.) N. E. Br.	
31 ?	172	Stapelia grandiflora	Stapelia grandiflora Mass.	N. E. Br. in Fl. Cap. IV
1829 plates ;	173	Talinum patens (T. paniculata ; Portulaca patens ; P. paniculata ; Rulingia patens)	Talinum patens Willd.	
1832 to 1837 text	174	Kalankoe crenata (Kalanchoe in L text)	Kalanchoe crenata Haw.	
	175	Reaumuria vermiculata	Reaumuria vermiculata L.	
	176	Mesembryanthemum lacerum (M. milleri ; M. gladiatum)	Semnanthe lacera (Haw.) N. E. Br.	
	177	Mesembryanthemum crassifolium	Disphyma crassifolia (L.) L. Bol.	Berg. as Mesem. crassifolium L. "t.175."
[32]	[178]	Stapelia punctata Fig. I	Piarranthus decorus (Mass). N. E. Br.	

† N. E. Br. MSS. : "C. spuria L."

Fascicle and presumed date	Page	De Candolle's name	Modern name	Authority
? never issued	[179]	<i>Sesuvium revolutum</i> Fig. 2	<i>Sesuvium portulacastrum</i> L.	Kew Index
No text seen	[180]	<i>Agave vivipara</i> Fig. 3		? Artistic chimaera†
	[181]	<i>Mesembryanthemum</i> apetalum	<i>Mesembryanthemum</i> <i>nodiflorum</i> L.	
	[182]	<i>Crassula scabra brevifolia</i> Fig. 4	<i>Crassula scabra</i> L. <i>minor</i> Schönl.	

† Unidentifiable : probably a rejected or suppressed plate. Mr. E. W. Macdonald has kindly compared this with the fine *Agave* collection at Kew for me and we agree that the rosette is not *A. vivipara* of any author. The inflorescence (which looks more like *Sempervivum* than any *Agavaceae*) was probably added to the original painting later from some misunderstanding between botanist and artist.

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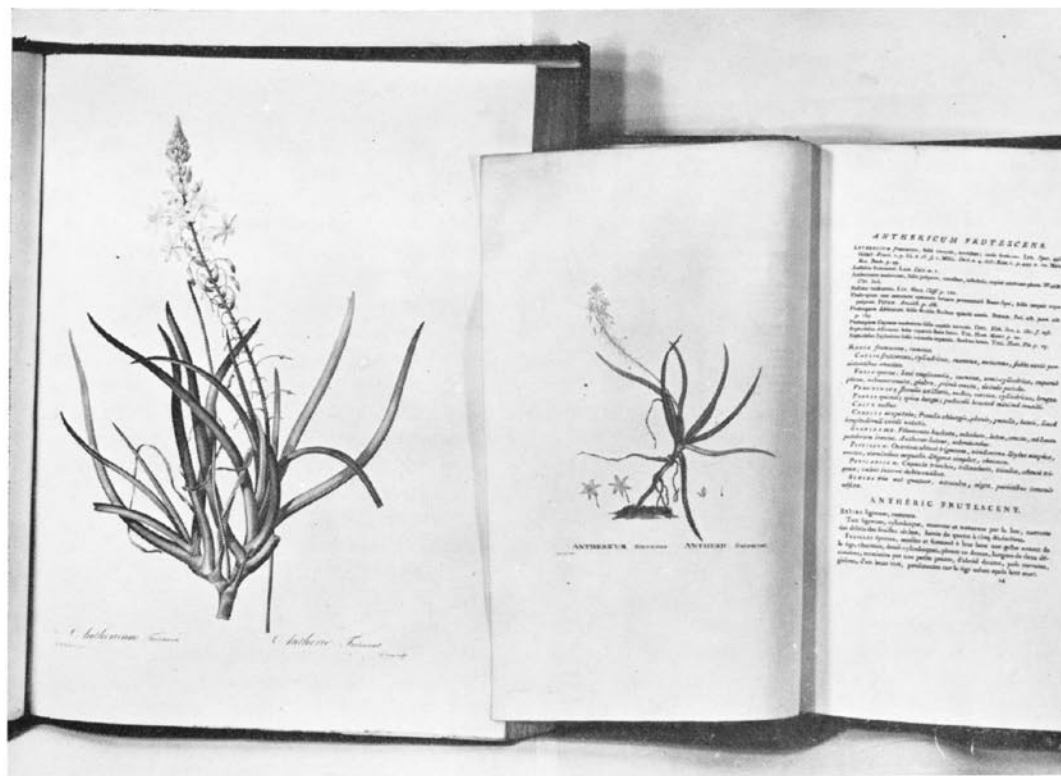


Fig. 5. PIERRE-JOSEPH REDOUTÉ — "Les Liliacées" (left) and "Plantes Grasses" (right). The same plant, *Bulbine caulescens* L., showing the gain in effect from the larger plate size.

