

THE CACTUS JOURNAL

Vol. 7

June, 1939

No. 4

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PUBLISHED BY THE CACTUS AND SUCCULENT SOCIETY OF
GREAT BRITAIN AT 28 NORTHAMPTON ROAD, CROYDON

Rush & Warwick (Bedford) Ltd., Harpur Printing Works, Bedford.

“Plantæ succulentæ, in Horto Alenconio.

Auctore H. A. Duval.

Parisiis apud Gabon et Socios. 1809”

A facsimile, with an introduction by William T. Stearn

(Lindley Library, Royal Horticultural Society, Westminster.)

THE credit of naming and separating from Aloë the now universally accepted genera *Gasteria* and *Haworthia* belongs to an obscure French doctor, **Henri Auguste Duval** (1777-1814) of Alençon in Normandy. Here, sometime before 1809, an enthusiastic gardener-botanist had got together a good collection of succulent plants. Duval's modest catalogue, *Plantae succulentae, in Horto Alenconio* (17 by 10 cm.; Paris, 1809) in which he listed these and various other plants and published the original descriptions of *Gasteria*, *Haworthia* and *Ligularia*, is among the rarest of all publications relating to succulents. It is so rare and little known that such comprehensive bibliographical works as G. A. Pritzel's *Thesaurus Literaturae botanicae* and the *Catalogue of Books*,*** in the *British Museum (Natural History)* do not mention it. As far as can be ascertained no copy is now to be found at Alençon, Amsterdam, Berlin, Geneva, Haarlem, Kew, Leiden or Paris. A distinguished French botanist has even called it “un mythe litteraire!” There is, however, a copy bound up with other small tracts in the library of the British Museum at Bloomsbury.

This copy is of special interest in that it formed part of the magnificent botanical library bequeathed to the British Museum by Sir Joseph Banks (1743-1820). Sir Joseph was for forty-two years President of the Royal Society. Although he published little himself, he was famed throughout Europe for his keen encouragement of scientific studies. He built up an unrivalled collection of books and specimens at his London residence in Soho Square, and generously made them and the services of his botanist-librarians (successively Solander, Dryander and Robert Brown) available to all scientific men of the day, British and foreign, who cared to take advantage of his well-known hospitality. Duval was among the many foreigners who sought publicity and preservation for their work by sending a copy to Sir Joseph. Duval also sent one to Adrian Hardy Haworth (1768-1833).¹ Probably he also sent copies elsewhere. So unimportant-looking a booklet had, however, as little chance of preservation as a nurseryman's catalogue or the seed exchange list of a botanic garden of the period, and Sir Joseph's copy seems to be the only one that has survived. From this, by kind permission of the British Museum authorities, the following facsimile has been prepared.

¹“Catalogue of the Succulent Plants in Horto Alenconio. . . . This work M. Duval obligingly sent to me through a stranger; and I soon after sent to him my *Synopsis Pl. Succ.*” (Haworth in *Philosoph. Mag.*, n.s. 2, 346; 1827). The preface to Haworth's *Synopsis* is dated “Nov. 1811,” so presumably he received Duval's work some time in 1811. C. L. Willdenow's “Bemerkungen über die Gattung Aloë” in *Berlin, Ges. Naturf. Freunde Mag.* 5, 163-283 (1811) on the other hand never reached Haworth at all (cf. Haworth, loc. cit.; 1827).

