Bradleya 20/2002
pages 79 – 120

Charles Plumier, the King's Botanist – his life and work. With a facsimile of the original cactus plates and text from *Botanicon Americanum* (1689-1697)

Roy Mottram
Whitestone Gardens, Sutton, Thirsk, North Yorkshire YO7 2PZ.

Summary: A facsimile of the original cactus plates and text from Plumier, *Botanicon Americanum* (1689-1697) is published for the first time. Analysis and identification of these plates is provided, together with an account of the life and travels of Charles Plumier (1646-1704).

Zusammenfassung: Zum ersten Mal wird ein Faksimile der ursprünglichen Kakteentafeln und des zugehörigen Texts aus Plumier, *Botanicon Americanum* (1689 – 1697) veröffentlicht. Die Tafeln werden analysiert und identifiziert, begleitet von einer Betrachtung zum Leben und den Reisen von Charles Plumier (1646 – 1704).

Introduction

It was 1671, and King Louis XIV planned to make his garden at Paris the envy of the world. The problem was that the new exotics arriving as a result of new exploration were not thriving in the garden as well as they did in the rival Italian gardens. His righthand man, Guy Crescent FAGON (Figure 1b), the newly appointed young superintendent of the garden, was highly skilled, but could not work miracles on plants that required protection from cold.

Then one day, on the arrival of a coffee-plant seedling from Holland, Fagon's assistant, Sebastien VAILLANT, a talented botanist, came up with the solution. Following the suggestions of his Dutch friends, he constructed a small glass house "tall enough for a shrub." Inspired by this, Fagon immediately ordered a range of vast, ventilated, glass buildings, heated by pipes. Greenhouses had arrived in the King's Paris garden, the small coffee plant grew tall, and tropical plants were now thriving.

Meanwhile the celebrated English physician and naturalist, Hans SLOANE, who had travelled in the West Indies in 1687-1689, brought back a wealth of material, including plants such as ferns, sixty examples of which Sloane sent to Tournefort. These were considered to be so impressive that it somehow became a matter of French national honour to discover more of them. Supported financially by the King, Fagon had few problems recruiting overseas collectors, particularly from the ranks of the clergy, who were often well equipped to perform the duties of a botanist. One such willing accomplice was Friar Charles PLUMIER (Figure 1a), who proved to be exceptionally gifted, not only in botany, but also as a skilled draughtsman.

Plumier was born in Marseilles on 20 April 1646. At the age of sixteen, he entered the Franciscan Order of Minims, a Catholic monastic order founded in 1453 in Italy, at first studying mathematics, the physical sciences and drawing. He also developed skills in the construction of instruments, and learned to use the lathe from his father, eventually writing the first comprehensive treatise on the subject, which was published in 1701. So good was this that it was translated into German and Russian, the latter being ordered by no less than Czar Peter I (1672-1725), who was himself an accomplished turner.

The Order of Minims was one of the strictest, and a Minim had to commit to a life of perpetual Lent, vowing to eat no meat, milk, cheese, or eggs. Such a harsh regime brought much ill health for Plumier throughout his life, and he suffered chronic illness several times.

While finishing his studies in Rome, he attended the botany courses of Father Philippe SERGEANT. Plumier had become addicted to the pursuit of botanical excellence, and wrote "I owe my first inclination to study plants to the curious demonstrations that the Reverend Father Philippe Sergeant, a clever chemist and priest of our order in the Province of France, and Monsieur François de Onuphriis, Roman physician, gave in our Royal Convent of the Trinité du Mont at Rome. From that time, I gradually left

the study of mathematics, which, up until that time, had been my principal occupation, in order to apply myself to botany." (Plumier, 1693: 1).

Whilst in Italy, Plumier met and discoursed at length with the famous Sicilian botanist BOCCONE, for whom he was later to dedicate a genus of the Poppy family, *Bocconia*. In France, he botanized in the Alps and in Provence with the young TOURNEFORT, who was making his first botanical expedition at the time. Plumier assembled a sizeable herbarium at this time, supplemented by a number of drawings.

At Fagon's suggestion, the King ordered the superintendent of ships at Marseille and former Governor of Saint-Dominico (Santo Domingo, now Haiti), Michel BÉGON, whom Plumier was later to honour by creating the genus *Begonia*, to organise a botanical expedition to the West Indies in 1689. Bégon appointed the Marseille physician Joseph Donat SURIAN to lead the expedition, and it was left to him to find someone who could help him in his botanical work. Surian invited Plumier to accompany him, commissioning him to draw the plants while Surian collected specimens. They visited Martinique and Haiti, but returned to Europe early, in 1690, owing to a quarrel. Surian was a renowned curmudgeon. "Whatever cost him nothing was always the best...One frog would sustain him for two days' meals. But when he dined out, his avarice disappeared, if it were at someone else's expense." (Labat, 1722, **4**: 20-22). Surian's fate was eventually sealed by his own stupidity, when at Marseille, he collected some herbs that seemed to him to be perfect for a gentle purging, but the broth that he made from it despatched not only himself, but also his wife, his two children, and a serving girl.

On his return to France in 1690, Plumier was given a pension and the title of "the King's botanist," conferred on him by Fagon.

In the West Indies, Plumier was awed by the majesty of the flora. To him, every plant seemed enormous and opulent, and he felt inspired. Sometimes he would depict them in a setting, often with a scenic background. Among his favourite plants were the West Indian ferns, which are generally several metres high, and he

Figure 1a. Portrait of Charles PLUMIER (1646-1706). An engraving by J. Blanchouise, the only known portrait of Plumier. Reproduced from Becker *et al.* (1957).

Figure 1b. Guy Crescent FAGON (1638-1718). Superintendent of the King's Garden, Paris. Reproduced from Virville (1954).

drew and described almost 200 species from Haiti and Martinique. From the ferns that Fagon was able to acclimatise in the Paris glasshouses, collected by Sloane and Plumier, are descended most of Europe's stock of indoor and winter garden ferns.

Plumier drew more or less every natural history subject that he encountered, ultimately leaving almost 6000 drawings to posterity, bound in 30 volumes, mostly line sketches, but also some partially coloured. Of these, 705 are recognised as new to science. His range of interest was staggering. There were drawings of 345 fishes, 567 molluscs, amphibians, insects, birds, bats, and so on, even an elephant. His collections of natural history specimens were tragically lost at sea with the ships transporting them, an all too regular occurrence before the marine clock had been invented. LISTER (1698: 75) wrote that "He was more than once shipwrakt, and lost his specimens of all things, but preserved his papers, as having fortunately lodged them in other vessels; so that the things themselves I did not see." His texts and drawings are now lodged in the Natural History Museum, Paris. SURIAN's specimens also still survive and have been used to typify some of Plumier's plants.

No commentator ever had a bad word to say of Plumier, apart from the cantankerous Surian. He was serene in temperament, even when suffering extreme deprivations. His skills as a keen observer of nature have never been in any doubt, and of his botanical work HALLER (1772) considered him to be nearly an equal to Tournefort. TRIANA & PLANCHON (1862) described his work as "remarkable for the beauty of its illustrations as for the carefulness of its descriptions." Urban (1898: 123) called him the "Father of the West Indian Flora," and Burman (1755: [i]) "Princeps Botanicorum." Linnaeus referred to him several times as a "reformer" or "restorationist." FOURNIER (1932) dubbed him "the true founder of American generic systematics." PIETSCH (2001:15) considered him "born a century too early – his thoroughly modern approach to natural history far ahead of his time."

Had he not died prematurely, before he was able to publish the bulk of his discoveries, Plumier would have had few equals among the higher ranks of the early naturalists.

Itinerary

Plumier made three visits to America (Figure 3). On the first voyage, he travelled to Martinique and Haiti in 1689-1690, with the French physician Joseph Donat SURIAN. Surian collected plant specimens, while Plumier was drawing and taking notes. Surian's specimens still exist at P, and also in the Jussieu herbarium (P-JU). However, they are reported to be in very poor state of preservation, and Plumier's drawings are more useful for identification purposes. In 1693, Plumier travelled again in Haiti, as *Botaniste du roi*, obtaining the material for his *Description des plantes de l'Amérique* (1693). On a more extended visit in 1695-1697, he visited Guadeloupe, Martinique, and possibly the coast of Brazil. The published result of this third expedition was *Nova plantarum Americanarum genera* (1703) (Figure 2). He also travelled to Bequia and St. Thomas in the Virgin Islands, and some other islands of the Lesser Antilles, including Guadeloupe, St. Christopher, St. Croix, and the Grenadines of St. Vincent. Some say also to the coast of Brazil, but there is some disagreement about this amongst historians.

He died of pleurisy at Cadiz, on 20 November 1704, just as he was about to embark on a fourth voyage. This was to have been to Peru, to search for *Cinchona officinalis*, the cinchona tree that yielded the miraculous powder quinine, then popularly known as `Jesuits' powder.' It had been brought back by a Jesuit, Father Tafur, at the turn of the century, and, intrigued by its rumoured powers, Fagon and King Louis XIV had decided to send Father Plumier to search for it.

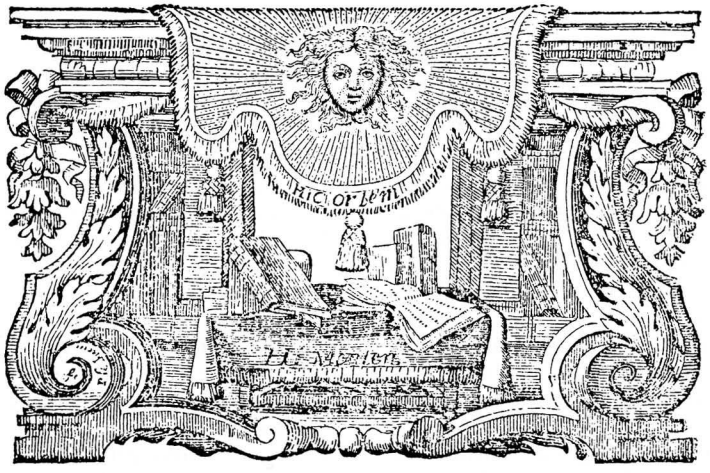
The two West Indian Republics of Haiti and Dominican Republic, as they are now known, comprise the largest island of the Caribbean after Cuba. Columbus visited Haiti on his first voyage, travelling from Cuba and landing at the cape now called Mole St. Nicolas on 6 Dec 1492. At that time the natives called the island Haiti, the `Mountainous Country' or Quisquica, the `Vast Country.' Columbus rechristened it Española (Spanish), soon corrupted to Hispaniola. Columbus died in 1506 in Valladolid, Spain, but his remains were interred in an ornate tomb that is a present-day tourist attraction in the capital city of the Dominican Republic.

Following its discovery by Columbus, European adventurers were attracted to the island by the usual rumours of gold over the following thirty years, and they cruelly mistreated the natives, more or less crushing them out of existence.

Plumier's arrival in Haiti was at a time when the island was largely occupied by a mixed colony of French, English and Dutch, established when they were driven out of St. Kitts in 1630, and the Dutch from Santa Cruz, both at first occupying the small island of Tortuga. United by their struggle against the common enemy, Spain, they formed three classes of inhabitants, one group farming the soil, another group hunting on the mainland for the then herds of indigenous wild cattle, and a third in charge of defending the

NOVA PLANTARUM AMERICANARUM GENERA,

Authore P. CAROLO PLUMIER Ordinis Minimorum in Provincia Franciæ, & apud Insulas Americanas Botanico Regio.



PARISIIS,

Apud JOANNEM BOUDOT, Regis & Regiæ Scientiarum Academiæ Typographum, via Jacobæa, ad Solem Aureum.

M. DCCIII.

CUM PRIVILEGIO REGIS.

Figure 2a. Title page from *Nova plantarum Americanarum genera* (1703).

PERESKIA.

PEreskia eſt plantæ genus flore A roſaceo, plurimis ſcilicet petalis B in orbem poſitis conſtante; cujus calyx C abit deinde in fructum D globoſum, carnoſum, mollem, foliolis inſtructum, in quo nidulantur E ut plurimum tria ſemina orbicularia & compreſſa F. Tab. 25.

Pereskiæ unicam ſpeciem agnovi.

Pereskia aculeata, flore albo, fructu flaveſcente.

