Botanical Watercolors

from the

Nationaal Herbarium Nederland

Botanical Watercolors from the Nationaal Herbarium Nederland

Catalogue of an Exhibition

29 April through 30 July 2004

James J. White and Lugene B. Bruno

with essays by Pieter Baas and Erik A. de Jong

Hunt Institute for Botanical Documentation

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COVER ILLUSTRATION:

5. [*Adenia cordifolia* Engl., Passifloraceae], watercolor by Johan Christian Peter Arckenhausen.

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PREFACE

The Hunt Institute is delighted to display a selection of artworks from the Nationaal Herbarium Nederland, dating from the 17th through 19th centuries. The artworks never have been seen in North America, and five of them are by the celebrated artist Pierre-Joseph Rédoute. The herbarium's 43 watercolors and five red chalk drawings on exhibit depict plants from Southeast Asia, the Mediterranean, North America, and particularly South Africa. Four of these paintings were published in *Rumphia* in the mid-19th century, and a few were published in modern facsimiles. Some of the paintings were made from specimens in the Leiden Botanical Garden at Leiden University; others were acquired by two 18th-century collectors.

Cees Lut, librarian of the Leiden University branch of the Nationaal Herbarium Nederland, has been working for more than forty years in the library, from 1988 as chief librarian. During his visit to the Hunt Institute in July 2001, the idea arose for an exhibition here of a small selection of the herbarium's vast collection of artworks. Mr. Lut played a crucial role in the organization of this exhibition.

Pieter Baas, director of the Nationaal Herbarium Nederland and professor of systematic botany at Leiden University, graciously provided an introduction to the herbarium, its history and collections. During his dissertation research in the early seventies, he specialized in the field of comparative plant anatomy, and from 1976 he has been the editor-in-chief of the *Journal of the International Association of Wood Anatomists*. He also has been associated for many years with international projects such as Flora Malesiana, Diversitas, and the Global Taxonomy Initiative.

We are also grateful to Erik de Jong, professor and associate director of Garden History and Landscape Studies at the Bard Graduate Center for Studies in the Decorative Arts, Design and Culture, in New York, for his essay. Professor de Jong has accepted the newly established Clusius Chair, an honorary professorship in garden history and landscape studies, at Leiden University.

Dan H. Nicolson, curator in the Department of Botany at the Smithsonian Institution, provided thorough taxonomic notes on the artworks, despite the disadvantage of seeing only digitized images. John V. Freudenstein, director of the Herbarium at Ohio State University, identified the African orchid. We acknowledge the invaluable assistance of Hunt Institute editor Scarlett Townsend for proofreading, archivist Angela Todd for translating the introduction of *Champignons du Luxembourg*, and graphics manager Frank Reynolds for photography.

— James J. White

44. [*Arctopus echinatus* L., Umbelliferae], watercolor by unknown artist.

NATIONAAL HERBARIUM NEDERLAND

The National Herbarium of the Netherlands (Nationaal Herbarium Nederland, NHN) is *the* research and expertise center on plant biodiversity in Holland. The herbarium was founded in 1999 as the decentralized merger of the three major herbaria of the Netherlands: the Rijksherbarium of Leiden University, the Herbarium Vadense of Wageningen University, and the Herbarium of Utrecht University. Jointly the NHN curates 5.5 million herbarium specimens and associated collections (wood samples, microscope slides, spirit collections, DNA bank, etc.) and has an active programme of expanding the collections through fieldwork and exchange. We attempt to share an increasing amount of information associated with these collections, including images of our type specimens, with colleagues and users worldwide on the internet (www.nationaalherbarium.nl). The Leiden University branch (NHN-Leiden) acts as coordinator of the NHN. The NHN-Leiden is currently housed in the Van Steenis building at the entrance of the BioScience park on the outskirts of Leiden, opposite the futuristic pseudo red-brick Rijnlandhuis. This modern venue betrays little of the long and checkered history of what lies behind its glittering glass façade.

On 31 March 1829 King Willem the First founded the Rijksherbarium (State Herbarium) in Brussels, at that time the capital of the Southern Netherlands, for the study of the plant resources of the Dutch Colonies, especially the Dutch East Indies. In June 1830, at the onset of the revolt that would result in the renewed separation of Belgium and the Netherlands, the herbarium collections were moved from Brussels to Leiden University, thanks to the intervention of P. F. B. van Siebold (1796–1866), who had just returned from his long sojourn in Deshima, Japan.

C. L. Blume (1796–1862), former director of the Botanic Garden in Buitenzorg (Bogor, Java, Indonesia), acted as the first director. The first collections consisted mainly of the material collected by Blume and by members of the National Science Commission for the Dutch East Indies, e.g., H. Kuhl (1796–1821), J. C. Hasselt (1797–1823), A. Zippelius (1797–1828), etc., mainly from Java, and the Japanese collections of P. F. B. von Siebold. Blume succeeded in substantially enlarging the collections. In 1832 the Leiden University Herbaria were added, including the van Royen Herbaria, which are especially important for Linnaean typification. Also included were the large collections of F. C. Splitgerber (1801–1845), which have great importance for Surinam botany. Furthermore, Blume obtained the private

NHN–Leiden

herbaria of J. A. Schultes (1773–1831) (the base for Schultes' and J. J. Roemer's *Systema Vegetabilium*, 1807–1830), C. H. Persoon (1761/1762–1836) (the base for Persoon's various publications on fungi), F. Dozy (1807–1856) and J. H. Molkenboer (1816–1854) (bryophytes), and duplicates of C. F. Ecklon (1795–1868) and C. F. P. Martius (1794–1868).

Some herbarium collections go back to the early history of Leiden University and the great scientists associated with the Medical Faculty and especially the Hortus Botanicus [Leiden Botanical Garden] (founded in 1590)—Paul Hermann (1646–1695), Herman Boerhaave (1668–1739), Adriaan (1704–1779) and David van Royen (1727–1799). Many of the historical watercolours in the present exhibit date from this earlier period, and some information on the oldest European botanical garden above the Alps is therefore appropriate in this brief introduction.

In 1590, the board of Leiden University obtained from the municipality of Leiden a space at the back of their Academy building in order to lay out a garden. The municipality wanted it to be a public garden, the university a herb garden for the instruction of their medical students. For the planting of and instruction about this garden, they set out to find a well-known person who knew about plants, had a university degree, and could also provide plant material. In 1590, after some disappointments, they found Carolus Clusius (Charles de l'Ecluse) ready to come to Leiden, although he did not arrive until the autumn of 1593, after sending a number of seeds in 1592—a list is kept in the archives of the Library of Leiden University. Clusius was one of the main renaissance botanists—he had travelled widely all over Europe, published original work (Flora Iberica) and translations of standard works by others, and kept up a vast worldwide correspondence. He also laid out a garden for the Emperor of Austria in Vienna, and that is how he came by his tulip collection, which was eventually planted in Leiden, thus forming the basis of the tulip trade in the Netherlands.