Haworth made Duval's *Plantae succulentae* known, at least by name, through citing it in his *Synopsis Plantarum succulentarum*, 44, 85, 90 (1812), and *Supplementum Plantarum succulentarum*, xv (1819) and *Saxifragæarum Enumeratio*, vii, 50 (1821) and in the *Philosophical Magazine*, new series, 2. 346 (Nov. 1827). He reprinted Duval's diagnoses of *Haworthia* and *Gasteria*. Duval dedicated to him the genus *Haworthia*, which corresponds to Haworth's *Aloë* sect. *Parviflorae*, and in 1812 he repaid the compliment by separating from *Stapelia*, under the name *Duvalia*, a group of succulent South African *Asclepiadaceae* which now comprises about fifteen species.²

Duval was evidently a keen and discriminating botanist. In 1786 Friedrich Kasimir Medikus (1736-1808) of Mannheim had broken the Linnean genus *Aloë* (which contained plants now referred to *Aloë* proper, *Sansevieria*, *Apicra*, *Gasteria*, *Haworthia* and *Kniphofia*!) into four genera (*Catevala*, *Kumara*, *Aloë* and *Acyntha*)³ but these were too ill-defined and his work too little known for them to be accepted by his contemporaries. Even Haworth, when in 1804 he published his monograph of *Aloë*,⁴ did not separate *Haworthia* and *Gasteria* as genera, although his sections *Parviflorae* and *Curviflorae* show that he knew their characters. It was left to Duval to give them their now generally accepted generic rank. His diagnoses contrast the more or less straight-sided regular perianth ("calyx") of *Aloë* with the pendent, curved, basally swollen perianth of *Gasteria* and the erect, more or less straight-sided, two-lipped perianth of *Haworthia*. The groups thus defined now include many more species than Duval and Haworth were acquainted with in 1809, and these species exhibit considerable diversity in leaf and habit; nevertheless in floral structure and colour they are surprisingly uniform. Duval was thus the first to appreciate fully the characters which later experience has shown to be the most constant and therefore significant for the recognition of these groups as genera. He also doubted whether *Pulmonaria maritima* should be kept in the genus *Pulmonaria*; to-day it is placed in another genus, *Mertensia*. A German botanist, Moritz Balthasar Borkhausen (1760-1806), had, however, anticipated him in referring the younger Linnaeus's *Saxifraga sarmentosa*, the well-known "mother of thousands" of cottage windows, to a genus of its own, distinct from *Saxifraga*. The group typified by this species, although a natural and easily recognisable one, is usually treated as a section of the large genus *Saxifraga*, namely section *Diptera* (Borkhausen) *Reichenbach*, with *Diptera* Borkhausen (1794) and *Ligularia* Duval (1809) as synonyms, and the name *Ligularia* Cassini (1816) non Duval has come into use for a genus of *Compositae* closely related to *Senecio*.⁶

² A. White and B. L. Sloane, *The Stapeliae*, 2nd ed., 2. 741-782 (1937).

³ F. K. Medikus, *Theodora speciosa, eines neues Pflanzen Geschlecht*, 65-96 (1786). *Catevala*, op. cit. 67, consisted of species now referred to *Aloë* and *Haworthia*; *Kumara*, op. cit. 69, to *Aloë*; *Aloë* amend Medik. to *Apicra* Haw. vix Willd., *Aloë*, *Haworthia* and *Gasteria*; *Acyntha*, op. cit. 76, to *Sansevieria*.

⁴ A. H. Haworth, "A new Arrangement of the genus *Aloë*, with a chronological Sketch of the progressive Knowledge of that Genus, and of other succulent Genera" (read Dec. 1801) in *Transact. Linnean Soc. London* 7. 1-28 (1804).

⁵ A. Engler and E. Irmischer, "Saxifragaceae—Saxifraga," 645, in Engler, *Das Pflanzenreich* IV. 117, II. (otherwise Heft 69): Leipzig, 1919.

⁶ H. Handel-Mazzetti, "Die chinesischen Arten der Gattung *Ligularia*" in Engler, *Bot. Jahrb.* 69. 95-142 (1938). The name *Ligularia* Cassini (*Compositae*), rendered invalid by the prior homonym *Ligularia* Duval (*Saxifragaceae*), has been proposed for conservation in *Kew Bull.* 1935. 425.