Illuſtriſſimus D. Nicolaus Fabricius Peireskius, Senator Aquiſextienſis, quem virum vel nominare laudare eſt, ut ait Salmaſius, nedum Voluminum, ſed & plantarum amantiſſimus & ſtudioſiſſimus; nam & bibliothecam & hortum innumeris voluminibus & plantis, ex toto fere orbe immenſis ſumptibus conquiſitis conſtruxerat, plurimaque etiam & præclara orbi litterario paraverat Opera phyſica, mathematica, & Botanica; at proh dolor! perierunt excellentiſſimi viri prætioſi fœtus, priuſquam in lucem mitterentur. Bibliothecam ejus & hortum ditaverat Reverendus Pater Theophilus Minuti Ordinis Minimorum Provinciæ Provencæ, Linguarum Orientalium peritiſſimus, & ad Orientem ter peragratus, Pentatheuco ſcilicet Samaritano Manuſcripto, & quam plurimis aliis ſacris Voluminibus etiam manuſcriptis, nec non & rariſſimis plantis, quarum ut præſtantia, ita & odore omnes ſuperavit Hyacinthus ille Indicus odoratiſſimus, tuberoſa radice, (vulgo tuberouſe,) quem primus ille ex Indiis Orientalibus in hortum Belgenſerianum (Boiſgencier) prope Telonum adſportavit.

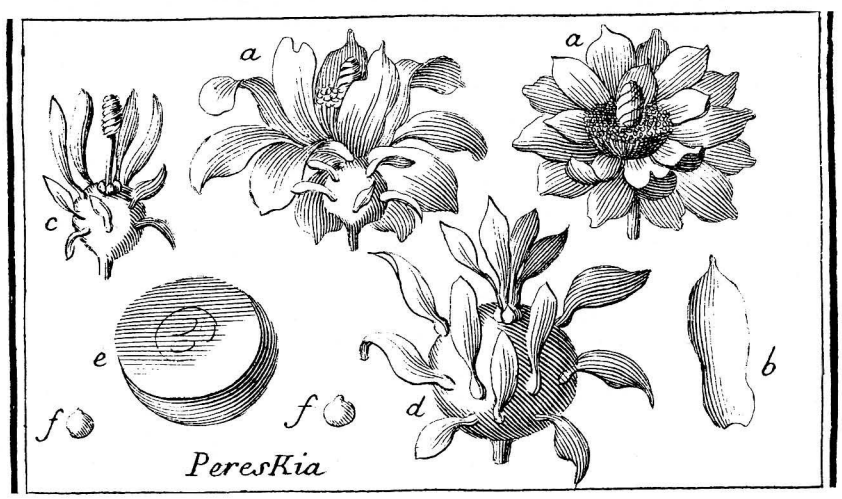


Figure 2b. The first description and illustration of *Pereskia* [*aculeata*].

Figure 3. Map of *Novae Hispaniae* by Johann Baptiste HOMANN, 1725, showing the Caribbean much as it was known in Plumier's day.

colony with a fleet of long boats. The latter were pirates, attacking any Spanish vessel that came within range, and became known as the *freiboteros*, later anglicized to *freebooters*, a word that has today become corrupted to *fillibuster*. The hunter class adopted a Carib method of cooking meat by means of a frame of green boughs, called a *boucan*. So they became known as the *boucaniers*, also later corrupted to *buccaneers*. Until 1697, the Spanish dominated the Caribbean islands, but they had less interest in Santo Domingo than the other islands. It was an expensive burden for them to maintain. So the western part of the island, largely occupied by a French dominated group of mixed Europeans, was ceded to France by the Treaty of Ryswick (modern Rijswijk) in 1697, in exchange for the return of the other French controlled islands of the Antilles back to Spain.

Negro slaves, introduced mainly between 1505 and 1517, were also a component of the population. In the time of Plumier, the entire island was called Santo Domingo, or, in his latinization, `Sandominica.' Martinique was under similar occupation.

The Grenadine Islands were also discovered by Columbus, on a voyage in 1498, at a time when it was inhabited by the warlike Caribs. It remained in Carib hands until 1627, when the island of St. Vincent was granted by Charles I to the Earl of Carlisle. Although effectively subjects of the King of England, the Caribs still remained in control at the time of Plumier's visit, and were friendly towards the French.

***Nova plantarum Americanarum genera* (1703)**
This work (Figure 2) contained descriptions of 106 new genera, illustrated in forty botanical plates. Many of the new names commemorated famous botanists and other celebrities, notable among these being *Fuchsia*, after Leonart FUCHS (1501-1566), *Lobelia*, after Matthias de l'OBEL (1538-1616), *Magnolia*, after Peter MAGNOL, *Bromelia*, after Olaf BROMEL, and *Dorstenia*, after Theodor DORSTEN. Plumier introduced around fifty such patronyms in all.

Most interesting to cactus specialists, he named *Pereskia* (Figure 2), for Nicolas Claude Fabry de PIERESC (1550-1637), a French Councillor of State at Aix, who, Plumier tells us, was a lover and student of plants and owner of a large garden.

Although Plumier was the first to describe these genera, his work predated the starting point of modern nomenclature by some 50 years, so the names were not validated until they were adopted by LINNAEUS in 1753. That is, except *Pereskia*, which Linnaeus had accepted in his earlier editions of *Genera plantarum*, but finally abandoned, merged with the genus *Cactus*, in the all-important fifth edition and starting point of nomenclature of 1753 (publ. 1754). So it was actually MILLER who validated the generic name *Pereskia* in the abridged edition 4 of his *Gardeners Dictionary* of 1754.

Plumier himself was honoured by Tournefort (1700: 659, t.439) in the name of the genus *Plumeria*, with the dedication "Plumeria, for the illustrious discoverer Plumier, King's Botanist, who has enriched botany with so many and such fine plants." Once again, this name was readily adopted by Linnaeus, who validated it in 1753.

***Botanicon Americanum* (1689-1697, unpublished)**
Plumier's original drawings and their hand-written texts have never been published. Perhaps the sheer scale of the task has been too daunting. Their importance to the world of botany and other fields of natural history was never in any doubt, and in the early eighteenth century a few sets of handmade copies of a selection of the botanical drawings were made, under the instructions of VAILLANT, for sale to friends and institutions. These included the sets at Kew, the British Museum (donated by Lord BUTTE), and those for the Dutch botanist BOERHAAVE at Leiden, dubbed the *Codex Boerhaavianus*. The Boerhaave set was eventually bought by Johannes BURMAN, who, not having access to the original text, wrote his own descriptions of the drawings, and published them as *Plantarum Americanarum fasciculus*, issued in ten parts, 1755-1760. Many types have been designated from the Burman copies, notably for names published by Linnaeus in 1753. Clearly, Linnaeus had not seen the published version at that stage, but he is known to have worked on the 508 original copies of the *Codex* in the winter of 1737-38, whilst collaborating with Adriaan van ROYEN in Leiden. At that time, Linnaeus made some manuscript notes from the drawings in an annotated copy of *Genera plantarum, ed. 1*, now in the library of the Linnean Society of London (Polhill & Stearn: 323-325).

Another set prepared for William SHERARD (1659-1728), a wealthy English businessman, was eventually donated, along with Sherard's extensive herbarium, to Oxford University. This unpublished manuscript set is bound in two volumes, dated 1689-97, and titled *Delineationes plantarum Americanarum*.

All these copies were executed with some skill, but in many cases varied in detail from the Plumier originals, and sometimes omitted important plant parts. Yet the Burman copies were the only ones available to most botanists, and many of them were eventually designated as types for the taxa that they represented.

Lamarck was one of the few botanists to have worked directly from the original drawings and text, and he published many of the plants as new species, including some cacti, in his *Encyclopédie méthodique. Botanique* **1**(1) (1783-1785). Professor Ignatius URBAN did not work on the original drawings and text for his monumental 8-volume account of the flora of the West Indies, *Symbolae Antillanae* (1898-1928), but quoted instead from Lamarck.

Yet despite all the early interest, Plumier's brother Minims at the monastery considered them of little importance. For almost a century afterwards they lay undisturbed until the French Revolution in 1790, when all convents were searched and the libraries confiscated. When they were rediscovered, some of Plumier's volumes were found serving as stools for the monks to sit on by the fire. Antoine-Laurent de JUSSIEU had them rehoused in the Royal Library, and they were eventually transferred to the library of the new Muséum d'Histoire Naturelle in 1793.

Most plates bear the signature of Plumier, usually in the form of "Fr. C. Plumier minimus," or "Fr. C. Plumier minimus Botanicus," or "Fr. C. Plumier Mi. B. R." The `minimus' refers to his Minim status in the Franciscan Holy Order. `Mi. B. R.' is Minimus Botanicus Regius, or Minim [and] King's Botanist. There are two numbering systems on the plates, inconsistently applied and not present on at least half the plates, and neither of which agree with the order of the plates as they are currently bound and renumbered. One number is undoubtedly that of Plumier, in his hand, and is of the form of three digits followed

by another two digits, usually at the bottom, while the second number, always at the top, is mainly, but not always, three digits.

One or other of these numbers may have been a cross-reference to the location of the pressed specimens in Plumier's lost herbaria. The double number could be a genus/species or some other classificatory reference. If so then 22 would be *Pereskia*, 101 arborescent *Opuntia*, 102 arborescent cerei with erect branches, 103 arborescent cerei with pendant branches, 104 clambering cerei, 105 large shrubby *Opuntia*, 106 small creeping *Opuntia*, 107 *Rhipsalis*, and 108 *Melocactus*. Or, the first 1-2 digits represent 2 = *Pereskia* and 10 = *Cactus*, which appears to make some sort of sense. However, Plumier's *Catalogus plantarum Americanarum* (1703) did not apply any numbering system, so we have no confirmation.

A manuscript catalogue made by Vaillant of the specimens in Surian's herbarium is numbered in association with the plants kept in the ten-volume hortus siccus of Surian at Paris, but this also does not correspond with the numbers used by Plumier.

The numbers do not seem to relate to the pages or numbering system of any standard work of reference at the time, although they might possibly relate to one of the many catalogues of the Paris garden, produced in the seventeenth century. Linnaeus, *Bibliotheca botanica* (1736: 69) listed four such catalogues published in that century, including one by Fagon.

From the fact that one plate includes a pen reference to the work of Tournefort, published in 1700, it seems likely that the original drawings were executed in graphite, when the bottom number was also added. Plumier would have also made crude notes in graphite, the cheap, transportable alternative of the day to the quill and ink, probably in French, but these are no longer extant. Some time between 1700 and 1704, in Paris, the frail Plumier ink-outlined most of his drawings, wrote the Latin text, and probably added the new number at the top.

In the light of this, it must be expected that occasionally, he would realize that he had forgotten to make a note of the colour of this or that, or that he had described something such as a flower, but not had an opportunity to draw it. He would then have to call upon his memory to complete the missing data. This would explain how some structures, such as the odd flower of *Opuntia moniliformis* in plate 11, and the fruit-like flower section of plate 26, perhaps came about.

Analysis of the cactus plates, from *Botanicon Americanum seu historia plantarum in Americanis insulis nascentium* (1689-1697)

Vol. 2, plate 132 Pereskia aculeata, flore albo, fructu flavescente.
Numbers on sheet: 105 (top), 22-20 (bottom).
Executed: 1695-1697.
Location: Lesser Antilles, Grenadines, Union Island [40 miles S of Kingstown]. Also in various other islands of the Antilles.
Identity: ***Pereskia aculeata*** Miller, *Gardeners dictionary, ed. 8*: Pereskia No.1.1768.
Cactus pereskia Linnaeus, *Species plantarum* **1**: 469. 1753. *T*: Non designatus. *LT* (design. Wijnands 1983: 58)): Plate 227, fig. 294, in Dillenius, *Hortus Elthamensis*. 1732. The element chosen as *LT* by Benson (1982: 969) was not included in the Linnaean protologue. The Wijnands selection was provisional, but supported by Leuenberger (1986: 59, 65).
Notes: Not in the Burman set, and therefore not seen by Linnaeus. Although it is original material under the definition of the *Code*, most botanists would not consider it as eligible as lectotype material, because it had not been seen by Linnaeus. However, although not as opulent as the Dillenius plate, it is just as accurate and easily identifiable.