As Clusius (1526–1609) was not a young man when he came to Leiden, the university appointed an assistant, Dirck Outgaertszoon Cluyt (1546?–1598), a well known apothecary from Delft, where he owned The Pomegranate near the main square. Clusius and Clutius formed the first team of Prefect (scientific director) and Hortulanus (keeper of the garden), a system that has been maintained since then. Apparently, they got on well together, and it was Cluyt who, in 1594, presented the result of their cooperation to the university, a plan with carefully numbered beds, and a list of plants. This first garden has undergone many changes over the years, the first were already made when Paauw took over the responsibility for the garden in 1598—Paauw published his first printed catalogue in 1600, just after the building of a new and permanent orangery, the Ambulacrum, along the south side of the garden. However, in the 1930s, another couple of Prefect and Hortulanus, L. G. M. Baas Becking and H. Veendorp unearthed the original 1594 plan

Clusius Garden, Leiden Botanical Garden

from the library and set to work to lay out a reconstruction of the first Hortus Botanicus in Leiden. In recent years, the expertise of Clusius has assisted us again in interpreting the original plant list: a set of hundreds of watercolours has been found in Kraków, which were probably made under the supervision of Clusius in Flanders in the second half of the 16th century. Many of the plants depicted and described were present in the first layout of the Hortus Botanicus, so that these "Libri Picturati" are of great value to the Hortus Botanicus Leiden.

The NHN-Leiden Library is the largest botanical library in the Netherlands, specializing in the descriptive branches of systematics, morphology/anatomy, vegetation study, etc. The library contains more than 160,000 volumes of books and journals, 100,000 catalogued reprints, and also 100,000 microfiches. More than 1,000 current serials are acquired from sources worldwide. The library also contains many historical treasures, from the oldest plans of the Hortus Botanicus and 16th- and 17th-century herbals, to elegant *florilegia* with hand-coloured illustrations by famous botanical artists such as K. Keiga (1786–?), P.-J. Redouté (1759–1840) and Q. M. R. Verhuell (1787–1860). Recently the watercolors were restored with grants from the Mondriaan Foundation (the Netherlands). The *Icones* collection of botanical art and illustrations takes a special place of pride. The *Icones* date from the 1650s to the present and number between 40,000 and 45,000 pictures. Botanical illustration is still considered one of the best ways to depict a plant for taxonomic study, and we pride ourselves on still employing a number of fine botanical artists. The library also houses the libraries of the Royal Botanical Society of the Netherlands and the Netherlands Foundation International Nature Protection.

It is a pleasure and an honour to share a number of our historical treasures with friends and colleagues in the United States of America in this modest exhibition.

— Pieter Baas (Director, Nationaal Herbarium Nederland, Leiden)

PLANTS AS NATURE AND ART

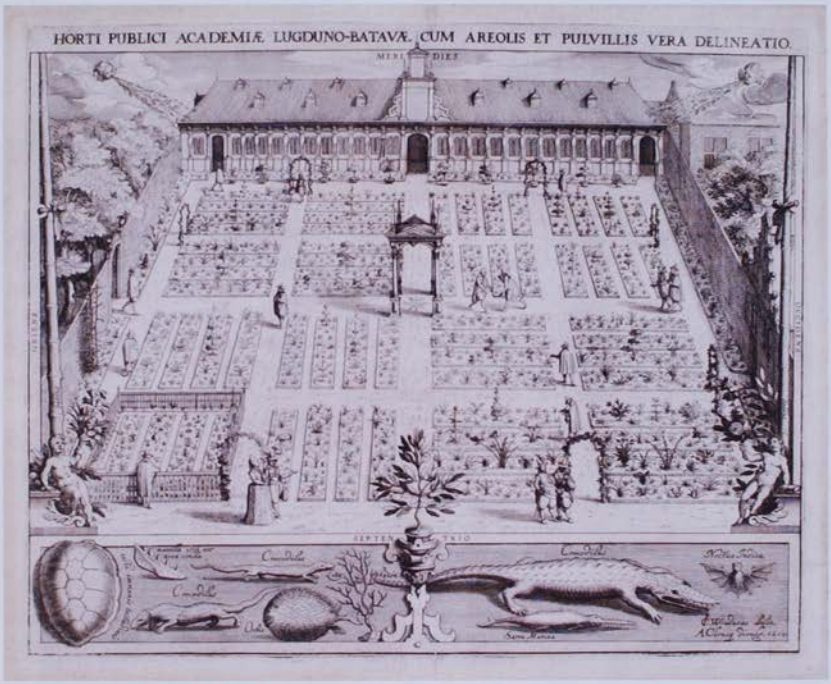
In our modern world of specialization with its specific distinctions between the sciences and the humanities, between nature and art, it is not always possible to return to a mentality that saw both these qualities as intrinsically intertwined. Through the 16th, 17th and 18th centuries, nature and art were considered to be the prime movers in creation. In things visible and invisible, nature demonstrated artistry, a creative force of Divine origin. Art in its imitation of nature and as a product of human intervention through craft and technology was closely linked to the processes of nature. Nature and art were understood to be in competition or commenting on each other. At other times they were thought of as complementary forces that mixed their distinct characters to become a transformed whole. Metamorphosis was essential for both, since art could take on the role of nature, and nature could be seen, and experienced, as art. As late as 1809, in his novel *Die Wahlverwandschaften*, Goethe, himself a botanist and scientist of renown, but also a great draughtsman and gardener, termed this process "elective affinity." He took his idea from observing chemical processes where substances are attracted to each other to the exclusion of others and then fuse in such a way that they yield a new substance. The attraction that exists between man and nature may, for example, lead to a change of natural landscape through human art, while art becomes affected through the forces of nature and landscape. In Goethe's novel, the result of that mutual merging through a process of transformation becomes a landscape garden, where nature has worked with art and art has improved nature, never able to surpass her, yet providing her with specific aesthetic sensibility and experience. With their boundaries effaced, something new has arisen between nature and art—the garden as an original substance, living, vibrant, integral.

Looking at examples of botanical illustration, such as those collected here from the Nationaal Herbarium Nederland, we see works of art illustrating nature. We are invited to test our botanical knowledge and curiosity, and if we lack such expertise, we admire the artist and his skill in conveying the essence of a plant. We may be unaware, however, whether we are admiring the beauty of the plant depicted or the technique and talent used to represent it: is it nature we see, or art—or perhaps both? It may come to us as a surprise when we realize that such a question arose as soon as a new sensibility towards the natural world came about in the 16th century—an interest in botany developed, the sciences tried to probe the mysteries of nature, and gardens, especially botanical gardens, were seen as collections of both art and nature.