II. OTHER ILLUSTRATIONS OF SUCCULENTS

The "Plantes Grasses" came as a welcome answer to Haworth's plea that his own monographs of succulents would one day be supplemented by illustrations. In turn these beautiful plates were to act as a source of inspiration to others. One such was the young Prince Salm-Dyck, who was so impressed with them that he became a friend and pupil of Redouté and eventually produced a splendid "Monographia Generum Aloes et Mesembryanthemi" with 352 illustrations, all by his own hand.¹⁸

However, Redouté produced other works beside which even the "Plantes Grasses" was eclipsed in grandeur and opulence. Two reasons contribute to this eclipse. The first is the plants themselves. Succulents do not lend themselves to the flamboyance of display of lilies and roses, and while offering a greater challenge to the artist the result has less immediate and universal an appeal to the public eye. Second, and in part as a result of this, the other books mostly adopted (at least in their de luxe editions) a large page and plate size. Just how great a difference this can make is seen by comparing side by side the succulents figured in both "Les Plantes Grasses" and the large paper edition of "Les Liliacées" (Fig. 5). In every case the plate in the latter work is double the size and has a wealth of minute detail and shading, a superb sweep and splendour that make its counterpart seem mean and pinched by comparison, in spite of the inclusion here of dissections and enlargements to add botanical interest in the smaller book. The eight succulents included in this work are:—

P. -J. REDOUTÉ		Les Liliacées* 1802-16 8 Vols.	
		Text by A. P. De CANDOLLE et alia.	
Vol.	Plate	De Candolle's name	Modern name
5	[283]	<i>Anthericum alooides</i> (plate)	<i>Bulbine alooides</i>
		<i>Anthericum alooides</i> (text)	(L.) Willd.
		(c.f. Pl. Gr. 26)	
		Authority	
		Bak. in Fl. Cap. VI	

* It would be churlish and ungallant to ask what *Agaves* and *Furcraeas* are doing in a book entitled *Liliaceae*.

An artist of Redouté's standing could get away with Bananas and Pondweeds in the Lily family if he wanted to—in fact, he actually does! (Plates 443-4, 206). One glance at this sumptuous production and all such quibbles dissolve like icicles before a furnace.



Fig. 6. PIERRE-JOSEPH REDOUTÉ — "Les Liliacées" *Agave brachystachys* Cav.

Vol.	Plate	De Candolle's name	Modern name	Authority
	[284]	<i>Anthericum frutescens</i> (c.f. Pl. Gr. 14) Fig. 5	<i>Bulbine caulescens</i> L.	Bak. in Fl. Cap. VI
6	328 329	<i>Agave yuccaefolia</i>	<i>Agave yuccaefolia</i> D.C.	Berg.
7	[397]	<i>Anthericum annuum</i> (c.f. Pl. Gr. 8)	<i>Bulbine annua</i> (L.) Willd.	Bak. in Fl. Cap. VI
	[401- 402]	<i>Yucca aloifolia</i> (c.f. Pl. Gr. 20)	<i>Yucca aloifolia</i> L.	Trelease in 13th Ann. Rep. Miss. Bot. Gdn. 1902, 88.
8	[423]	<i>Anthericum longiscapum</i>	<i>Bulbine altissima</i> (Mill.) Fourc.	Bak. in Fl. Cap. VI as <i>B. longiscapa</i> Willd.
	[476]	<i>Furcraea gigantea</i> (non Pl. Gr. 126, 126*)	<i>Furcraea gigantea</i> Vent.	J. R. Drummond in 18th Ann. Rep. Miss. Bot. Gdn. 1907, 72.
	[485]	<i>Agave spicata</i> Fig. 6	<i>Agave brachystachys</i> Cav.	Berg.

The same work contains superlative portraits of Bromeliads, Sansevierias and other occasional inhabitants of succulent collections.