Vol. 3, plate 7 Melocactus Indiae occidentalis. C. B. pin. 384. [This is a reference to p. 384 in Caspar BAUHIN's *Pinax, ed. 2* (1671)].
Numbers on sheet: 73 crossed out, and replaced by 87 (top). 108-123 (bottom).
Executed: 1695-1697.
Location: Lesser Antilles, Leeward Islands, St. Christopher [now St. Kitts-Nevis], in the place known as Les Salines [now called Salt Pond, near the SE tip of the island], and Windward Islands, St. Vincent, near the place called Caraibae O'Laiou [probably the place now called Port Layou]. The second location is thought to apply to this illustration.
Identity: ***Melocactus broadwayi*** (Britton & Rose) Berger, *Die Entwicklungslinien der Kakteen*: 103. 1926. *Cactus broadwayi* Britton & Rose, *The Cactaceae* **3**: 229. 1922. *T*: Tobago; 1921, *FREEMAN* (US).
Notes: Usually identified as *Melocactus intortus* (Miller) Urban. However, if we take note of Howard (1989: 408-409) the curved spines and "splendid purple" fruits of Plumier's plant appear to fit more the description of *Melocactus broadwayi* (Britton & Rose) Berger, also widely distributed in the Lesser Antilles, especially the southern islands of the Grenadines and St. Vincent. *M. intortus* and *M. broadwayi* are very similar in

general appearance, and Plumier was therefore unlikely to regard them as distinct. Thus, from the two localities quoted by Plumier, the second one, in St. Vincent, is the one probably applicable to the plant portrayed in this plate, since only *M. intortus* is known from the other locality in St. Kitts-Nevis.
Not in Burman, and therefore not seen by Linnaeus.
Good modern illustrations of this plant as it occurs in habitat can be found in Ippolito, G., Travelling in the Lesser Antilles, *Cactus & Co.* **5**: 14-21. 2001.

Vol. 3, plate 8 Melocactus Indiae occidentalis fere conicus et striatus.
Numbers on sheet: 72 crossed out, and replaced by 85 (top), 108-103 (bottom).
Executed: 1695-1697.
Location: Lesser Antilles, Leeward Islands, St. Christopher [now St. Kitts-Nevis], in the place known as Les Salines [now called Salt Pond, near the SE tip of the island], and Windward Islands, St. Vincent, near the place called Caraibae O'Laiou [probably the place now called Port Layou]. The first location is believed to apply to this illustration.
Identity: ***Melocactus intortus*** (Miller) Urban, *Fedde Repertorium* **16**: 35. 1919.
Cactus intortus Miller, *Gardeners dictionary, ed. 8*: Cactus No.2.1768. *T*: Lesser Antilles, Leeward Islands, Antigua. *NT* (Taylor, 1991: 78): Antigua; *R. A. Howard* 18492 (K).
Notes: Without separate text, and therefore presumed to be read with the text for plate 7. Straight-spined and therefore probably the plant seen by Plumier in St. Kitts.
Not in Burman, and therefore not seen by Linnaeus.

Vol. 3, plate 9 Melocactus purpureus, striis in spiram contortus.
Number on sheet: 89 (top).
Executed: 1689-90 or 1693.
Location: Haiti, Le Port à Piment, in rocky places near the sea.
Identity: ***Melocactus lemairei*** (Monville ex Lemaire) Miquél, in Lemaire, *L'horticulteur Universel* **1**: 286. 1840 ("lemairii"). *Echinocactus lemairei* Monville ex Lemaire, *Cactearum aliquot novarum ac insuetarum in horto Monvilliana cultarum accurata descripto*: 17. 1838 ("lemarii"). *T*: Hispaniola, Santo Domingo; cult. Monville. *NT* (design. Taylor, 1991: 78): Plate 35, *L'horticulteur Universel* **1**: 286. 1840.
Not in Burman, and therefore not seen by Linnaeus.

Vol. 3, plate 10 Melocactus lanuginosus et tuberosus purpureis aculeis munitus.
Number on sheet: 37 (top).
Executed 1695-1697.
Location: Lesser Antilles, Windward Islands, Cannouan Island, on coastal rocks, where it has the vernacular name 'Lanse de la Roche' [Prickle of the Rock].
Identity: ***Mammillaria mammillaris*** (Linnaeus) Karsten, *Deutsche flora*: 888. 1882. *Cactus mammillaris* Linnaeus, *Species plantarum* **1**: 466. 1753. *LT* (design. Mottram, *Mammillaria index*: 51. 1980): Venezuela, Curaçao and neighbouring islands; plate 29, fig. 1, in Plukenet, *Phytographia* 1691.
Notes: *Fide* Howard (1989: 406), Cannouan is the only island in the Lesser Antilles where this species occurs.
Not in Burman, and therefore not seen by Linnaeus.

Vol. 3, plate 11, upper figure Melocactus minimus, lanuginosus et tuberosus.
Number on sheet: None.
Executed 1689-1690 or 1693.
Location: Haiti. Plumier wrote "The plant is rare and I have only encountered it twice on the island of Santo Domingo [Hispaniola], in the place commonly called Lestang Saumache [now Etang Saumatre (= brine pond), c. 10km. S of Port-au-Prince]), [and] also towards the place commonly called Le grand Cul de Sac. [This is the large valley in the west of the island, extending to the sea from Port au Prince and along the coast to Léogane. The district was so called from about 1665]."
Identity: ***Mammillaria glomerata*** (Lamarck) Candolle, *Prodromus* **3**: 459. 1828. *Cactus glomeratus* Lamarck, *Dictionnaire encyclopédique de botanique* **1**(2): 537. 1785. *T* (design. here): Plumier's location and plate 8 reproduced here. This plate was strictly speaking the only included element of Lamarck's protologue, but as he also cited the copy from Burman, designation is required.
Notes: In Burman, this is plate 201, fig. 1, and although not mentioned in *Species plantarum, ed. 1* (1753), it was assigned to *Cactus mammillaris* in *ed. 2* (1762) by Linnaeus. The Burman copy was crudely drawn showing the individual heads very tightly agglomerated and of unequal size. It is not surprising therefore that *M. glomerata* has generally been referred to *Mammillaria prolifera* (Miller) Haworth by later authors, notably by Britton & Rose and Hunt.
A great curiosity of Plumier's description is that he described the flowers as scarlet (*coccineus*), which is unknown in *M. prolifera*. In Plumier's original drawing there are only about six spines drawn per areole, and although he refers to

"numerous sharp and purplish spines" in the description, there is no mention of the very numerous radial hair-spines to be found in *M. prolifera* (up to c. 60 or more). Therefore there remains some doubt if *M. glomerata* is the same thing as *M. prolifera*, until recollections can be made from Plumier's two localities, if they still survive.

Vol. 3, plate 11, lower figure Melocactus ex pluribus globulis opuntia modo nascentibus constatus et spinosissimus.
Number on sheet: None.
Executed: 1689-1690, or 1693.
Location: Haiti, Band du Sud, commonly found along the coast. [Band du Sud not located by the writer, but probably refers to the southwestern peninsula of the island].
Identity: ***Opuntia moniliformis*** (Linnaeus) Steudel, *Nomenclator botanicus, ed. 2* **1**: 334, **2**: 221. 1841. *Cactus moniliformis* Linnaeus, *Species plantarum* **1**: 468. 1753. *T*: Hispaniola. *LT* (design. here): Plate 198, in Burman, *Plantarum Americanum fasciculus 8* (20 Jun 1758).
Notes: The copy represented by plate 198 of Burman was seen by Linnaeus. Reference to Plumier's phrasename appeared in *Species plantarum, ed. 1* (1753), with the addition of "ic. 198" in *ed. 2* (1762). The Boerhaave copy having been seen by Linnaeus about 1737, that plate is original material, and moreover the only element cited in Linnaeus's protologue. In the absence of any other original material, it must therefore be designated. The illustration depicts an abnormal phase of growth and is inaccurate in parts, so the designation of an epitype would be desirable.
The plate shows the untypical growth created when joints and fruits of this species fall to the ground, proliferating in spherical joints, unlike the typical joints of the mature plant, which are large and very compressed. The long-exserted style and unconventional receptacle armament are erroneous, suggesting that they were probably drawn from memory.
The name of the species was actually chosen to describe this form of the plant, from the Latin *monile*, a necklace, and it wasn't until the early twentieth century that the real identity of this strange plant became apparent. Prior to that, the name was associated only with Plumier's drawing, and considered to be unknown in nature. De Candolle (*Prodromus* 1828: 470) and Salm-Dyck (*Hortus dyckensis* 1845: 338) were perplexed by Plumier's plate 198 in Burman, and believing it to be a *Cereus*, created the unranked subdivisions *Opuntiacei* Candolle and *Globosi* Salm-Dyck respectively, to accommodate it.

Vol. 3, plate 12 Melocactus repens pentagonus flore albo fructu rubro.
Numbers on sheet: 97 (top), 104-91 (bottom).
Executed: 1689-1690, or 1693.
Locality: Hispaniola, found abundantly in woods throughout the island.
Identity: ***Selenicereus grandiflorus*** (Linnaeus) Britton & Rose, *Contributions from the U.S. National Herbarium* **12**: 430. 1909. *Cactus grandiflorus* Linnaeus, *Species plantarum* **1**: 467. 1753. *T*: Jamaica & Vera Cruz. *LT* (design. Lourteig, 1991: 406): Flower only, Clifford Herbarium, ex cult., BM. There is also a specimen at LINN (633.1, flower only), and several illustrations seen by Linnaeus available for designation, but not Plumier's, as it was not in the Boerhaave/Burman set. The LINN and BM specimens were both cited as type by Howard (1989: 421), which suggests that he thought they were duplicates from Clifford's plant.
Notes: Thought by Hunt (1984: 41) to be referable to *Selenicereus urbanianus* (Weingart) Britton & Rose, as it "was described as 4-5 ribbed, whereas *S. grandiflorus* is typically 7-8 ribbed." However, Linnaeus's first description of *grandiflorus* called for 5 ribs or thereabouts, and the plant which he saw flowering in Clifford's garden in 1737 was a 5-ribbed plant. Fawcett & Rendle, *Flora of Jamaica*: 282. 1927 suggest 5-8 ribs. The species grows extensively in the warm valleys around Port-au-Prince, where Plumier probably first encountered it. Plumier's illustration of the flower agrees well with Linnaeus's specimen at LINN.

Vol. 3, plate 13 Melocactus tetragonus repens fructu rubro [plate caption reads "coccineo" instead of "rubro."].
Number on sheet: 32 (top).
Executed: 1695-1697.
Locality: Lesser Antilles, Windward Islands, widespread throughout the Grenadines, but chiefly on Union Island, where it is called `Lanse à Rattaches' [Entangled Prickle].
Identity: ***Acanthocereus tetragonus*** (Linnaeus) Hummelinck, *Succulenta* **20**: 165. 1938. *Cactus tetragonus* Linnaeus, *Species plantarum* **1**: 466. 1753. *T*: Curaçao & tropical America. *NT* (design. Hummelinck, 1938: 165): Curaçao; *HUMMELINCK* 196 (fl.), 170 (fr.) (U).
Notes: It is in the Boerhaave/Burman set as plate 199, fig. 1, captioned with the wrong phrasename. Seen by Linnaeus, but not mentioned by him in his protologue, nor in *Species plantarum, ed. 2.* The Burman copy omitted the full fruit, and showed the fruit section erroneously without spines. Kew's copy lacks the tiny inset seeds. Plumier's original drawing is accurate and readily identified.

Vol. 3, plate 14 Melocactus repens trigonus, flore albo fructu coccineo, ex insula Santa Cruz. Jamacaru brasili. Lusilang Cardon. G. Marg. L. 1° C. 12. [The reference here is to Markgrave, G., *Historia natural do Brasil*, vol. 1 chapter 12 (1648)].
Numbers on sheet: 99 (top), 104-91 (bottom).
Executed: 1695-1697.
Locality: Lesser Antilles, frequent throughout the islands, growing on trees in woods. Plate drawn from a plant found in the island of St. Croix.
Identity: ***Hylocereus trigonus*** (Haworth) Safford, *Annual Report of the Board Regents Smithsonian Institution 1908*: 553. 1909. *Cereus trigonus* Haworth, *Synopsis plantarum succulentarum*: 181. 1812. *T* (design. Howard, 1989: 404): U.S. Virgin Islands, St. Croix; *Charles PLUMIER* (Burman, 1758: pl. 200, fig. 2. Copied from part of the typotype illustration, reproduced here in pl. 14).
Note: The Brasilian word, jamacaru, is Tupi Indian for a thorny edible tree, and was commonly applied to all cereiform cacti with edible fruits from ancient times, including *Hylocereus*. Markgrave (1648: ch.12, para. 63) discussed a variety of such plants, and illustrated a branch of *Cereus jamacaru* DC.
Linnaeus must have seen the Boerhaave/Burman copy, but did not comment.
Hunt's referal to *Hylocereus triangularis* (Linnaeus) Britton & Rose (1984: 41) is not likely, because that is a Jamaican species. Only *Hylocereus trigonus* and *undatus* are known to occur on the island of St. Croix.