As a horticultural work Duval's *Plantae succulentae* is of considerable interest in showing what plants were to be found over a century ago in a small French provincial botanic garden. Despite the title, it lists many plants (about 70 out of a total 272) which would hardly be classified as succulents to-day. Imagine an exhibit at a cactus and succulent show consisting only of sprays of *Alstroemeria*, *Hydrangea* and *Tamarix* or pots of *Drosera rotundifolia*, *Parnassia palustris* and *Tradescantia virginiana*! Yet all these figure in Duval's list. The geographical origin of the plants listed is worthy of note. From early times down to about 1560, as Gregor Kraus has pointed out,⁷ the few plants to be found in European gardens were mostly native to Europe. Then European gardens began to draw upon the floral wealth of the Near East; 1560 to 1620 may be described as primarily an Oriental period. From the early seventeenth century onwards the introduction of new plants into Europe corresponds roughly with the progress of British, Dutch and French overseas expansion and exploration. The period 1620 to 1680 is one during which attention was focussed mostly upon herbaceous plants from eastern North America (Virginia and Canada), followed by a period, roughly 1680 to 1772, during which Cape plants and North American woody plants came more into prominence; the return of Capt. Cook and Sir Joseph Banks from Botany Bay inaugurated a New Holland period extending roughly from 1772 to 1820. During the twentieth century, as glasshouse construction improved and tropical and subtropical plants from Central and South America and the East Indies became available, interest in the, once popular Cape and Australian plants waned. Duval's Alençon catalogue portrays a garden of the Cape period. About one hundred and fifty of its plants are natives of South Africa. About sixty-odd—and few of these truly succulent—are natives of Europe. America contributes barely thirty, the Canaries seven, China and Japan only three. Of the richness of America in cacti hardly anything was then known, for the botanical exploration of Central and South America had hardly begun. The five cacti of the Alençon garden—*Aporocactus* (or *Cereus*) *flagelliformis*, *Selenicereus* (or *Cereus*) *grandiflorus*, *Rhipsalis baccifera* (syn. *Cactus pendulus*),⁸ ? *Opuntia humifusa*, *Nopalea cochenillifer*—are natives of readily accessible parts of North and Central America and the West Indies, and even in 1809 they had

⁷ G. K. M. Kraus, *Geschichte der Pflanzeneinführungen in die europäischen botanischen Gärten* (Leipzig, 1894); *Die bot. Gart. Univ. Halle* 2. 83-155 (1894).

⁸ *Rhipsalis baccifera* (J. Miller) Stearn, trans. nov.

Cassyta baccifera J. Miller, *Illust. Sex. Syst. Linn.* class IX. ord. 1 (1771-77), ed. German. per Borckhausen, t. 29 (1800).

Rhipsalis Cassutha Gaertner, *De Fruct. Sem. Plant.* 1. 137, t. 28 (1788); *Bot. Mag.* 58. t. 3080 (1831) as "*R. Cassutha*."

Cactus pendulus Swartz, *Nov. Gen. Sp. Plant. Prodr.* 77 (1788), *Fl. Ind. Occid.* 2. 876 (1800); Aiton, *Hortus Kew.* 2nd ed. 3. 178 (1811).

For further synonymy, distribution, etc., see K. Schumann, *Gesamtbeschr. Kakt.* 621 (1899), Britton & Rose, *The Cactaceae*, 4. 225 (1923).