Redouté's first published coloured illustration of a succulent seems to be that of *Cacalia articulata* L. (= *Senecio articulatus* (L) Sch. Bip. ; c.f. Pl. Gr.18), the well-known "Candle Plant." It appears as Plate LXXXIII of L'HÉRITIER'S "Stirpes Novae aut minus cognitae illustravit," a beautiful flower album of 90 plates published in Paris in 1784-5, of which 54 of the plates are signed by Redouté. The plant is accurately portrayed although a little drawn up by lush cultivation. No other succulents are in this book.



Fig. 8. *Nyctocereus serpentinus*
(Lag. & Rodr.) Br. & R.



Fig. 7. *Nopalxochia phyllanthoides* (D.C.) Br. & R.

PIERRE-JOSEPH REDOUTÉ — Cacti from Bonpland's "Description des Plantes Rares . . .".

The finest of his cactus studies are two plates in a folio volume by BONPLAND, "Description des Plantes rares cultivées à Malmaison et à Navarre" (Figs. 7-8). This came out in parts between 1812 and 1817, and 54 of its 64 coloured plates are by Redouté. The succulents are :—

Plate	Date	Bonpland's name	Modern name	Authority
3	1812	Cactus speciosus Fig. 7	Nopalxochia phyllanthoides (D.C.) Br. & R.	Br. & R.
36	1814	Cactus ambiguus Fig. 8	Nyctocereus serpentinus (Lag. & Rodr.) Br. & R.	Br. & R.
37	1814	Cotyledon tardiflorum	Cotyledon paniculata L.f.	N. E. Br. MSS.

Another lavish florilegium with 89 of its coloured plates by Redouté is VENTENAT'S "Jardin de la Malmaison" in two volumes folio, 1803-5. Three of these plates are beautiful and lifelike studies of succulents :—

Plate	Date	Ventenat's name	Modern name	Authority
49	1804	Cotyledon crenata	Kalanchoe crenata Haw.	Britten in Fl. Trop. Afr. II
65	1804	Pelargonium radicum (Geranium ciliatum)	Pelargonium radicum Vent.	Harv. in Fl. Cap. I
109	1805	Mesembryanthemum carinatum	Semnanthe lacera (Haw.) N. E. Br.	Sond. in Fl. Cap. II

Probably this does not exhaust the list, which could be greatly extended if monochrome plates were also considered. It is a little odd to have to admit that Redouté's finest published pictures of succulents are not to be found in the one book devoted especially to them at all !

INTERPRETATION

Flowers may be portrayed on a two-dimensional sheet of paper in various ways and to suit various tastes. A botanical drawing may boast little in the way of art, while the opulent canvasses of Van Huysum could scarcely be used to illustrate a flora or monograph. A degree of accuracy, of nature-copying, is inherent in both, but even that can be overdone if too much insisted upon. As early as 1530 Weiditz, who made the woodcuts for Brunfel's Herbal direct from nature, engraved plants that were obviously wilted or had the foliage diseased or nibbled. Few puritans would deny the artist the privilege of making good such flaws, otherwise we could dispense with his services in favour of a photographer. Interpretation, then, or "rubato," is the important point here. A painting or drawing can be made to satisfy both botanist and artist, but often one has to suffer at the expense of the other. Truly great flower painters are few in number, and their published work may be but a small or untypical part of their output, or ruined by coarse engraving and poor colouring. Certainly no estimate of Redouté's stature as a flower painter would be complete without studying the vellums in the Paris Museum and private collections. Here my aim is altogether more modest, and confined to notes on the value of his pictures of succulents as compared with his non-succulents, and with the succulents of other artists.

The more extreme succulent plants, because of their condensed form, simplicity of outline and intensified geometrical patterns, pose special problems in delineation. As anyone can find out who tries to sketch a *Mammillaria*, a steady hand and complete mastery of perspective and parallel lines are needed. The very stiffness and symmetry which is so characteristic a feature and endears them to their admirers can be anathema to an artist accustomed to the informality of a rose or a ranunculus. And so it was, I think, to Redouté, who exercised his genius on proving that the cactus is no less easy to apotheosize than any other flowering plant, and in similar fashion. We can see evidence of this in two ways : his choice of plants, and his treatment of them on paper.