Vol. 3, plate 15 Melocactus trigonus alius repens, ex insula Sta. Cruz.
Number on sheet: None.
Executed: 1695-1697.
Locality: Lesser Antilles, Leeward Islands, U.S. Virgin Islands, St. Croix.
Identity: ***Hylocereus undatus*** (Haworth) Britton & Rose, in Britton, *Flora of Bermuda*: 256. 1918. *Cereus undatus* Haworth, *Philosophical Magazine* **7**: 110. 1830. *T*: China, ex cult. London Hort. Soc. *NT* (design. Taylor, *Bradleya* **13**: 119): *Curtis's Bot. Mag.* pl. 1884. 1817.
Note: Plumier's plate evidently shows a flower not yet fully expanded, because the outer perianth segments reflex much more than shown.
Linnaeus must have seen the Boerhaave /Burman copy, represented by Burman as pl. 200, fig. 1, but did not comment.

Vol. 3, plate 16 Melocactus alius trigonus repens fructu coccineo e violaceo.
Number on sheet: 990+ (top).
Executed: 1695-1697.
Locality: Lesser Antilles, Windward Islands, Grenadines, chiefly on the Carib island of Bequia.
Identity: ***Hylocereus plumieri*** (Roland-Gosselin) Lourteig, *Bradea* **5**(44): 406. 1991. *Cereus plumieri* Roland-Gosselin, *Bull. Soc. Bot. France* **54**: 668. 1907. *T*: Plate 199, fig. 2. in Burman, *Plantarum Americanum fasciculus 8.* 1758.
Note: This plate is enigmatic. It depicts a fruit with fleshy scales, such as seen in *Hylocereus*, but no other *Hylocereus* possesses spines in the axils of their scales. Authors have therefore been puzzled about the generic placement, and some suggest *Acanthocereus*, but that has more or less scaleless spine clusters. Roland-Gosselin based his name solely on the plate and origin cited by Plumier, and no recollection of this species is known. One possible explanation is that it may be an *Acanthocereus tetragonus/Hylocereus trigonus* natural hybrid.
Not mentioned by Linnaeus.
A scarab beetle is also depicted on this plate, presumably occurring in association with this plant.

Vol. 3, plates 17, 18 and 19 Melocactus arborescens trigonus, undulosus, aculeis validis munitus.
Numbers on sheet: First fig. 41 (top), 103-90 (bottom); second fig. 42 (top), 103-90 (bottom); third figure not numbered.
Executed: 1689-90, or 1693.
Locality: Haiti, [Dept. Norte], near Port-au-Paix, Le Moustique.
Identity: ***Dendrocereus undulosus*** (Candolle) Britton & Rose, *Journal of the New York Botanic Garden* **26**: 220. 1925. *Cereus undulosus* Candolle, *Prodromus* **3**: 467. 1828. *T*: Plate 194, in Burman, *Plantarum Americanum fasciculus 8.* 1758. Candolle based his description on this plate, and it is therefore automatically the holotype. The original plates depicted here are therefore typotypes.
Notes: Plates 17, 18 and 19 all represent this species, and the text covers all three. In Burman, plate 194, the three separate Plumier plates are combined into a single plate, with about half of the original detail missing. The Kew copy was more complete, in three separate plates, but still lacks the fruit section.
Not mentioned by Linnaeus.

Vol. 3, plates 20 and 21 Melocactus seu opuntia arborescens tetragona flore exalbido, aut candido. Melocactus arborescens tetragonus flore exalbido.
Number on sheet: 125 (top), on both plates.
Executed: 1689-1690, or 1693.

Locality: Haiti, Cul de Sac district, amongst rough vegetation. [Between Port-au-Prince and Léogane].
Identity: ***Neoabbottia paniculata*** (Lamarck) Britton & Rose, *Smithsonian Miscellaneous Collections* **72**(9): 3. 1921. *Cactus paniculatus* Lamarck, *Dictionnaire encyclopédique de botanique* **1**(2): 540. 1785. *LT* (design. here): Plumier's location and plate 21 reproduced here. This and plate 20 were strictly speaking the only included elements of Lamarck's protologue, but as he also cited the copy from Burman, designation is required.
Notes: Reproduced in the single Boerhaave/Burman plate 192, but lacking branch detail. Not commented upon by Linnaeus (1753 and 1762).

Vol. 3, plate 22 Opuntia arbor excelsa, cereiformis, flore albo.
Numbers on plate: 43 (top), 102-98 (bottom).
Executed: 1689-1690, or 1693.
Locality: Haiti, Port de Paix, frequent everywhere in dry woods.
Identity: ***Pilosocereus polygonus*** (Lamarck) Byles & Rowley, *Cactus and Succulent Journal of Great Britain* **19**: 67. 1957. *Cactus polygonus* Lamarck, *Dictionnaire encyclopédique de botanique* **1**(2): 539. 1785. *LT* (design. Zappi, 1994: 149): Plumier pl.. 22 reproduced here.
Notes: Burman's plate 196 lacks the top of a stem bearing fruits (present in the Kew copy). Linnaeus did not comment on this plate.

Vol. 3, plate 23 and 24 Melocactus cereiformis, spinosissimus, ramosissimus, fructu aureo tuberoso.
Numbers on plates: 36 (top), and on second plate 336 (top).
Executed: 1689-1690, or 1693.
Locality: Haiti, Grand Cul de Sac district, near Léogane, in woodland.
Identity: ***Harrisia divaricata*** (Lamarck) Backeberg, *Die Cactaceae* **4**: 2101.1960. *Cactus divaricatus* Lamarck, *Dictionnaire encyclopédique de botanique* **1**(2): 540. 1785. *LT* (design. here): Lourteig (1991: 407) designated the Plumier pl.. 23 & 24 reproduced here. But as the two plates might not represent a single gathering, I hereby select pl. 24.
Notes: Moscoso (1941: 25) tells us that this species is very abundant in the Yaqui Valley of the Dominican Republic, and scattered elsewhere over the southern part of Hispaniola, where it is locally called `Yaso.' He distinguished it from *Harrisia nashii* Britton & Rose, which he says is one of the many species called `Pitajaya' locally. However it occurs throughout the island of Hispaniola, and is probably indistinguishable. Kew's copies are a fairly faithful reproduction of the original, but the Boerhaave/Burman copy has had parts of the stem and fruit details omitted and the remainder incorporated into a single plate. Not mentioned by Linnaeus.

Vol. 3, plate 25 Opuntia monoclonos cereiformis amplo flore roseo fimbriato.
Numbers on plate: None.
Executed: 1689-1690, or 1693.
Locality: Haiti, La Bande du Sud, in clearings of hot, rough woodland, by the sea.
Identity: ***Stenocereus fimbriatus*** (Lamarck) Lourteig, *Bradea* **5**(44): 408. 1991. *Cactus fimbriatus* Lamarck, *Dictionnaire encyclopédique de botanique* **1**(2): 539. 1785. *LT* (design. Lourteig, 1991: 408): Plumier pl. 25 reproduced here. Lamarck cited both the Plumier mss. and the Burman fig., so designation was required. In referring to the Burman plate, Lamarck erroneously quoted Fig. 1 when he meant Fig. 2.
Note: *Stenocereus peruvianus* (Linnaeus) Kiesling may be the priority name, if the illustration cited by Linnaeus from L'Obel can be positively said to represent this species.
Kew's copy is quite a faithful reproduction, but the Boerhaave/Burman copy lacks a fruit sketch, and it has been incorporated with a plate of another, different species.
Linnaeus made no comment on this plate.

Vol. 3, plate 26 Melocactus arborescens folio striato spinosissimo, fructu oblongo subluteo.
Numbers on plate: None.
Executed: 1689-1690, or 1693.
Locality: Haiti, Grand Cul de Sac, in hot, dry woods [between Port au Prince and Léogane]; September.
Identity: ***Harrisia divaricata*** (Lamarck) Backeberg, *Die Cactaceae* **4**: 2101.1960. *Cactus divaricatus* Lamarck, *Dictionnaire encyclopédique de botanique* **1**(2): 540. 1785. *LT* (design. Lourteig, 1991: 407): Plumier pl.. 23 & 24 reproduced here. As the two plates might not represent a single gathering, under Art. 9.14 I here select pl. 24 as the second-step *LT*.
Note: Kew's copy is again well represented, but the Boerhaave/Burman plate lacks the sketch of a closed flower. As stated by Hunt (1984: 43), the lower left-hand sketch is meant to represent a section through the closed flower on the top right, but the stamens have been drawn as though they were seeds embedded in a funicular matrix.
This plate was designated as the neotype of *Cereus serruliflorus* Haworth, *Phil. Mag.* **37**: 113. 1830 by Lourteig (1991: 408).

Vol. 3, plate 27 and 28 Opuntia arbor excelsa foliis reticulatis, flore flavescente.

Numbers on plates: 39 (top), 101-87 (bottom); 40 (top), 101-87 (bottom).
Executed: 1689-1690, or 1693.
Locality: Widespread. Plumier says "Occurring very frequently in the dry woods of Santo Domingo [Hispaniola] and the Danish island of St. Thomas, but nowhere so abundantly than in that region of the island of Santo Domingo [Hispaniola] called Port a Piment, where at times of water scarcity wild horses known as Les Chevaux Marrons [The Chestnut Horses] feed on their leaves causing damage to the young growth. Our countrymen call the plants Pattes de Tortue [Tortoise-Paddles], because they have the shape and appearance of the flippers of the marine turtles."
Identity: ***Opuntia moniliformis*** (Linnaeus) Steudel, *Nomenclator botanicus, ed. 2* **1**: 334, **2**: 221. 1841. *Cactus moniliformis* Linnaeus, *Species plantarum* **1**: 468. 1753. *T*: Hispaniola. *LT*(design. sub pl. 11): Plate 198, in Burman, *Plantarum Americanum fasciculus 8* (20 Jun 1758).
Notes: Not in the Boerhaave/Burman set, and therefore not seen by Linnaeus.
Plants from the island of St. Thomas are generally called *Opuntia rubescens* Candolle.

Vol. 3, plate 29 Opuntia arborescens spinosissima foliis portulaca cordatis.
Number on plate: 129 (top).
Executed: 1689-1690, or 1693.
Locality: Haiti, Le Grand Cul-de-Sac, Fond Parisien, in fields; September.
Identity: ***Pereskia portulacifolia*** (Linnaeus) Candolle, *Prodromus* **3**: 467. 1828. *Cactus portulacifolius* Linnaeus, *Species plantarum* **1**: 469. 1753. *LT* (design. Leuenberger, 1986: 93): Plate 197, in Burman, . *Plantarum Americanum fasciculus 8* (20 Jun 1758). Copied from the typotype illustration, reproduced here in pl. 29.
Notes: In the Boerhaave/Burman set, as plate 197, fig. 1, a reasonable copy. Seen by Linnaeus, but not mentioned by him until the second edition of *Species plantarum* (1762: 671).

Vol. 3, plate 30 Melocactus monoclonos, fructu atropurpureo, cereiformis. Inst. rei herb. 653. [The latter is a reference to Tournefort, *Institutiones rei herbariae. Editio altera*: 653. 1700].
Numbers on plate: None.
Executed: 1695-1697.
Locality: Lesser Antilles, chiefly in rocky places. "Because of the similarity to *Cereus*, called locally Cierge Espineux [Spiny Torch]."
Identity: ***Pilosocereus royenii*** (Linnaeus) Byles & Rowley, *Cactus and Succulent Journal of Gt. Britain* **19**: 67. 1957. *Cactus royenii* Linnaeus, *Species plantarum* **1**: 467. 1753. *T*: None. Linnaeus's protologue cited only the Leiden catalogue of Van Royen, and no further elements were added in the second edition. Neotypification is required.
Notes: In the Boerhaave/Burman set as plate 191, but not mentioned by Linnaeus. This copy omits a few flower details. Kew's copy omits the fruit section.
The illustration was designated as the lectotype of *Cereus monoclos* Candolle by Lourteig (1991: 408).
Good modern photos of this plant, as it occurs in Guadeloupe, are reproduced in Rouiller, *Cactus-Aventures International* (52): 22-25, 2001 (as *P. nobilis*).
The reference to Tournefort (1700) is interesting because it suggests that Plumier added the ink script, wrote the present text (from pencil notes no longer existing), and embellished his pencil sketches with ink some time between 1700 and 1704.