Johann Sebastian Müller (1715—c. 1790), a German draughtsman and engraver who came to London from Nürnberg in 1744 and anglicised his name to John Miller, should not be confused with his contemporary, Philip Miller (1691—1771) of the Chelsea Physic Garden, whose works he helped to illustrate. His figure and description of *Cassyta baccifera* are obviously done from a living plant, almost certainly one cultivated at Chelsea or Kew, and as Gaertner later based his *Rhipsalis Cassutha* on a specimen sent from Kew by Sir Joseph Banks, the two names may actually have had the same type. Swartz (1800) cited both as synonyms of his *Cactus pendulus*; there seems no doubt about their belonging to the one species, which, according to Aiton, was introduced into cultivation from the West Indies by Philip Miller in 1758.

been for at least fifty years in English gardens. The pride of the Alençon garden was clearly its South African collection. And this, with its crassulas, haworthias, gasterias and mesembryanthemums (comprising species now referred to the segregate genera *Dorotheanthus*, *Argyroderma*, *Glottiphyllum*, *Cheiridopsis*, *Pleiospilos*, *Carruanthus*, *Faucaria*, *Stomatium*, *Machairophyllum*, *Acrodon*, *Micropterum*, *Skiatophytum*, *Rhombophyllum*, *Cylindrophyllum*, *Conophytum*, *Aethephyllum*, *Aptenia*, *Cryophytum*, *Apatesia*, *Carpanthea*, *Sceletium*, *Psilocaulon*, *Aridaria*, *Ruschia*, *Lampranthus*, *Delosperma*, *Erepsia*, *Cephalophyllum*, *Sphalmanthus*, *Drosanthemum*, *Trichodiadema*, *Disphyma*, *Eberlanzia*, *Malephora*, *Circandra*, *Conicosia*, *Carpobrotus*, *Oscularia* and *Prenia*) would be a creditable collection for a small botanic garden even to-day.

About Duval himself a little may be gleaned from his two other publications and contemporary records. He was born on April 28th, 1777 at Alençon and died on March 16th, 1814 at Paris. When he was thirteen the Paris mob stormed the Bastille. The revolt spread and, after the execution of Louis XVI in January, 1793, the young Republic faced a European coalition. A nervous and weakly lad, Duval was pressed into service like the rest. He took no part in the actual fighting but had charge of some branch of military administration. The medical and botanical studies nearer his heart were pushed aside for years, and when at last he took them up again, he did so with an ardour that endangered his health. At Paris, about 1802, he became a pupil of Louis Claude M. Richard (1754-1821), one of the best botanists of the day. Richard had studied intensively the structure of fruits. He promised the world a detailed, magnificently illustrated treatise but, owing to financial difficulties, it never appeared. The diligence of his pupil saved the results of his labour from oblivion, for Duval put in order the notes taken at his classes, induced him to revise and confirm them and then published them as a little volume entitled *Démonstrations botaniques, ou Analyse du Fruit* (111 pages; Paris, 1808). This brought considerable repute to both author and editor. A German translation *Analyse der Frucht und des Saamenkorn *** nach der Duval'schen Ausgabe übersetzt* (xvi + 216 pages; 1 folded plate; Leipzig) by Friedrich Siegmund Voigt appeared in 1811. In 1819 John Lindley, himself but a lad of nineteen, published an English translation entitled *Observations on the Structure of Fruits and Seeds* (xx + 100 pages; 6 plates; London and Norwich). Duval's medical studies culminated in his thesis, *Essai sur le Pyrosis ou Fer-Chaud* (44 pages, quarto; Paris, 1809) presented to the Paris Faculty of Medicine in February, 1809. It is concerned with a form of indigestion (heart-burn) from which he himself seems to have suffered much and it throws considerable light on his weak constitution. He died five years later. The authors of the brief biographical notes in A.J.L. Jourdan, *Dictionnaire des Sciences médicales, Biographie médicale* 3. 566 (1821) and F. Hoefer, *Nouvelle Biographie générale* 15. 518 (1856) rightly speak of him as one whose promise was never fulfilled. They mention his *Démonstrations botaniques* and *Essai sur le Pyrosis* but not his *Plantae succulentae*, the little tract which to-day constitutes his claim to remembrance. The essay on indigestion, which in the author's eyes probably seemed so very important, has long been forgotten. His interest in succulent plants has saved him from oblivion.

For the convenience of foreign readers, summaries in French and German follow.