An analysis of the plants grouped together in the "Plantes Grasses" reveals a curious and surprising situation. Only 30 stem succulents are included, mostly toward the end of the work, and the remaining 84% of the plates are of leaf-succulents plus one or two mesophytes. There are several plants like *Aizoon*, *Tetragonia* and *Trianthema* on the borderline of succulence and horticulturally uninspiring, but almost a complete absence of the dwarf, highly specialised, xerophytic Ficoidaceae like *Conophytum* and *Argyroderma*, and of globular cacti. By modern standards the Malmaison collection would be considered dull and untypical of succulents as a whole. Now why is this ? It could be because the more extreme succulents (which we know from Aiton and Haworth to have been in cultivation then) were not available to Redouté, or were beyond the skill of the Malmaison gardeners to grow. Since some of the plates show drawn and over-lush specimens, there is some support for this. But I think it more probable that Redouté picked just those plants least removed from their mesophytic ancestors as most amenable to what has been called his "feminine" style of presentation. We know that he had first choice of the plants for painting, not the botanist, who was called in afterwards to fit a literary frame to the masterpiece. Where he does undertake stiff, formal subjects like *Euphorbias* and cacti, we can marvel how skilfully he softens the rigidity and starkness with but the least departure from botanical accuracy. A Redouté *Opuntia* is still an *Opuntia*, but it looks fit almost for a lady's corsage. His cacti are beautiful in spite of their spines—not because of them.

In this respect it is instructive to compare his cacti with, for example, the famous steel engravings of George Engelmann's books, which in their own right deserve equal praise. In the Engelmann plates the spines are everything : a quite different type of beauty emerges from their interplay and extraordinary profuseness. If I may be forgiven a musical analogy here, the difference is as great as that of Sibelius interpreted by Beecham and by Serge Koussevitsky : the former links him with the nineteenth century romantics, the latter establishes him firmly among contemporary composers.

In daring to criticise Redouté's approach to succulents I hasten to add how much, in such a controversial subject, depends on personal tastes. A few will turn to Ehret, Jacquin and even the humbler Botanical Magazine and Britton & Rose plates for the truest illustrations of succulents, whereas others—notably those who share his

aesthetic approach, or regard succulents merely as the ugly matrix to a beautiful bloom—will continue to enthrone Redouté as exponent supreme.

Redouté's art lives on today as ever, surviving changes of fashion and plant nomenclature. Unhappily for the botanist his books are much in vogue as collectors' pieces, and when fine copies come on the market the bidding can be expected to rise to the four-figure level. Even single plates, once a feature of Paris bookstalls along the banks of the Seine, are no longer cheap or easy to get. However, the books can be consulted in the larger libraries, though not always under ideal lighting conditions. The Ariel Press has recently issued first-class and very inexpensive reprints of some of Redouté's flowers and fruits,²⁴⁻²⁶ and so well reproduced by modern techniques as to invite comparison with the originals. It is to be hoped that public support will be strong enough to encourage them to extend this scheme to the succulents, which have never been re-issued.

SUMMARY

Over 200 published illustrations in colour of succulents by Pierre-Joseph Redouté have been examined and catalogued, together with their sources, dates and modern names. The greater number appeared in the *Plantarum Succulentarum Historia* (Plantes Grasses), usually cited under the authorship of A. P. De Candolle, who wrote nearly all the text. Thirty-one fascicles of six plates each* with text were published over about 32 years. Four additional plates, perhaps for a further but unpublished thirty-second fascicle, are reproduced here for the first time from a copy in the Library of the Royal Botanic Gardens, Kew.

Some aspects of Redouté's interpretation of succulent plants, and of succulent plant illustration in general are discussed.

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- 21 CALLÉ, J. *Bibliographie Plantarum Succulentarum Historia*. In "Cactus" No. 42, Dec. 1954, 141-3.
- 22 LÉGER, C. *Redouté et son Temps*. Paris 1945.
- 23 (Anon.) in *Kew Bulletin* 1927, Appendix 43-4.
- 24 An ideal introduction to Redouté's style with non-succulents are the Ariel Press, London, volumes of "Roses"
- 25 (1954, 25/-; popular edition by Foyle, London 1955, 15/-); "Roses II" (1956, 30/-) and "Fruits and
- 26 Flowers" (1956, 35/-), each with 24 full-size facsimile plates in colour.

* Seven in fasc. 12.

† A similar copy has also been seen at Oxford University Botany Department.