In his colloquium *Convivium Religiosum* from 1522, Erasmus (1466–1536) unites humanistic friends in the garden of Eusebius. Their dialogue blends classical and Christian themes, involving the significance of nature, who "is not silent but speaks to us everywhere and teaches the observant man many things if she finds him attentive and receptive." In the garden fragrant herbs feast the eyes, refresh the nostrils and restore the soul. Gathered into "companies," they "speak" of their own properties. Around the garden, three galleries are painted, one with a grove of trees and birds, a second with plants, the third with lakes, rivers and seas and their inhabitants. Erasmus confronts living plants and flowers with a painted world of nature. The lesson here is that art may document and improve on nature where she fails and is imperfect, since "a garden isn't always green nor flowers always blooming," nor can the garden hold all plants, but they may be depicted that way and speak their language to the eye of the observer. Even more important is Eusebius' remark that "we are twice pleased when we see a painted flower competing with a real one. In one we admire the cleverness of Nature, in the other the inventiveness of the painter; in each the goodness of God, who gives all these things for our use and is equally wonderful and kind in everything." It is this purposefulness and ingenuity of both nature and art that is reflected in the garden, too. The geometric design of Eusebius' garden with its architecture and paintings is as harmonious as the plants assembled with their forms and colors.

Another humanist, Justus Lipsius (1547–1606) from Leiden, more than sixty years later, was struck by the neatness and order in the garden of his friend Langius, combined with the plenty of its living collection of plants. In his *On Constancie* (a dialogue between Lipsius and Langius, first edition in Latin, 1584), he wrote about the "exquisite neatnesse" of the garden that Langius shows him: "how proportionablie all things [are] disposed in their borders and places, that even checkerworke in tables is not more curious. Againe, what plenty is there of flowers and hearbes? What strangeness and noveltie?" The rare and new specimens of flowers and herbs—the variety of nature—find themselves held together in the firm order of the garden, while the ornamental and curiosity arousing beauty of both is compared with a work of exquisite human workmanship: the inlaid pattern of a wooden tabletop. But this comparison with craft and art is surpassed by another simile, intended to show the artfulness of natural creation. Lipsius calls the garden a heaven and explains: "neither doe the glittering starres shine clearer in a faire night, than your fine flowers glistering and shewing their collours with variety." The Leiden humanist rephrases here an idea of the Roman garden writer Columella (died around 60 AD), who, in his poem on the garden in the tenth book of his *De Re Rustica*, wrote that "'tis time to paint the earth with varied flowers, like stars brought down from heaven (*Pingite tunc varios, terrestria sidera flores*)." Nature is here the true artist:

she paints the brilliant, vibrant colors of flowers on the canvas of dark, black earth, just like the Creator as *Artifex* hung luminous stars on the night's sky. Lipsius would have been able to verify his ideas on such close connections between nature and art in his own garden and the Leiden Botanical Garden, both full of many new plants. The prefect of the Leiden Botanical
10 Garden, Carolus Clusius (1526–1609), used observation as his method to lay the foundation for the botanical sciences. Describing plants and other *naturalia* in his *Exoticorum Libri Decem* (1605), he regularly took recourse to the words *pulcher* (beautiful), *elegans* (elegant) and *venustas* (gracefulness) to write about the objects in front of him. Throughout the 17th and 18th centuries, new plant introductions, as part of the rising botanical sciences, combined with the making of gardens and collections, continued to be seen in this framework where art and nature were considered close allies.



Horti Publici Academiae Lugduno-Batavae Cum Areolis et Pulvillis Vera Delineatio [Botanical Gardens at Leiden], 1610 engraving with etching by Jan Cornelisz Woudt (Dutch, 1570–1615). Hunt Institute collection.

This particular fascination for rare and unknown plants becomes clear when we realize how their introduction rose formidably through the 16th, 17th and 18th centuries. It is thought that at the beginning of the 16th century roughly a thousand plants were known. At the end of that century the number had increased to around 6,000. In the Netherlands, travel, trade and an increasing scientific and artistic curiosity—part of an international network—were responsible for the introduction of plants from the Mediterranean and Turkey, then America, Asia and Africa. The United Dutch East India Company (founded 1602) was the primary vehicle for plant importation, bringing in plants from Japan, Indonesia, India, Sri Lanka, North and Central America, and South Africa, especially the Cape of Good Hope. The Leiden Botanical Garden (founded in 1590) saw its collection of plants rising from 1,060 species in 1594 to 1,100 in 1600, 1,500 in 1675, 3,000 in 1685 and 7,000 plants in 1740. Later in the 17th century the Hortus Botanicus of Amsterdam (laid out from 1683 onwards) became another center for the study and diffusion of these new species. Around these two gardens evolved a closely knit network of collectors, which included the princes of Orange, members of the court, as well as rich merchants and administrators. They all used the garden, often accompanied by larger collections of *naturalia* and *artificialia*, as an archive, a museum or microcosm of the world of nature and art. Among such collectors we find important women like Agneta Block (1629–1704). She avidly exchanged seeds, roots and plants with botanical gardens and collectors in Holland and Europe and had four hundred plants from her collections at her villa Vijverhof on the river Vecht drawn by such artists as Herman Saftleven (1609–1685), Mattias (1627–1703) and his daughter Alida Withoos (1659 or 1660–1715), Willem de Heer (17th century), Otto Marseus van Schriek (1619–1678), Maria Sibylle Merian (1647–1717) and her daughter Johanna Helena Herolt-Graff (1668–died after 1711). "*Fert Arsque Laborque Quod Natura Negat* (Art and labor will achieve where nature is unable to perform)," says the inscription on a medal struck in 1700 in Agneta Block's honor. With her portrait on one side, and Flora on the other standing in a garden with a tulip in her right hand and surrounded by exotic plants raised by Block in her greenhouse, the medal conveys the message that nature and art are inextricably linked. This message also is embedded in the botanic drawings of the rare and exotic plant species she had drawn. This was a practice shared by many other amateur and institutional collectors (sometimes draughtsmen themselves) before and after her, like Adriaan van Royen (1704–1779), Abraham Munting (1626–1683), and Nicolaas Meerburgh (1734–1814) at the botanical gardens in Leiden and Groningen and important private garden owners like Simon van Beaumont (1640–1726) and Hans Willem Bentinck (1649–1709), all names we encounter in this exhibition as former owners of the botanical drawings on exhibit.