SOMMAIRE

L'honneur de nommer et de séparer du genre Aloë les deux genres *Haworthia* et *Gasteria* aujourd'hui si bien connus par les cultivateurs des plantes grasses repose sur un médecin français presque enseveli dans l'oubli, Henri Auguste Duval, qui naquit en 1777 à Alençon et mourut en 1814 à Paris. Son petit catalogue des plantes grasses cultivées à Alençon (*Plantae succulentae, in Horto Alenconio*) en 1809 est probablement le plus rare de tous les ouvrages relatifs aux plantes grasses. La seule exemplaire connue se trouve à Londres (au British Museum, Bloomsbury) et autrefois fit partie de la bibliothèque botanique du célèbre Sir Joseph Banks (1743-1820). La plupart des plantes énumérées sont originaires du Cap de Bonne Espérance. Les 94 espèces de *Mesembryanthemum* (distribuées aujourd'hui entre 39 genres; voyez p. 108) contrastent d'une manière frappante avec les 5 espèces des Cactées (distribuées aujourd'hui entre 5 genres; voyez p. 107). A cette époque l'Amérique du Sud avait contribué peu aux serres de l'Europe. Les diagnoses des genres nouveaux révèlent l'esprit juste de l'auteur. Il fut un élève de L. C. M. Richard. En 1809 il a présenté à la Faculté de Médecine de Paris sa thèse de doctorate, un *Essai sur le Pyrosis ou Fer-Chaud*, qui renferme quelques renseignements autobiographiques. Evidemment il avait des connaissances fort étendues et promettait beaucoup, mais sa constitution était peu robuste et il mourut prématurément. Seulement le genre *Duvalia* (*Asclepiadaceae*) et la petite brochure reproduite ici nous rappellent so mémoire.

ZUSAMMENFASSUNG

Der Duval'sche Katalog der im Jahre 1809 in der nordfranzösischen Stadt Alençon kultivierten Sukkulente n pflanzen ist vielleicht die seltenste von allen Veröffentlichungen über Sukkulente n pflanzen, aber er enthält die originalen Diagnosen von drei neuen Gattungen (*Haworthia*, *Gasteria* und *Ligularia*) und auch einige neue Namenkombinationen. Daher ist ein Faksimileabdruck, mit einigen Besprechungen über das gartenbaugeschichtliche und botanische Interesse dieses kleinen Werkes und auch eine kurze Biographie von H. A. Duval (1777-1814), hier gegeben.

This facsimile, together with the introduction by W. T. Stearn, will be available as a reprint (price 1/-) to members and non-members of the Society on application to the Hon. Editor, Mrs. Vera Higgins, 28, Northampton Road, Croydon, Surrey.

PLANTÆ
SUCCULENTÆ,
IN
HORTO
ALENCONIO.
AUCTORE
H. A. DUVAL.

PARISIIS
APUD GABON ET SOCIOS.
1809.

Jos: Banks

“ Abscissæ vivunt sæpius per integrum annum.”

Dracæna Draco.
 Tradescantia Virginica.
 Commelina Africana.
 Zanonia.
 Alstroemeria Pelegrina.
 Yucca filamentosa.
 gloriosa.
 aloifolia.
 Agave Americana.
 Veltheimia viridifolia.
 glauca.
 Sansevieria guineensis.

ALOE.

Calyx petaloideus, rectus, cylindraceus, basi staminifer. Capsula parum costata. *Frutices caulescentes, floribus pendulis.*
 Aloe plicatilis.
 arborescens. *Haw.**

* Vide *Acta Societatis Linnæanæ*. v. 7.

Aloe mitræformis, *Haw.*
 obscura, *Mill.*
 glauca, *Haw.*
 vera, *Mill.*
 depressa, *Haw.*
 humilis, *Decand.*
 incurva, *Haw.*
 variegata.

GASTERIA.