Vol. 3, plate 74 Opuntia maior, validissimis spinis munita.
Numbers on plate: 74 struck out and replaced with 100.
Executed: 1689-1690, 1693, or 1697.
Locality: All American islands, mainly on rocks in dry places, "where it is called Nopri Raquette [Nopal Racket. French writers of the period called all opuntias `raquette' for the resemblance to a tennis racket].
Identity: ***Opuntia dillenii*** (Ker-Gawler) Haworth, *Supplementum plantarum succulentarum*: 79. 1819. *Cactus dillenii* Ker-Gawler, *Edwards Botanical Register* **3**: pl. 255. 1818. *LT* (design. Benson, 1969: 126): Plate 255, in *loc. cit.*
Notes: Not in the Boerhaave/Burman set, and therefore not seen by Linnaeus.

Vol. 3, plate 75 Opuntia minima repens, spinis tebnuissimis et aduncis.
Numbers on plate: 101 (top), 106-102 (bottom).
Executed: 1689-1690, or 1693.
Locality: Haiti, chiefly in dry, barren places, "where it is commonly called Chardons Volants [Flying Thistles]."
Identity: ***Opuntia antillana*** Britton & Rose, in Britton, The flora of the American Virgin Islands, *Brooklyn Botanic Garden Memoirs* **1**: 74. 1918. *T*: Lesser Antilles, Leeward Islands, St. Kitts, near Basseterre; 2 Feb 1913, *J. N. Rose* 3230 (US 639383).
Note: Not in the Boerhaave/Burman set, and therefore not seen by Linnaeus. Kew's copy is quite close to the original, but seems to indicate some petals dark, which is not in the original. Plumier appears to have forgotten to record the

actual flower colour. They should be yellow if this identification is correct.

Vol. 3, plate 76 Opuntia minima flagelliformis.
Numbers on plate: 102 (top), 107-102 (bottom).
Executed: 1689-1690, or 1693.
Locality: Haiti, frequent in woods throughout the island.
Identity: ***Rhipsalis baccifera*** (J. S. Miller) Stearn, *The Cactus Journal* (GB) **7**(4): 107. 1939. *Cassyta baccifera* J. S. Miller, *Illustratio systematis sexualis Linnaei* Class IX. Ord. 1: t. 29. 1771-1777. *T*: plate 29, in *loc. cit.*
Notes: A very stylized representation of one branch of this plate is in the Boerhaave/Burman copy, upside down in plate 197, fig. 2. This was seen by Linnaeus, not recorded in the first edition of *Species plantarum* (1753), but it does appear in the second edition (1768: 668) in the synonymy of *Cactus parasiticus* Linnaeus [= *Vanilla claviculata* fide Britton & Rose (1923: 219)]. Plumier's plate was also referred by Lamarck (1785: 541) to *Cactus parasiticus* Linnaeus, although Lamarck's text clearly referred to the *Rhipsalis*.

Acknowledgements
The driving force behind this research was Othmar Appenzeller, who was very anxious to see the original plates of Plumier. The writer attempted to obtain copies from the Natural History Museum in Paris, but agreement to photograph them, and permission to publish them, was only granted after representations by Michel Lacoste, who also kindly agreed to pay for the photographs. All concerned are indebted to the Paris Museum for its permission to publish these plates for the first time.

The richest source of quotes by Plumier himself originate from the interview which the English naturalist, Martin Lister (1698), conducted in Plumier's cell at the convent of the Minims, Place Royale, Paris, shortly after he returned from his last journey to the West Indies in 1698. Labat (1722) also gave much anecdotal evidence on Plumier and his contemporaries, but by far the best account is that of Pietsch (2001), who cited all the earlier sources, and to whom the present writer is most heavily indebted for information on the life of Plumier.

The writer is responsible for the identifications given here, with assistance from the determinations of the earlier authors, Urban, Lourteig and Hunt. I am grateful to Gordon Rowley and Prof. Alexander Doweld for reading the manuscript and making valuable comments.

References

ASPINALL, A. (1939) *The pocket guide to the West Indies. New and revised edition.* Methuen & Co., London.

BAUHIN, C. (1671) *Pinax theatri botanici, ed. 2.* Ludovic, Basle. [This was the edition consulted and cited by Linnaeus].

BECKER, G., BIANCHI, Henri, CARRIÈRE, Charles, COSTE, Jean-Paul, DUFERT, Pierre J., DUGHI, Raymond, DUPRAT, Gabrielle, GAUSSEN, Henri, GUIRAL, Pierre, HUMBERT, Henri, LEROY, Jean F., MEYER, François, MOTTE, Jean, & RANSON, Gilbert (1957) *Tournefort.* Muséum National d'Histoire Naturelle, Paris.

BENSON, L. B. (1969) The cacti of the United States and Canada – New names and nomenclatural combinations – 1. *Cactus and Succulent Journal* (US) **41**(3): 124-128.

BENSON, L. B. (1982) *The cacti of the United States and Canada.* Stanford University Press,

BOLDINGH, I. (1909) *The flora of the Dutch West Indian Islands St. Eustatius, Saba and St. Martin.* Leiden. [*Cactaceae* 140-142].

BOLDINGH, I. (1914) *The flora of the Dutch West Indian Islands, Vol. 2: Curaçao, Aruba and Bonaire.* Leiden. [*Cactaceae* 71-81].

BURMAN, J. (1755-1760) *Plantarum Americanum fasciculus [primus – decimus]. continens plantas, quas olim Carolus Plumierius, botanicorum princeps detexit, eruitque, atque in Insulis Antillis ipse depinxit. Has primum in lucem edidit, concinnis descriptionibus, & observationibus, aeneisque tabulis illustravit Joannes Burmannus, M. D., Athenaei illustris, & in Horto Medico Amstelaedamensi Professor Botanices, Academiae Caesareae Naturae Curiosorum Socius.* Privately published, Amsterdam. Cacti: *Fasc. 8*: 20 Jun 1758. p. 185-194, pl. 191-201.

CLOKIE, H. N. (1964) *An account of the herbaria of the Department of Botany in the University of Oxford*: 225-226. Oxford University Press.

DUVAL, M. (1982) *The King's garden*: 36-37. University Press of Virginia, Charlottesville.

HAZARD, S. (1873) *Santo Domingo, past and present; with a glance at Hayti.* Harper & Brothers, New York.

HUNT, D. R. (1976) Mammillarias in early European literature (2) 1700-1800. *The Cactus and Succulent Journal of Great Britain* **38**(2): 35-38.

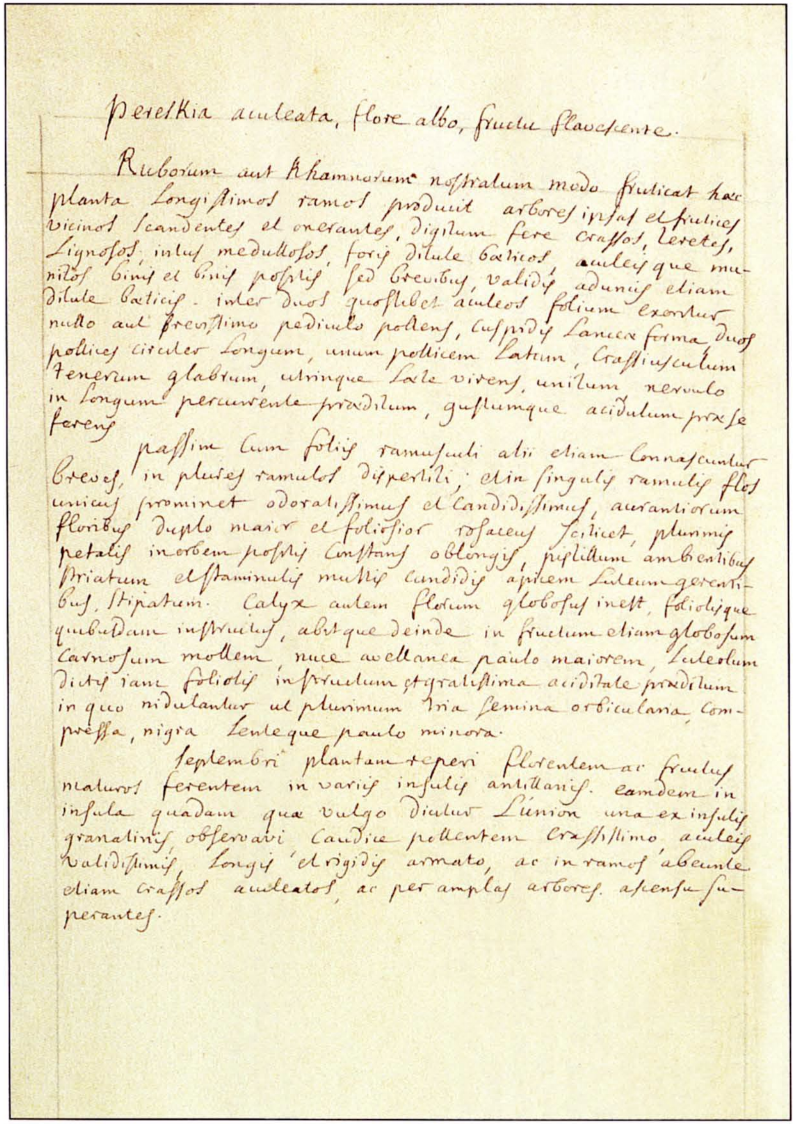
HUNT, D. R. (1984) The *Cactaceae* of Plumier's Botanicum Americanum. *Bradleya* **2**: 39-64.

JIMÉNEZ, J. de J. (1966) *Supplemento N. 1 al Catalogus Florae Domingensis del Prof. Rafael M. Moscoso.* Universidad de Santo Domingo, Trujillo. [*Cactaceae* 171-175].

LABAT, J.-B. (1722) *Nouveau voyage aux isles de l'Amerique, contenant l'histoire naturelle de ces pays, l'origine, les moeurs, la religion et le gouvernement deshabitans anciens et mod-*