Describing, recording and documenting species from the natural world by means of art, these drawings promised an accurate depiction of the original, done *ad vivum* or *naer het leven* ("after life," as the Dutch terminology had it at the time). Such images were read as an iconic correspondence to the original, ephemeral plant. The great 16th-century Italian collector Ulisse Aldrovandi (1522–1605) saw scientific illustration as a specialized genre of painting, provided it had been done through close study of the appearance of the living, or freshly cut, specimen. We often speak in this context as art serving science. From the long tradition that postulates an intimate relation between art and nature, we might also interpret this practice as human art in the service of the art of nature, embodying in the artful image all the natural properties of the original. Aldrovandi wrote: "There is nothing on earth that seems to me to give more pleasure and utility to man than painting, and above all paintings of natural things: because it is through these things, painted by an excellent painter, that we acquire knowledge of foreign species." His insight shows that the image was looked at as a true substitute for the original, for reasons of observation, study and identification. Perhaps even more than nomenclature, the image represented the living thing itself, with its medicinal or botanical properties. Agneta Block, as we know, knew no Latin and had thus no access to much of contemporary botanical science, but as an amateur she could, very much in Clusius' vein, understand the appearance of her plants through the close study of their beauty, elegance and gracefulness in both reality and art. We may now also understand why collections of such images formed an integral part with the living collections in a garden, whether private or a university garden used for teaching. Agneta Block refers repeatedly in her letters to her cumbersome, often failing greenhouse experiments, losing carefully raised exotic plants, which but through art could be kept alive in their rarity and splendor. Drawings were studied in winter, as part of the university's curriculum, when living plants could not be observed in the garden. It is the reason why such collections of drawings were formed by a university like Leiden, as this catalogue testifies. Carefully kept and handed over to next generations, these drawn collections of plants are archival gardens growing over time, documenting years of collecting and study, perhaps in an even more lasting way than collections of living plants that were passed down from generation to generation. Each paper leaf demonstrates that nature and art blend both in the natural original and in the artful nature of its image. Once part of an earth painted with flowers by nature herself, these drawn plants still shine forth "like stars brought down from heaven."

— Erik A. de Jong (Professor and Associate Director of Garden History and Landscape Studies, Bard Graduate Center for Studies in the Decorative Arts, Design and Culture, New York)

JOHAN CHRISTIAN PETER ARCKENHAUSEN

Goslar, 3 September 1784–Goslar, 28 April 1855

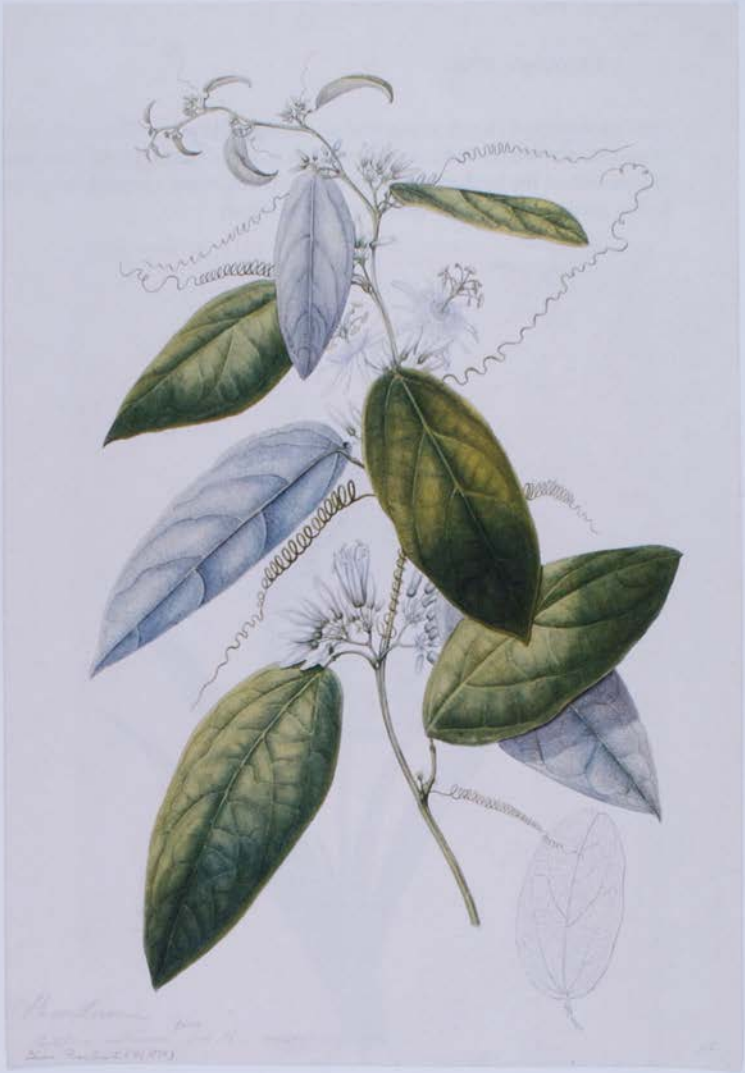
After 1827 the German botanical artist Arckenhausen worked on Carl Ludwig Blume's *Florae Javae* and *Rumphia* and collaborated with the German botanist Philipp Franz von Siebold in 1830. Most of Arckenhausen's watercolors are in the National Herbarium of the Netherlands, Leiden. 13

3. [*Aspidistra lurida* Ker Gawl., Liliaceae], watercolor by Johan Christian Peter Arckenhausen.

1. [*Hoya ariadna* Decne., Asclepiadaceae], watercolor by Johan Christian Peter Arckenhausen.

2. [*Hoya coriacea* Blume, Asclepiadaceae], watercolor by Johan Christian Peter Arckenhausen.

4. [*Strychnos ignatii* Berg], watercolor by Johan Christian Peter Arckenhausen.



6. [*Passiflora moluccana* Reinw., Passifloraceae], watercolor by Johan Christian Peter Arckenhausen.

S D M

ca.1620–ca.1700

18 This unidentified Dutch artist, whose monogram most prominently includes D and M, worked in 1690 on the order of A. Seba (1665–1736). The National Herbarium of the Netherlands has 27 gouaches, some certainly were made in the garden of Simon of Beaumont (the Hague).

Left: 9. [*Pancratium zeylanicum* L., Amaryllidaceae], watercolor by SDM.

Above: 8. [*Nerine sarniensis* (L.) Herb., Amaryllidaceae], watercolor by SDM.

7. [*Haemanthus coccineus* L., Amaryllidaceae], watercolor by SDM.

11. [*Euphorbia neriifolia* L., Euphorbiaceae], watercolor by SDM.

10. [*Ipomoea ochracea* G. Don, Convolvulaceae], watercolor by SDM.

Nicolaas Meerburgh

Leiden, 3(?) February 1734–20 March 1814

The Leiden Botanical Garden is much indebted to Nicolaas Meerburgh, who appeared to have been a gardener, illustrator, and botanist. His professional training was probably directed by the famous Adriaan Steckhoven (–1782), but little is known of his activities before he became *Hortulanus* [1775–1814] of the Botanical Garden, which was affiliated with the University of Leiden.