Calyx petaloideus, curvus, obclavatus, basi staminifer. Capsula parum costata. *Fruticuli vix caulescentes, foliis Aloium; floribus pendulis. γαστήρ venter.*
 Gasteria angustifolia. Aloe Lingua angustifolia.
 Haw.
 longifolia. Aloe Lingua longifolia.
 Haw.
 nigricans. Aloe nigricans. *Haw.*
 obliqua. Aloe obliqua. *Haw.*
 carinata. Aloe carinata. *Haw.*
 verrucosa. Aloe verrucosa. *Haw.*

HAWORTHIA.

Calyx petaloideus, rectus, superne revolutus in duo labia, basi staminifer. Capsula in costas valde prominens. *Fruticuli vix caulescentes, foliis Aloiium, floribus erectis. In memoriam ADRIANI HARDY HAWORTH, botanici in succulentis celeberrimi.*

Haworthia major. Aloe margaritifera major.

Haw.

maxima. Aloe margaritifera maxima

Haw.

minor. Aloe margaritifera minor.

Haw.

arachnoidea. *Haw.* sub Aloe.

pumila. *Haw.* sub Aloe.

cymbiformis. *Haw.* sub Aloe.

retusa. *Haw.* sub Aloe.

triangularis. *Med.* sub Aloe, viscosa.

Haw. sub Aloe.

spiralis *Decand.* sub Aloe.

Basella alba,

rubra.

Phytolacca octandra.

decandra.

icosandra.

dioica.

Galenia Africana.

Pinguicula vulgaris.

Nolana prostrata.

Pulmonaria maritima: forsán alius generis.

Drosera rotundifolia.

longifolia.

lusitanica.

Parnassia palustris.

Dionæa Muscipula.

Clusia flava.

rosea.

Calophyllum Calaba.

Fagonia cretica.

Zygophyllum Fabago.

fætidum.

maculatum.

album.

Morgsana.

sessilifolium.

Arenaria peploides.
Tillæa muscosa.
Crassula coccinea.
 cynosa.
 argentea.
 perfoliata.
 tetragona.
 cultrata.
 punctata.
 cordata.
 orbicularis.
Cotyledon orbiculata.
 paniculata.
 fascicularis.
 spuria.
 hemisphærica.
 viscosa.
Rhodiola rosea.
Sedum Telephium.
 Anacampseros.
 divaricatum.
 populifolium.
 reflexum.
 anglicum.
 dasyphyllum.

Sempervivum arboreum.
 canariense.
 tectorum.
 globiferum.
 stellatum.
 arachnoideum.
 hirtum.
 sediforme.
 monanthos.
Penthorum sedoides.
Septas capensis : vix sui generis.
Heuchera Americana.
Saxifraga Cotyledon.
 Aizoon.
 mutata.
 Pensylvanica.
 sedoides.
 bryoides.
 stellaris.
 nivalis.
 Bellardi.
 umbrosa.
 cuneifolia.
 Geum.

Saxifraga oppositifolia.
 aspera.
 hirculus.
 Aizoides.
 autumnalis.
 rotundifolia.
 granulata.
 geranioides.
 rupestris.
 tridactylites.
 petræa.
 adscendens.
 cæspitosa.
 hypnoides.
 crassifolia.

LIGULARIA.

Calyx 5-phyllus, persistens. Petala 5, ligularia, duobus longe majoribus irregularia. Stamina 10. Capsula supera, 1-locularis, apice 2 rostris. *Herbæ sarmentosæ foliis variegatis, floribus scapo centrali paniculatis. Nomen a figurâ petalorum.*
 Ligularia sarmentosa. Saxifraga sarmentosa. Willd.

Tiarella cordifolia.
Mitella diphylla.
Chrysosplenium alternifolium.
 oppositifolium.
Adoxa moscatellina.
Hydrangea hortensis.
Cactus flagelliformis.
 grandiflorus.
 pendulus.
 opuntia.
 coccinillifer.
Portulaca oleracea.
 sativa.
 haliinoides.
 pilosa.
Talinum triangulare.
 cuneifolium.
 crassifolium.
 patens.
 fruticosum.