ernes. 6 vols. Guillaume Cavelier, Paris.
LAMARCK, J. B. de (1783-1785) *Dictionnaire encyclopédique de botanique*. Hôtel de Thou, Paris. [Cacti in **1**(2): 536-544. (1 Aug) 1785].
LEUENBERGER, B. E. (1986) *Pereskia* (Cactaceae). *Memoirs of the New York Botanical Garden* **4**. The New York Botanical Garden, New York.
LINNAEUS, C. (1736) *Bibliotheca botanica*. Salomon Schouten, Amsterdam.
LINNAEUS, C. (1753) *Species plantarum* Lawrence Salvius, Stockholm. [*Cactus* 466-470].
LINNAEUS, C. (1762) *Species plantarum, ed. 2* Lawrence Salvius, Stockholm. [*Cactus* 666-671].
LINNAEUS, C. (1764) *Species plantarum, ed. 3* Johan Thomas de Trattner, Vienna. [The same as ed. 2, with errata incorporated in text].
LISTER, M. (1698) *A journey to Paris in the year 1698*. Jacob Tonson, London.
LOURTEIG, A., (1991) Nomenclatura plantarum Americanum XVI. *Cactaceae*. *Bradea* **5**(44): 400-411. Rio de Janeiro.
MOSCOSO, R. M. (1941) Las Cactaceas de la flora de Santo Domingo. *Publicaciones de la Universidad de Santo Domingo* **8**. Trujillo.
PIETSCH, T. W. (2001) Charles Plumier (1646-1704) and his drawings of French and American fishes. *Archives of Natural History* **28**(1). Society for the History of Natural History, London.
PLUMIER, C. (1689-1697) *Botanicon Americanum seu historia plantarum in Americanis insulis nascentium* (unpublished). MS 1-37, 1335 (30 vols). Muséum d'Histoire Naturelle, Bibliothèque Centrale, Paris. An unpublished, illustrated manuscript, held at the Paris Museum.
PLUMIER, C. (1693) *Description des plantes de l'Amerique*. Imprimerie Royale par les Soins de Jean Anisson, Paris.
PLUMIER, C. (1703a) *Nova plantarum Americanarum genera*. Joanne Boudot, Paris.
PLUMIER, C. (1703b) *Catalogus plantarum Americanarum*. Joanne Boudot, Paris.
POLHILL, R. M. & STEARN, W. T. (1976) Linnaeus's notes on Plumier drawings with special reference to *Mimosa latisiliqua*. *Taxon* **25**(2/3): 323-325. Utrecht.
QUESTEL, A. (1942) *The flora of the Island of St. Bartholomew (French West Indies) and its origin*. Basse-Terre.
QUESTEL, A. (1951) *Géographie générale de la Guadeloupe et Dépendances (Antilles Français): La Flore de la Guadeloupe*. Paris.
QUIMBY, J. & STEVENSON, A., in HUNT, R. M. M. (1958-1961) *Catalogue of botanical books in the collectiion of Rachel McMasters Miller Hunt* **1**: 408-409; **2**: lxxxvi, 12, 254-257. The Hunt Botanical Library, Pittsburgh.
RANKIN RODRÍGUEZ, R., & GREUTER, W. (1999) Charles Plumier's drawings of American plants and the nomenclature of early Caribbean *Aristolochia* species. *Taxon* **48:** 677-688.
STAFLEU, F. A. & COWAN, R. S. (1983) *Taxonomic literature* **4**: 301-303. The Hague.
STOFFERS, A. L. (1984) *Flora of the Netherlands Antilles* **3**: *Spermaophyta*. Utrecht. [*Cactaceae* 143-158].
TAYLOR, N. P. (1991) The genus *Melocactus* in Central and South America. *Bradleya* **9**: 1-80.
URBAN, I. (1902) *Symbolae Antillanae seu fundamenta florae Indiae occidentalis* **3**: 101-103. Leipzig.
URBAN, I. (1920) Plumiers Leben und Schriften nebst einem Schlüssel zu seinen Blütenpflanzen. *Repertorium specierum novarum regni vegetabilis. Beihefte.* **5**: 1-10, 82-84, 142, 162-163.
VIRVILLE, D. de (1954) *Histoire de la botanique en France*: 58, 60. Comité Français du VIII Cogrès International de Botanique Paris-Nice 1954, Paris.
WIJNANDS, D. O. (1983) *The botany of the Commelins*. A. A. Balkema, Rotterdam.

Facsimile of the cactus plates from Plumier, Botanicon Americanum seu historia plantarum in Americanis insulis nascentium (1689-1697) reproduced with permission from the original copy at the Muséum d'Histoire Naturelle, Bibliothèque Centrale, Paris.



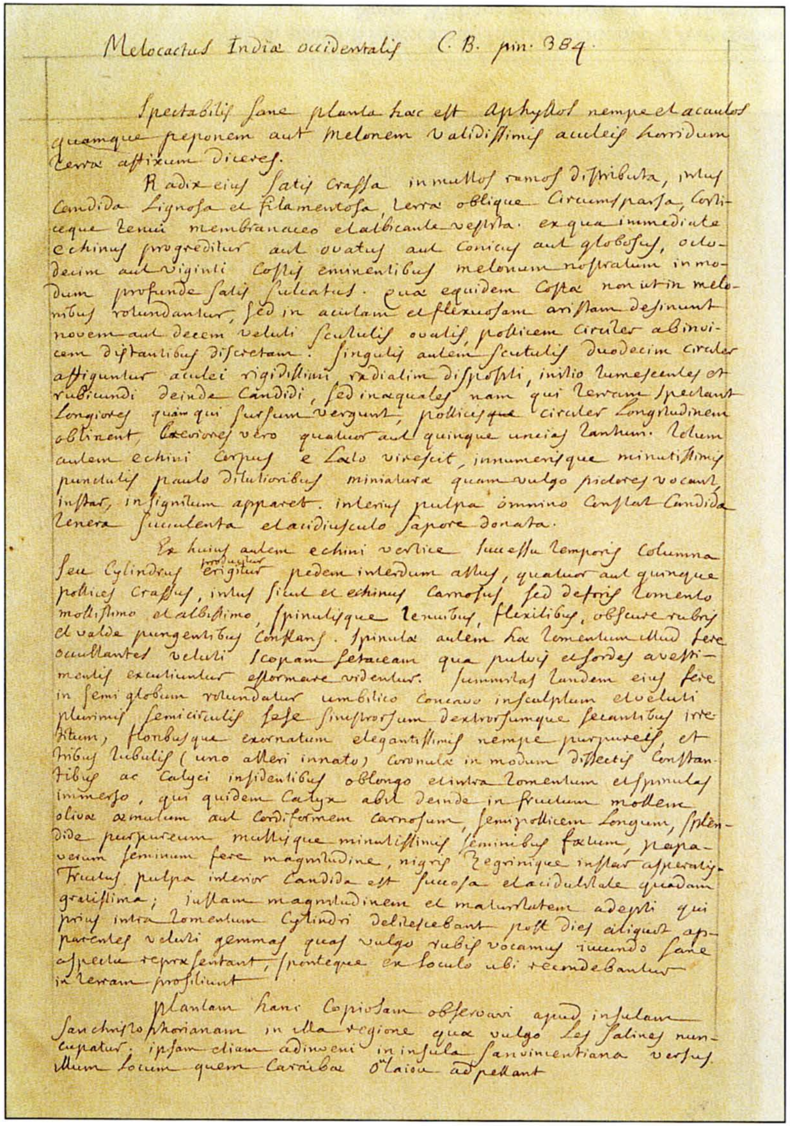
Pereskia aculeata, flore albo, fructu flavescente.

Ruborum aut Rhamnorum nostratum modo fruticat haec planta longissimos ramos producit arbores ipsas et frutices vicinos scandentes et onerantes, digitum fere crassos, teretes, lignosos, intus medullosos, foris dilute badios, aculeisque munitos binis et binis positis, sed brevibus, validis aduncis etiam dilute badiis. inter duos quoslibet aculeos folium exoritur nullo aut brevissimo pediculo pollens, cuspidis lanceae forma duos pollices circiter longum, unum pollicem latum, crassiusculum tenerum glabrum, utrinque laete virens, unicum nervulo in longum percurrente praeditum, gustumque acidulum prae se ferens.

passim cum foliis ramusculi alii etiam connascuntur breves, in pluses ramulos dispertiti; et in singulis ramulis flos unicus prominet odoratissimus et candidissimus, aurantiorum floribus duplo maior et foliosior rosaceus scilicet, plurimis petalis in orbem positis constans oblongis, pistillum ambientibus striatum et staminulis multis candidis apicem luteum gerentibus stipatum. Calyx autem florum globosus inest, foliolisque quibusdam instructus, abitque deinde in fructum etiam globosum carnosum mollem, nuce avellanea paulo maiorem, luteolum dictis iam foliolis instructum gratissima aciditate praeditum in quo nidulantur ut plurimum tria semina orbicularia compressa, nigra lenteque paulo minora.

Septembri plantam reperi florentem ac fructus maturos ferentem in variis insulis antillanis. eamdem in insula quadam quae vulgo dicitur Lunion una ex insulis granatinis observavi caudice pollentem crassissimo aculeis validissimis, longis et rigidis armato, ac in ramos abeunte etiam crassos aculeatos, ac per amplas arbores ascensu superantes.

Vol. 2, plate 132 Pereskia aculeata, flore albo, fructu flavescente. Identity: ***Pereskia aculeata*** Miller



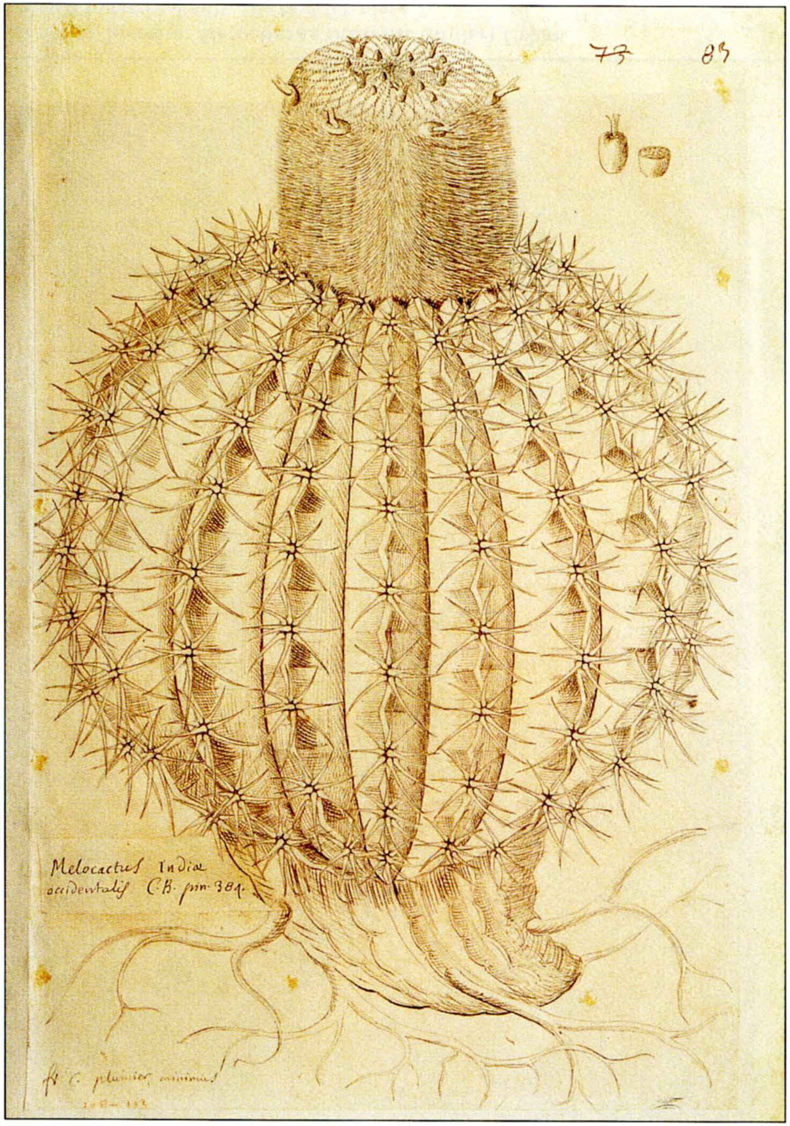
Melocactus Indiæ occidentalis C. B. pin. 384.

Spectabilis sane planta hæc est aphyllos nempe et acaulos quamque peponem aut melonem validissimis aculeis horridum terræ affixum diceres.

Radix ejus satis crassa in multos ramos distributa, intus candida lignosa et filamentosa, terræ oblique circumsparsa, corticeque tenui membranaceo et albicante vestita. ex qua immediate echinus progreditur aut ovatus aut conicus aut globosus, octodecim aut viginti costis eminentibus melonum nostratum in modum profunde satis sulcatus. quæ equidem costæ non ut in melonibus rotundantur, sed in acutam et flexuosam aristam desinunt novem aut decem veluti scutulis ovatis pollicem circiter ab invicem distantibus discretam: singulis autem scutulis duodecim circiter affiguntur aculei rigidissimi, radialim dispositi, initio tumescentes et rubicundi deinde candidi, sed inæquales nam qui terram spectant longiores quàm qui sursum vergunt, pollicisque circiter longitudinem obtinent, breviores vero quatuor aut quinque uncias tantum. totum autem echini corpus e læto virescit, innumerisque minutissimis punctulis paulo dilutioribus miniaturæ quam vulgo pictores vocant instar, insignitum apparet. interius pulpa omnino constat candida tenera succulenta et acidiusculo sapore donata.