In 1775 Meerburgh was appointed "comptroller" of the university. In the same year, the first part of his major work, *Afbeeldingen van Zeldzaame Gewassen* was published; this book contained fifty hand-colored engravings of plants from the Leiden gardens. (The Latin edition *Plantae Rariores vivis Coloribus Depictae* has 55 engravings.) Nissen commented that Jacquin probably learned the beginnings of botanical painting from Meerburgh.

13. [*Pelargonium zonale* (L.) L'Hér.,Geraniaceae], watercolor by Nicolaas Meerburgh.

12. [*Pelargonium*, Geraniaceae], watercolor by Nicolaas Meerburgh.

Abraham Munting

Groningen, 3 June 1626–31 January 1683

Abraham Munting was a Dutch physician and botanist, born at Groningen in the northern part of the Netherlands, and director of the Groningen Botanic Garden from 1658 to 1683. Munting's etchings are distinctive for their landscape backgrounds and Latin names on ribbons or tablets.

18. [*Citrus aurantium* L.?, possibly a hybrid between *C. maxima* Merr. and *C. reticulata* Blanco, Rutaceae], red chalk drawing by Abraham Munting.

15. [*Musa* ×*paradisiaca* L., Musaceae], red chalk drawing by Abraham Munting.

16. [probably *Musa* ×*paradisiaca* L., Musaceae], red chalk drawing by Abraham Munting.

14. [*Asclepias syriaca* L., Asclepiadaceae], red chalk drawing by Abraham Munting.

17. [*Rivina humilis* L., Phytolaccaceae], red chalk drawing by Abraham Munting.

Pierre-Joseph Redouté

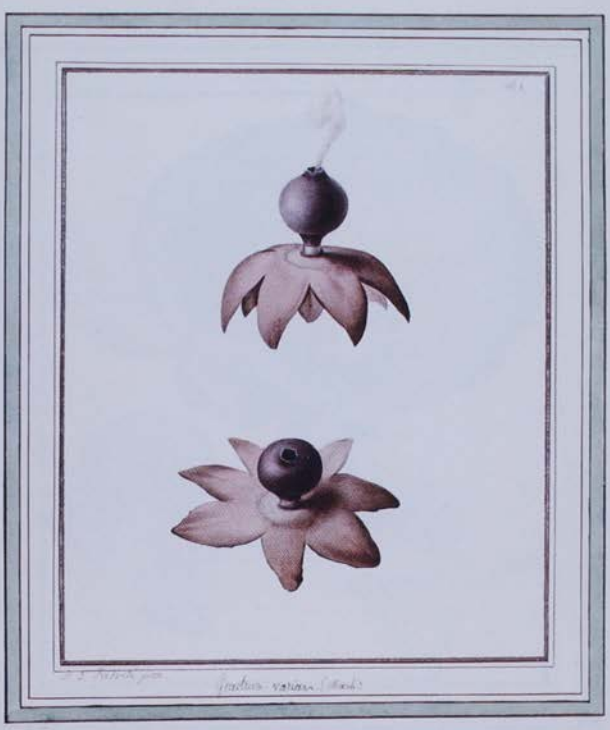
St. Hubert, Luxembourg, now part of Belgium,
10 July 1759–Paris, 20 June 1840

Probably the most famous of botanical artists, Redouté was called the "Raphael of the rose." At an early age, having been an itinerant artist and, with his older brother, a designer of stage scenery in Paris, Redouté discovered the "Jardin du Roi." There the young artist's promise was recognized by the wealthy amateur botanist L'Héritier de Brutelle, who instructed him in the essentials of botany, gave him access to his own fine library, and engaged him to make illustrations for his botanical texts. Gerrit van Spaendonck was also impressed by Redouté and befriended him, giving encouragement and training in art techniques to match L'Héritier's scientific instruction, and arranging Redouté's appointment to the staff of the Muséum at the Jardin. In his early Paris years, Redouté followed van Spaendonck's lead, painting in transparent watercolor and also adopting the stipple-engraving process.

Redouté had been appointed Draughtsman to the Cabinet of Marie-Antoinette (a meaningless title, since she is said to have hated pictures). Later, however, he found in Bonaparte's wife, Joséphine, a patroness, who acquired the estate at Malmaison in 1796 and engaged him, at a handsome salary, to record its plants. The magnificent folios published under Joséphine's sponsorship contain most of the finest color plates of his career: *Les Liliacées, Jardin de la Malmaison* (Paris, 1803–1805), *Description des Plantes Rares Cultivées à Malmaison et à Navarre* (Paris, 1812–1817) and *Les Roses* (Paris, 1817–1824).

Redouté's folio works—certainly among the most important monuments of botanical publication—established his fame and wealth. He was popular as a teacher (his pupils outranked even Ehret's; among them were two queens, two empresses and one claimant to the throne of France). His lectures at the Muséum were well attended. He was made a Member of the Légion d'Honneur in 1825 (along with Ingres, Sir Thomas Lawrence and other artists), and he continued to produce important publications. After Joséphine's death and the Empire's end, Redouté's habit of spending more than he earned finally led to financial embarrassment. He died in 1840, full of honors, but in poverty.

In 1825 Louis Marchand (1807–1843) and Redouté, both from Luxembourg, aged 18 and 60+ respectively, met in Paris and agreed that some of Redouté's paintings depicting mushrooms, along with artworks yet to be made, would illustrate a publication to be titled "Fascicule de Cryptogames du Grand-Duche de Luxembourg." The following year, Marchand, who had entered the University of Utrecht, showed a first memoir, adding to the title, "with the plates of the celebrated P. J. Redouté." In it Marchand described 19 mushrooms, 11 of them new to science. Because of political upheavals from 1830 to 1839, the work languished. Finally, the manuscript was published in 1989 as *Champignons du Luxembourg*.

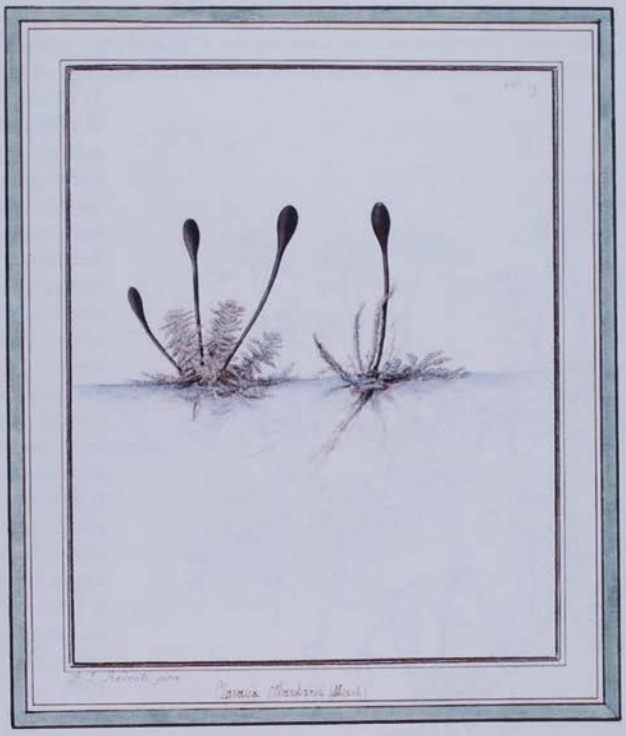


19. [*Geastrum*, Fungi, Gasteromycetes–Lycoperdales, earthstar], watercolor by Pierre-Joseph Redouté.