RULINGIA. Ehrh.

Calyx profunde 2-fidus. Petala 5. Capsula anguste conica, 1-locularis valvis 6 a basi spiritaliter dehiscentibus. Semina alata. *Fruticuli*

facie Crassularum, foliis confertis, stipulis ramentaccis.

Rülingia gibba. Portulaca Anacampseros, L.
filamentosa. Portulaca filamentosa.
*Haw.**

Montia fontana.

Tamarix Gallica.

Germanica.

Corrigiola littoralis.

Trianthes monogyna.

Claytonia virginica.

Caroliniana, *Michx.*

sibirica.

perfoliata. Duæ postremæ separari debent, ob habitum, et fructum 3-spermum.

Aizoon canariense.

Glinus lotoides.

Tetragonia expansa.

crystallina.

fruticosa.

decumbens.

herbacea.

* Vide ejus *Miscellanea Naturalia*.

Mesembryanthemum criniflorum.

testiculare.

linguæforme, *Haw.*

scalpratum, *Haw.*

latum.

longum.

rostratum.

compactum.

caninum.

felinum.

tigrinum.

murinum.

albidum.

bellidiflorum.

limpidum.

Tripodium.

dolabriforme.

difforme.

calamiforme.

minimum, *Haw.* Pessime descripsit WILLDENOW, foliis enim gaudet evidenter confluentibus.

pinnatifidum.

cordifolium.

Mesembryanthemum crystallinum.
 papulosum.
 sessiliflorum.
Helianthoides.
 pomeridianum.
 expansum.
 tortuosum.
 apetalum.
 copticum.
 ciliatum.
 caducum.
 geniculiflorum.
 clavatum.
 noctiflorum.
 umbellatum.
 coccineum, *Haw.*
 bicolorum, *Haw.* Hasce duas
 species perperam jungit
WILLDENOW.
 tuberosum.
 tenuifolium.
 stipulaceum.
 corniculatum, *Haw.*
 diversifolium, *Haw.*
 loreum.

Mesembryanthemum veruculatum.
 echinatum.
 viridiflorum.
 splendens.
 villosum. Flores rubicundos
 describit **WILLDENOW** :
 nostra planta, si plane ea-
 dem, petalis caret.
 micans.
 grossum.
 nodiflorum.
 læve.
 brachiatum.
 brevifolium.
 hispidum.
 striatum.
 barbatum, *Haw.*
 hirsutum, *Haw.*
 densum, *Haw.*
 falcatum.
 glomeratum.
 reptans.
 deflexum.
 australe.
 spinosum.

Mesembryanthemum *crassifolium*.
molle.
glaucum.
spectabile.
emarginatum.
aureum.
serratum.
scabrum.
bracteatum.
uncinatum, *Haw.*
perfoliatum, *Haw.*
pugioniforme.
filamentosum.
acinaciforme. Flos omnium
 quas vidi specierum max-
 imus, *Asteris Chinensis* :
 petalis aliis integris, aliis
 apice eroso-bifidis.
forficatum.
edule.
deltoides, *Haw.*
caulescens, *Haw.*
multiflorum, *Haw.*
præpingue, *Haw.*
tricolorum, *Haw.*

Mesembryanthemum *capitatum*, *Haw.*
pallens, *Haw.*
nodiflorum, *Haw.*
gramineum, *Haw.*
junceum, *Haw.*
flexuosum, *Haw.*

Glaux *maritima*.
Peplis *Portula*.
Samolus *valerandi*.
Euphorbia *mammillaris*.
heptagona.
Caput Medusæ.
clava.
tithymaloides.
mellifera.
picta, *Jacq.*
Peplis.
Paralias.
amygdaloides.