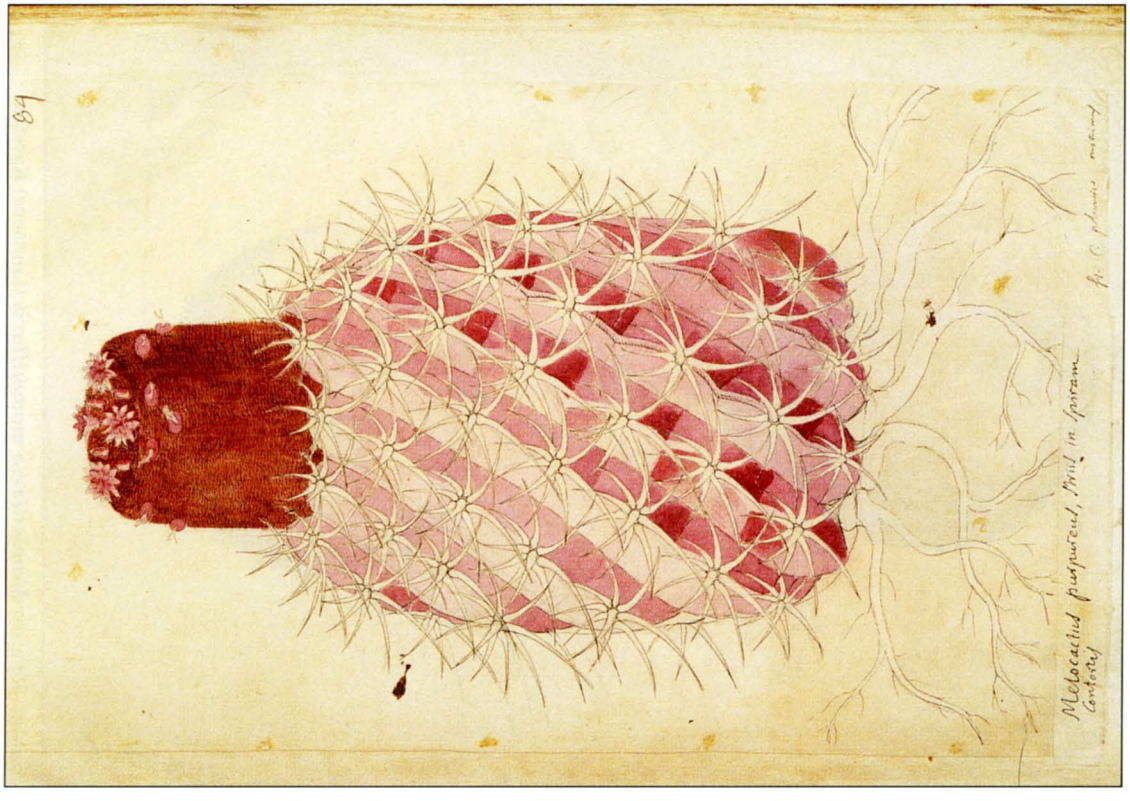
Ex hujus autem echini vertice successu temporis columna seu cylindrus producitur erigitur pedem interdum altus, quatuor aut quinque pollices crassus, intus sicut et echinus carnosus, sed deforis tomento mollissimo et albissimo, spinulisque tenuibus, flexilibus, obscure rubris et valde pungentibus constans. spinulæ autem hæ tomentum illud fere occultantes veluti scopam setaceam qua pulvis et sordes a vestimentis excutiuntur efformare videntur. summitas tandem ejus fere in semi globum rotundatur umbilico concavo insculptum et veluti plurimis semicirculis sese sinistrorsum dextrorsumque secantibus intextum, floribusque exornatum elegantissimis nempe purpureis, et tribus tubulis (uno alteri innato) coronulæ in modum dissectis constantibus ac calyci insidentibus oblongo et intra tomentum et spinulas immerso, qui quidem calyx abit deinde in fructum mollem olivæ æmulum aut cordiformem carnosum, semipollicem longum, splendide purpureum multisque minutissimis seminibus fœtum, raparum seminum fere magnitudine, nigris tegrinique instar asperulis. fructus pulpa interior candida est succosa et aciduiltate quadam gratissima; justam magnitudinem et maturitatem adepti qui prius intra tomentum cylindri delitescebant post dies aliquot apparentes veluti gemmas quas vulgo rubis vocamus jucundo sane aspectu repræsentant, sponteque ex loculo ubi recondebantur in terram prosiliunt

Plantam hanc copiosam observavi apud insulam Sanchristophorianam in illa regione quæ vulgo les Salines nuncupatur. ipsam etiam adinveni in insula Sanvincentiana versus illum locum quem Caraibæ Olaiou appellant



Vol. 3, plate 7 Melocactus Indiae occidentalis. C. B. pin. 384. Identity: ***Melocactus broadwayi*** (Britton & Rose) Berger

Vol. 3, plate 8 Melocactus Indiae occidentalis fere conicus et striatus. Identity: ***Melocactus intortus*** (Miller) Urban.
Notes: Without separate text, and therefore presumed to be read with the text for plate 7.



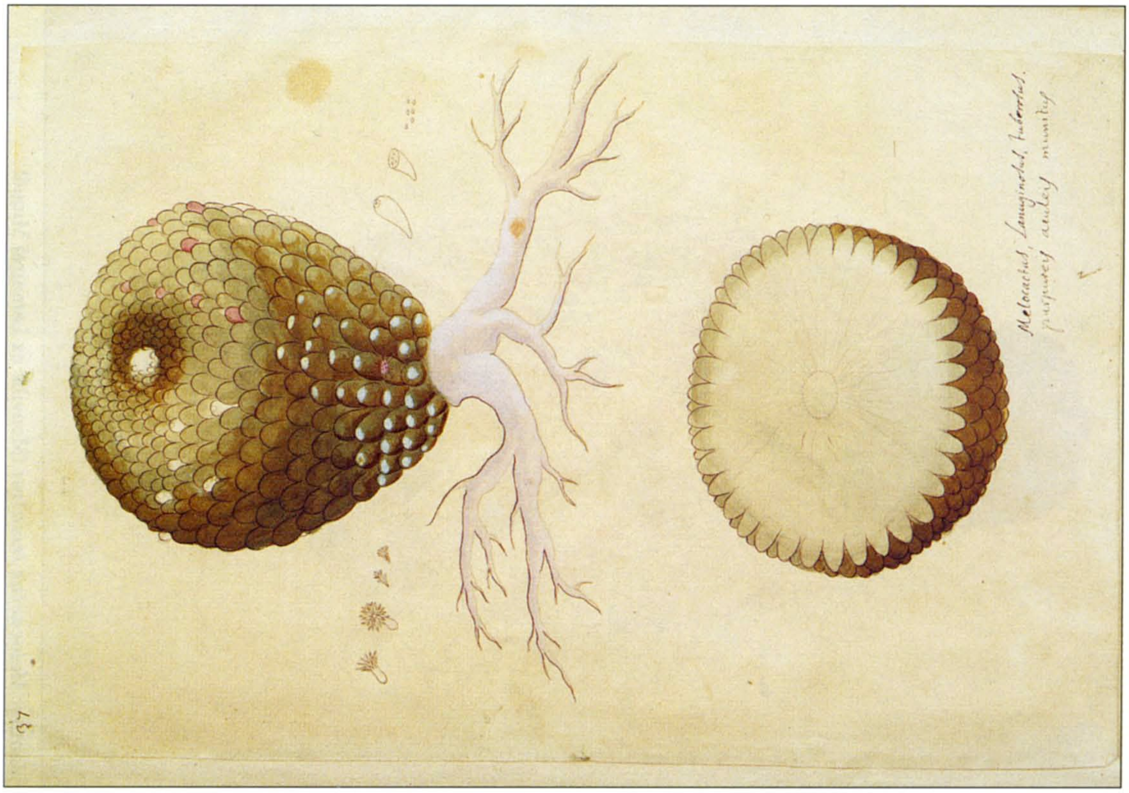
Melocactus purpureus, striis in spiram contortus

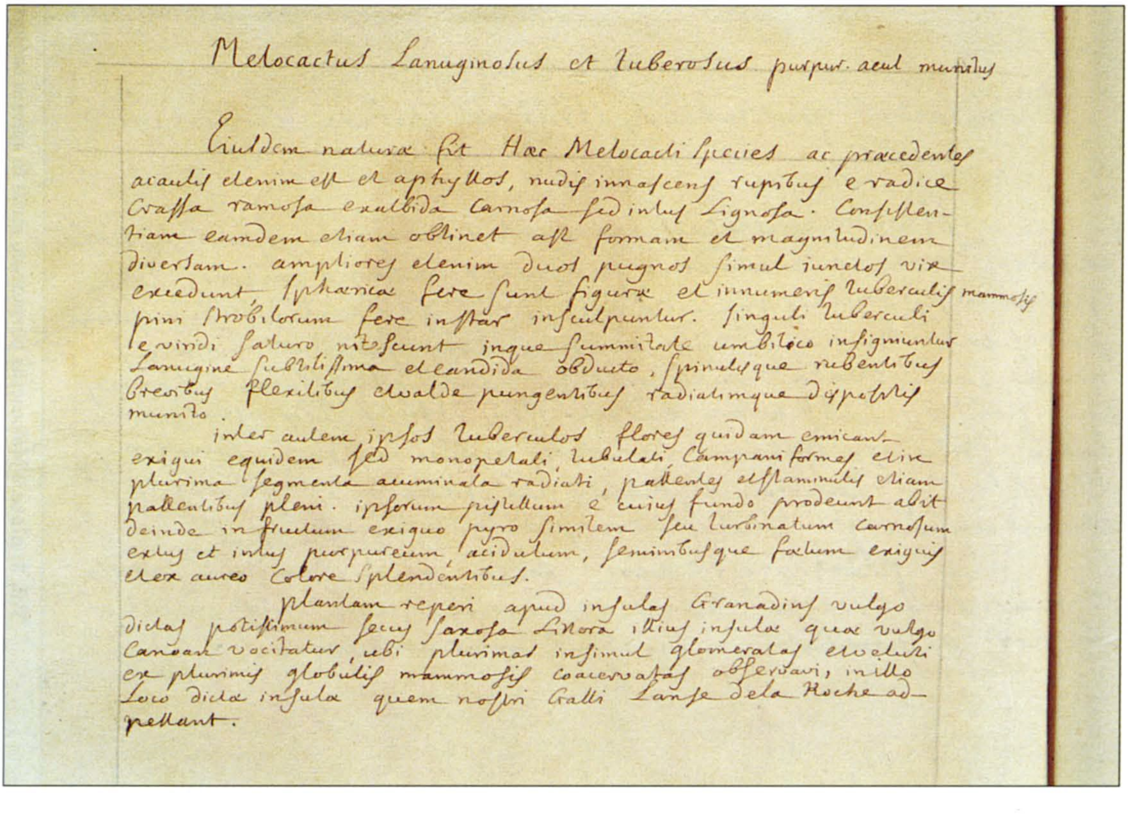
Melocactus purpureus, Striis in Spiram Contortus.

Huiusce melocacti elegantissimo sane Species, horrenda simul et iucunda, purpureo nempe nitore tota splendens, aculeisque candidissimis sed validissimis simul horrescens. Varias sicut et praecedens sortitur formas nempe aut ovata^ma aut conicam aut globosam. radices eius similes, substantia eadem sed deforis tota purpurea, spirae striae in Spiram contortae, aculei autem longiores, eboris instar candidi et pauli per incurvi. Flores insi- gniam ampliores fructu vero paulo minores.

plantam reperi circa loca quaedam saxosa et maritima versus illam regionem quae vulgo dicitur le port a piment in insula Sandominicana.