20. [*Gymnopus*, Fungi, Agaricaceae, oyster fungus], watercolor by Pierre-Joseph Redouté.

23. [*Morchella*, Fungi, Morchellaceae], watercolor by Pierre-Joseph Redouté.

21. [*Pratella*, Fungi, Agaricaceae], watercolor by Pierre-Joseph Redouté.



22. [*Clavaria*, Fungi, Clavariaceae]. watercolor by Pierre-Joseph Redouté.

Laurens Jacobs van der Vinne

Haarlem, 3 June 1712– Leiden, 27 May 1742

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Laurens Jacobs van der Vinne, the flower painter, was part of a famous Dutch family of artists, Mennonites from Harlem. About ten members of the family practiced as artists during the 17th and 18th centuries. Some members were also employed in the manufacture and sale of textiles. In 1735 Laurens settled at Leiden and became a member of the Lucas-guild. It is quite possible that these watercolors were made by order of Adriaan van Royen, who was professor at Leiden University from 1730 to 1754. The National Herbarium of the Netherlands possesses 14 watercolors of plants by van der Vinne's hand. In the collection of Leiden University is an oil painting of South African plants by van der Vinne (see Blunt, 1950, opp. p. 129).

27. [*Buphthalmum* or *Cladanthus arabicus* Cass., Compositae], watercolor by Laurens Jacobs van der Vinne.

28. [possibly *Salvia*, Labiatae], watercolor by Laurens Jacobs van der Vinne.

26. [*Echium plantagineum* L., Boraginaceae], watercolor by Laurens Jacobs van der Vinne.

29. [*Alcea ficifolia* L., Malvaceae, fig-leaved hollyhock], watercolor by Laurens Jacobs van der Vinne.

24. [*Sprekelia formosissima* (L.) Herb., Amaryllidaceae], watercolor by Laurens Jacobs van der Vinne.

25. [*Echium italicum* L., Boraginaceae, bugloss], watercolor by Laurens Jacobs van der Vinne.

Karel Borchaert Voet

Zwolle, 1670–1743

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Blunt (1950, p. 121) notes, "The talented Carel Voet entered at the age of nineteen the service of the Duke of Portland, the Dutch-born William Bentinck, and worked for him both in Holland and England; he also made a book of drawings of insects for William III."

Left: 30. [*Wachendorfia paniculata* L. Haemadoraceae], watercolor by Karel Borchaert Voet.

Right: 32. [*Robinia pseudo-acacia* L.? Leguminosae], watercolor by Karel Borchaert Voet.

Above: 31. [*Zantedeschia aethiopica* (L.) Spreng., Araceae], watercolor by Karel Borchaert Voet.

Right: 45. [*Hyobanche*, Scrophulariaceae, but looks like Orobanchaceae], watercolor by unknown artist.

Unknown

47. [prob. *Disa*, Orchidaceae], watercolor by unknown artist.

36. [Iridaceae], watercolor by unknown artist.

42. [*Rhoicissus capensis* Planch., Vitaceae], watercolor by unknown artist.

38. [*Putterlickia pyracantha* Endl., Celastraceae], watercolor by unknown artist.

43. [variously said to be *Protea repens* L., *Lepidocarpodendron* and *Protea mellifera* Thunb., Proteaceae], watercolor by unknown artist.

48. [*Lepidocarpodendron*. Proteaceae], watercolor by unknown artist.

41. [*Arctopus echinatus* L., Umbelliferae], watercolor by unknown artist.

40. [*Kedrostis nana* Cogn., Cucurbitaceae], watercolor by unknown artist.

37. [*Haemanthus rotundifolius* Ker Gawl., Amaryllidaceae], watercolor by unknown artist.

46. [*Euphorbia caput-medusae* L., Euphorbiaceae], watercolor by unknown artist.

33. [*Phaenocoma prolifera* D. Don. Compositae], watercolor by unknown artist.

35. [*Scabiosa* sp., Dipsacaceae], watercolor by unknown artist.

39. [*Chrysanthemoides monilifera* (L.) Norlindh, Compositae], watercolor by unknown artist.

34. [*Arctotis calendula* L., Compositae], watercolor by unknown artist.

Adriaan (Adrianus) van Royen (11 November 1704–28 February 1779), professor of botany at Leiden and director of its garden from 1731 to 1754, studied botany and medicine under the famous Boerhaave. He was a colleague of Linnaeus, who helped to rearrange the new garden according to a new system. According to Ewan (1970), van Royen's correspondence preserved in the National Archives, Leiden, offers evidence of contact with English amateur gardeners active in the exchange of seeds and plants. His collection of watercolors, acquired at auction, dates from 1730 to 1760. His nephew David van Royen (30 December 1727–1799), also a collector, studied medicine and obtained his M.D. degree at Leiden in 1752. David van Royen bought at least some of his watercolors, formerly the collection of Gerrit Ouwens, in the Hague in 1779. They are partial copies from the Codex Witsenianus.

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Johan Christian Peter Arckenhausen

1. *(page 14)* [*Hoya ariadna* Decne., Asclepiadaceae]. Published as "Hoya corona ariadnes" in Blume, *Rumphia* 4, t. 183. Watercolor. 41.5 x 29 cm.
2. *(page 15)* [*Hoya coriacea* Blume, Asclepiadaceae]. Published as "Hoya coriacea" in Blume, *Rumphia* 4, t. 187. Watercolor. 41.5 x 28.5 cm.
3. *(page 13)* [*Aspidistra lurida* Ker Gawl., Liliaceae]. "Aspidistra." Mabberley treats *A. lurida* Ker Gawl. as a synonym of *A. elatior* Bl. Watercolor. 42.5 x 29.5 cm.
4. *(page 16)* [*Strychnos ignatii* Berg]. "Strychnos tiente Tab. 24." Vietnam-Malesia. Watercolor. 44 x 30.5 cm.
5. *(cover)* [*Adenia cordifolia* Engl., Passifloraceae]. Published as "Modecca obtusa" in Blume, *Rumphia* 1, t. 48. Watercolor. 41 x 29 cm.
6. *(page 17)* [*Passiflora moluccana* Reinw., Passifloraceae]. Malesia. Published as "Passiflora moluccana" in Blume, *Rumphia* 1, t. 51. Watercolor. 41.5 x 28.5 cm.

SDM

7. *(page 20)* [*Haemanthus coccineus* L., Amaryllidaceae] [*Haemanthus catharinae*, according to the Seba facsimile; see bibliography]. "Hyacintho [note ij = y] affinus Africana tuberosa et bulbosa caule elegantissime maculato, foliis [Colegici?] latissimis—floribus coccineis hexapetalis umbellatis. H[orti] Beaum[ontiani] as Satyrium exoticum et Satyrium ex guinea, De Bry [Like Hyacinthus African tuberose and bullose, with stem very elegantly maculate, with leaves of Colegic [?] very broad—with flowers scarlet 6-petalled umbellate. Garden of Beaum[ont] as Satyrium exoticum and Satyrium ex Guinea, De Bry]." The line at bottom is difficult to interpret: "Hunc [de?] Chetoron [in Greek?] [?] Seb. in Mus. 1, tab. xii." South Africa. Reproduced in Seba facsimile, vol. 1, tab. 12. Watercolor. 36.5 x 23.5 cm. The sheet is folded once to make four pages; paintings on first and third pages, with second painting faintly visible through the painting displayed. Collection of David van Royen.
8. *(page 19)* [*Nerine sarniensis* (L.) Herb., Amaryllidaceae]. "Narcissus japonicus rutilo flore, Cornuti" [Japanese Nerine with reddish flower, of Cornut]. At bottom: "Figuier pictum Ektueth [?Greek] prostat [?] in Seb. Mus. [1?] tab. 17, fig. 3." South Africa. Reproduced in Seba facsimile, vol. 1, tab. 17. Watercolor. 36.5 x 24 cm. The sheet is folded once to make four pages; paintings on first and third pages, with second painting faintly visible through the painting displayed. Collection of David van Royen.
9. *(page 18)* [*Pancratium zeylanicum* L., Amaryllidaceae]. "Narcissus zeylanicus flore albo hexagono odorato. Herm[ann, Paul who did a Flora of Ceylon]: Hort. Lugd bat. [Ceylon narcissus with flower white, six-parted, odorous, of Hermann. From the Leiden [Botanical] Garden: Leiden in Latin was Lugduno-Batavorum]." South Asian? Watercolor. 36.5 x 24 cm. Collection of David van Royen.
10. *(page 22)* [*Ipomoea ochracea* G. Don, Convolvulaceae]. "Convolvulus Africanus s[eu]. Guinieensis pumilis sagitta foliis flore campanulato obselete luteo fundo purpurate. Horti Beaumontiani [African or Guinean Convolvulus with small sagittate leaves, with flower campanulate, barely yellow, purplish. From the Beumontian Garden]." The bottom line reads "est Prototypus figura B[eta] in Seb. Mus. 2 tab. 90." South Africa? Watercolor with S.D.M. almost obscured at base of image. 36.5 x 23.5 cm. Collection of David van Royen.
11. *(page 21)* [*Euphorbia neriifolia* L., Euphorbiaceae]. "Tithymalus Africanus arborescens spinosus foliosus lactescens et Euphorbium fundens. Horti Beaumont[iani] [African Tithymalus, tree-like, spinose, leafy, milky and like Euphorbia?]. From the Beaumont Garden]." The bottom line begins in Greek "Prototypo [?] fig. 1 et 2 in Seb. Mus. 1 tab. 9." South Africa? Watercolor with S.D.M. almost obscured at base of

image. 36.5 x 24 cm. The sheet is folded once to make four pages; paintings on first and third pages, with second painting faintly visible through the painting displayed. Collection of David van Royen.

Nicolaas Meerburgh

12. *(page 24)* [*Pelargonium*, Geraniaceae]. "Pelargonium lacerum wild [wit=white?] N 40 pedunculis paucifloris, foliis bipinnatifidis laciniis lanceolatis obtusis apice dentatis caule hirto [with few-flowered peduncles, with leaves twice-pinnatifid, the lacinie lanceolate obtuse dentate at the apex, stem stiff-haired]. N[icolas] Meerburg fecit." South Africa. Watercolor. 34 x 20.5 cm.
13. *(page 23)* [*Pelargonium zonale* (L.) L'Hér., Geraniaceae]. "Geranium zonale Linn. Spec[ies] plant[arum] [called this by Linnaeus in his *Species Plantarum* (ed. 1, 1753 or ed. 2, 1762)]. N. Meerburg." South Africa. Watercolor. 33 x 21 cm.

Abraham Munting

14. *(page 28)* [*Asclepias syriaca* L., Asclepiadaceae]. This North American native was misnamed by Linnaeus as "Syrian" because of a mistake in provenance. North America. Red chalk drawing. 39.5 x 25.5 cm.
15. *(page 26)* [*Musa ×paradisiaca* L., Musaceae]. "Musa." Drawing is not a good rendering of *Musa ×paradisiaca*. Linnaeus (1758) used *M. sapientum* (of the wise) to indicate it (the sweet, dessert banana) was eaten by the wise, as opposed to the starchy cooking banana used by the cave-dwellers (troglodytarum). Southeast Asia. "4" top right. Red chalk drawing. 33 x 21 cm.
16. *(page 27)* [probably *Musa ×paradisiaca* L., Musaceae]. Drawing is not a good rendering of the sweet banana, but clear enough. Southeast Asia. Red chalk drawing. 32.5 x 21 cm.
17. *(page 29)* [*Rivina humilis* L., Phytolaccaceae]. *Rivina* is a New World genus of only one species; with fruit red, and the source of dye. Red chalk drawing. 39 x 25.5 cm.
18. *(page 25)* [*Citrus aurantium* L.?, possibly a hybrid between *C. maxima* Merr. and *C. reticulata* Blanco, Rutaceae]. "Malus Aurantia Strûs Aureis distincta [with distinct gold striae (on fruit?)] Munt[ing]. Fol. 8. Fig. 1." The plant depicted is not recognized, but the flowers are typical Rutaceae and the winged petioles are common in *Citrus*. *Citrus aurantium* L. is called the Seville orange and sour orange. (See Mabberley, *The Plant Book*). Red chalk drawing. 33 x 21 cm.

Pierre-Joseph Redouté

(The plate numbers from *Champignons du Luxembourg* (1830) follow titles below):

19. *(page 31)* [*Geastrum*, Fungi, Gasteromycetes–Lycoperdales, earthstar]. "Geastrum varians (March.)." Watercolor signed P. J. Redouté. 32.5 x 24 cm. [Plate 1, "Geastrum varians"].
20. *(page 32)* [*Gymnopus*, Fungi, Agaricaceae, oyster fungus]. "Agaricus thiebautii (March.)." Watercolor. 30 x 24 cm. [Plate 12, "Agaricus (Gymnopus) Thiebautii"].
21. *(page 34)* [*Pratella*, Fungi, Agaricaceae]. "Agaricus dumortieri (March.), Ag[aricus] violacea-lamellatum." Watercolor. 31 x 24 cm. [Plate 14, "Agaricus (Pratella) Dumortieri"].
22. *(page 35)* [*Clavaria*, Fungi, Clavariaceae]. "Clavaria marchandii (March.)." Watercolor signed P. J. Redouté. 32.5 x 24 cm. [Plate 19, "Clavaria marchandii"].
23. *(page 33)* [*Morchella*, Fungi, Morchellaceae]. "Morchella favosa (March.), Morchella mesomorpha Pers. mycolog. europ. v. I. p. 206." Watercolor signed P. J. Redouté. 32.5 x 24 cm. [Plate 21, "Morchella favosa"].

Laurens Jacobs van der Vinne

24. *(page 40)* [*Sprekelia formosissima* (L.) Herb., Amaryllidaceae]. The genus contains only one species (Mexican), a cultivated ornamental with scarlet flowers. Watercolor signed Laurens van der Vinne and dated 1736. 44 x 28.5 cm.
25. *(page 41)* [*Echium italicum* L., Boraginaceae, bugloss]. Europe? Watercolor signed Laurens van der Vinne and dated 1736. 44 x 28.5 cm.
26. *(page 38)* [*Echium plantagineum* L., Boraginaceae]. The flowers change color, reddish at first and becoming blue. Watercolor signed Laurens van der Vinne and dated 1736. 43.5 x 28 cm.
27. *(page 36)* [*Buphthalmum* or *Cladanthus arabicus* Cass., Compositae]. East Mediterranean. The latter genus should have only one species in southern Spain and northwestern Africa (not in Arabia). Watercolor. 44 x 28 cm.

28. *(page 37)* [possibly *Salvia*, Labiatae]. Watercolor signed Laurens van der Vinne and dated 1736. 43.5 x 28.
29. *(page 39)* [*Alcea ficifolia* L., Malvaceae, fig-leaved hollyhock]. Mediterranean. Watercolor signed Laurens van der Vinne and dated 1736. 44 x 28 cm.

Karel Borchaert Voet

30. *(page 42)* [*Wachendorfia paniculata* L. Haemadoraceae]. South Africa. Watercolor signed C.B.V. 36.5 x 24 cm.
31. *(page 44)* [*Zantedeschia aethiopica* (L.) Spreng., Araceae]. South Africa. Called *Calla aethiopica* by Linnaeus. Watercolor. 37.5 x 24 cm.
32. *(page 43)* [*Robinia pseudo-acacia* L.? Leguminosae). This plant is a North American native now invasive in Europe. Watercolor signed C.B.V. 36.5 x 24 cm.

Unknown

33. *(page 56)* [*Phaenocoma prolifera* D. Don, Compositae]. South Africa. Watercolor. 42 x 27 cm. Collection of David van Royen.
34. *(page 59)* [*Arctotis calendula* L., Compositae]. "Anemone affinis, folia [?] Caput Bonae Espér[ance] [?] [?] in Horto medico Amsteoedamensis [from the Cape of Good Hope [cult.] in Medicinal garden of Amsterdam]." South Africa. Watercolor. 37.5 x 24.5 cm. Collection of David van Royen.
35. *(page 57)* [*Scabiosa* sp., Dipsacaceae]. "Pulsatilla Aethiopica flore purpurascentes plano N[B?]" Aethiopian. Watercolor. 38 x 24.5 cm. Collection of David van Royen.
36. *(page 47)* [Iridaceae]. "Sisyrinchium Aethiopicum flore ex luteo viridi." Aethiopian. Watercolor. 37.5 x 24.5 cm. Collection of David van Royen.
37. *(page 54)* [*Haemanthus rotundifolius* Ker Gawl., Amaryllidaceae]. Apparently first called *Crassula coccinea* L. and then *Haemataníhus coccineus* L. South Africa. "18" top right, "48" bottom left. Watercolor. 38.5 x 24.5 cm. Collection of David van Royen (formerly collection of G. Ouwens).
38. *(page 49)* [*Putterlickia pyracantha* Endl., Celastraceae]. Formerly *Celastrus pyracanthus* L. South Africa. "25" top right, "14" bottom left. Watercolor. 38 x 24.5 cm. Collection of David van Royen (formerly collection of G. Ouwens).
39. *(page 58)* [*Chrysanthemoides monilifera* (L.) Norlindh, Compositae]. Originally called *Osteospermum pisiferum* L. South Africa. "37" top right. Watercolor. 38 x 24.5 cm. Collection of David van Royen (formerly collection of G. Ouwens).
40. *(page 53)* [*Kedrostis nana* Cogn., Cucurbitaceae]. Originally called *Bryonia carnosa*. Old World. "14" top right, "40" bottom left. Watercolor. 38.5 x 24.5 cm. Collection of David van Royen (formerly collection of G. Ouwens).
41. *(page 52)* [*Arctopus echinatus* L., Umbelliferae]. Same as no. 44. South Africa. Watercolor. 32.5 x 22.5 cm. Collection of David van Royen (formerly collection of G. Ouwens).
42. *(page 48)* [*Rhoicissus capensis* Planch., Vitaceae]. "46" top right. Watercolor. 38 x 25 cm. Collection of David van Royen (formerly collection of G. Ouwens).
43. *(page 50)* [variously said to be *Protea repens* L., *Lepidocarpodendron* and *Protea mellifera* Thunb., Proteaceae]. South Africa. Watercolor. 39 x 25 cm. Collection Adriaan van Royen.
44. *(page 4)* [*Arctopus echinatus* L., Umbelliferae]. Same as no. 41. South Africa. Watercolor. 38 x 25 cm. Collection Adriaan van Royen.
45. *(page 45)* [*Hyobanche*, Scrophulariaceae, but looks like Orobanchaceae]. South Africa? Watercolor. 39 x 24.5 cm. Collection Adriaan van Royen.
46. *(page 55)* [*Euphorbia caput-medusae* L., Euphorbiaceae]. South Africa. This was considered an amazing plant from Africa. Watercolor. 32 x 21 cm. Collection Adriaan van Royen.
47. *(page 46)* [prob. *Disa*, Orchidaceae]. South Africa? Watercolor. 39 x 24.5 cm. Collection Adriaan van Royen.
48. *(page 51)* [*Lepidocarpodendron*, Proteaceae]. South Africa. Watercolor. 32 x 21 cm. Collection Adriaan van Royen.