Vol. 3, plate 9 Melocactus purpureus, striis in spiram contortus. Identity: ***Melocactus lemairei*** (Monville ex Lemaire) Miquél



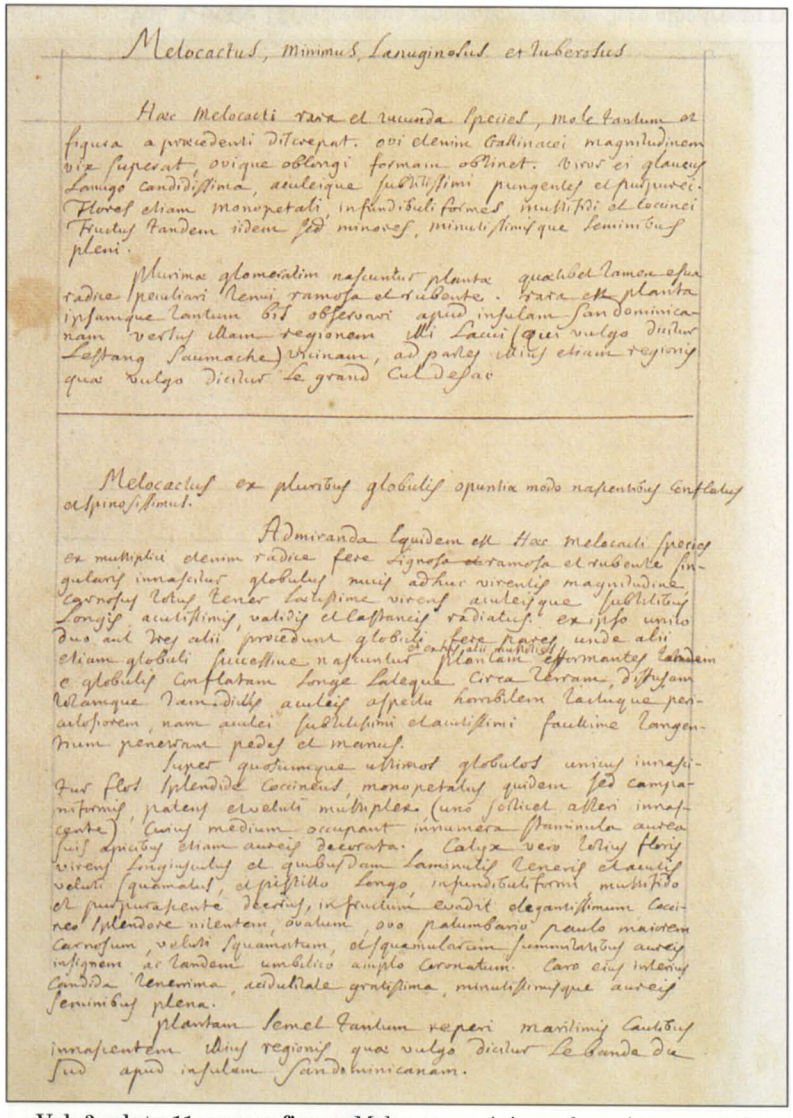

Melocactus Lanuginosus et tuberosus purpur. acul munitus

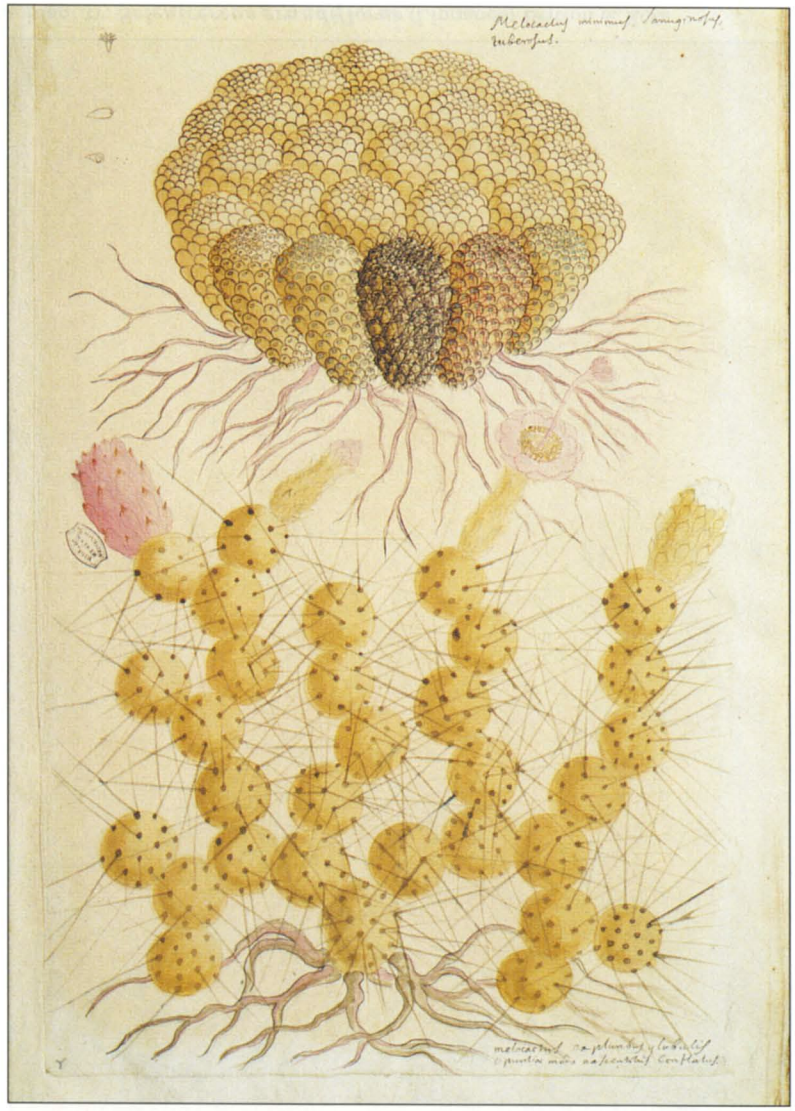
Eiusdem naturæ sit Hæc Melocacti species ac præcedentes acaulis etenim est et aphyllos, nudis innascens rupibus e radice crassa ramosa exalbida carnosa sed intus lignosa. Consistentiam eamdem etiam obtinet ast formam et magnitudinem diversam. ampliores etenim duos pugnos simul junctos vix excedunt, sphæricæ fere sunt figuræ et innumeris tuberculis mammosis pini strobilorum fere instar insculpuntur. singuli tuberculi e viridi saturo nitescunt inque summitate umbilico insigniuntur Lanugine subtilissima et candida obducto, spinulisque rubentibus brevibus flexibilibus et valde pungentibus radiatimque dispositis munito.

inter autem ipsos tuberculos flores quidam emicant exigui equidem sed monopetali, tubulati, campaniformes et in plurima segmenta acuminata radiati, patentes et stamineis etiam patentibus pleni. ipsorum pistillum é cuius fundo prodeunt abit deinde in fructum exiguo pyro similem seu turbinatum carnosum extus et intus purpureum, acidulum, seminibusque fœtum exiguis et ex aureo colore splendentibus.

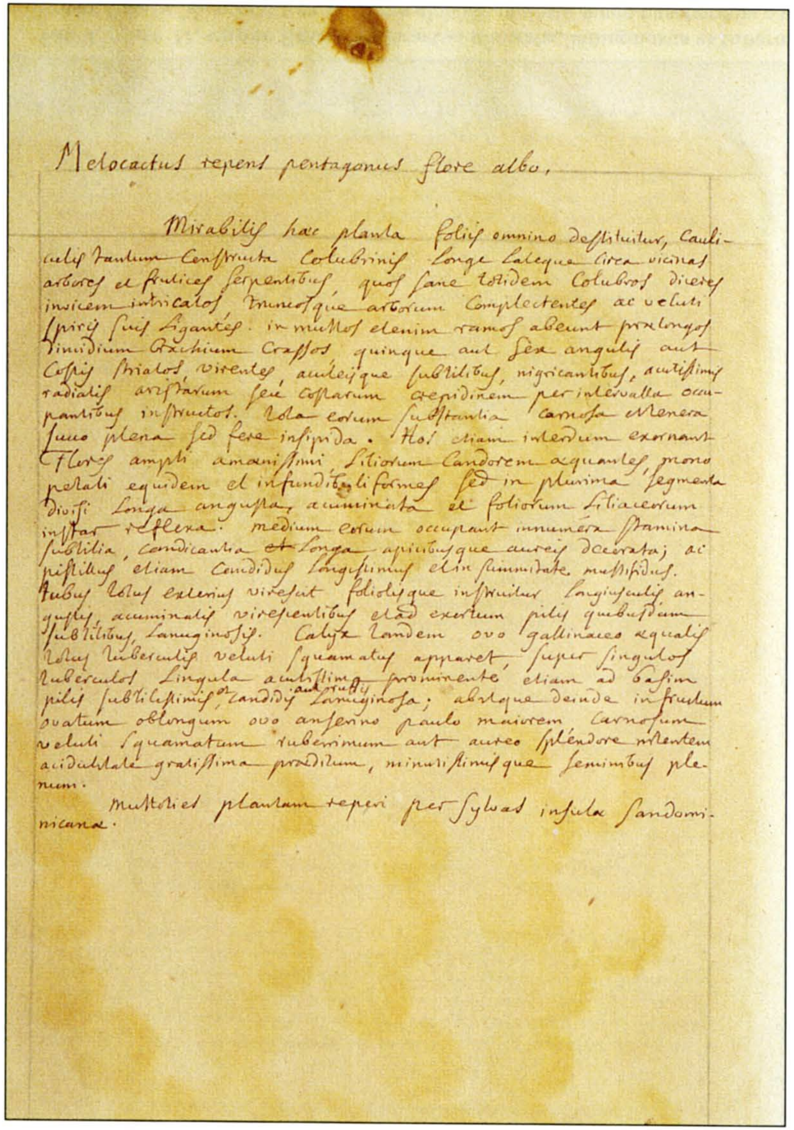
plantam reperi apud insulas Granadinas vulgo dictas potissimum secus saxosa littora illius insulæ quæ vulgo Canoan vocitatur, ubi plurimas insimul glomeratas et veluti ex plurimis globulis mammosis coacervatas observavi, in illo loco dictæ insulæ quem nostri Galli l'anse de la Roche appellant.

Vol. 3, plate 10 Melocactus lanuginosus et tuberosus purpureis aculeis munitus. Identity: ***Mammillaria mammillaris*** (Linnaeus) Karsten





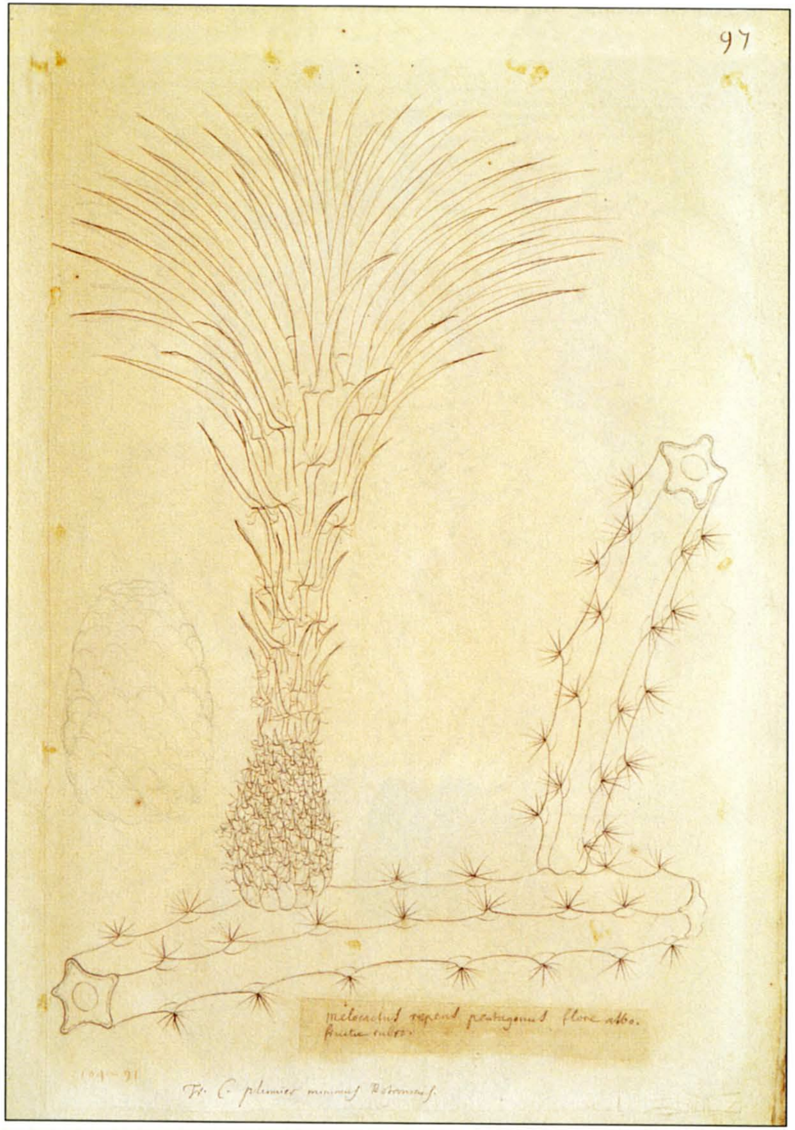
Vol. 3, plate 11, upper figure Melocactus minimus, lanuginosus et tuberosus. Identity: ***Mammillaria glomerata*** (Lamarck) Candolle. **Vol. 3, plate 11, lower figure** Melocactus ex pluribus globulis opuntia modo nascentibus constatus et spinosissimus. Identity: ***Opuntia moniliformis*** (Linnaeus) Steudel



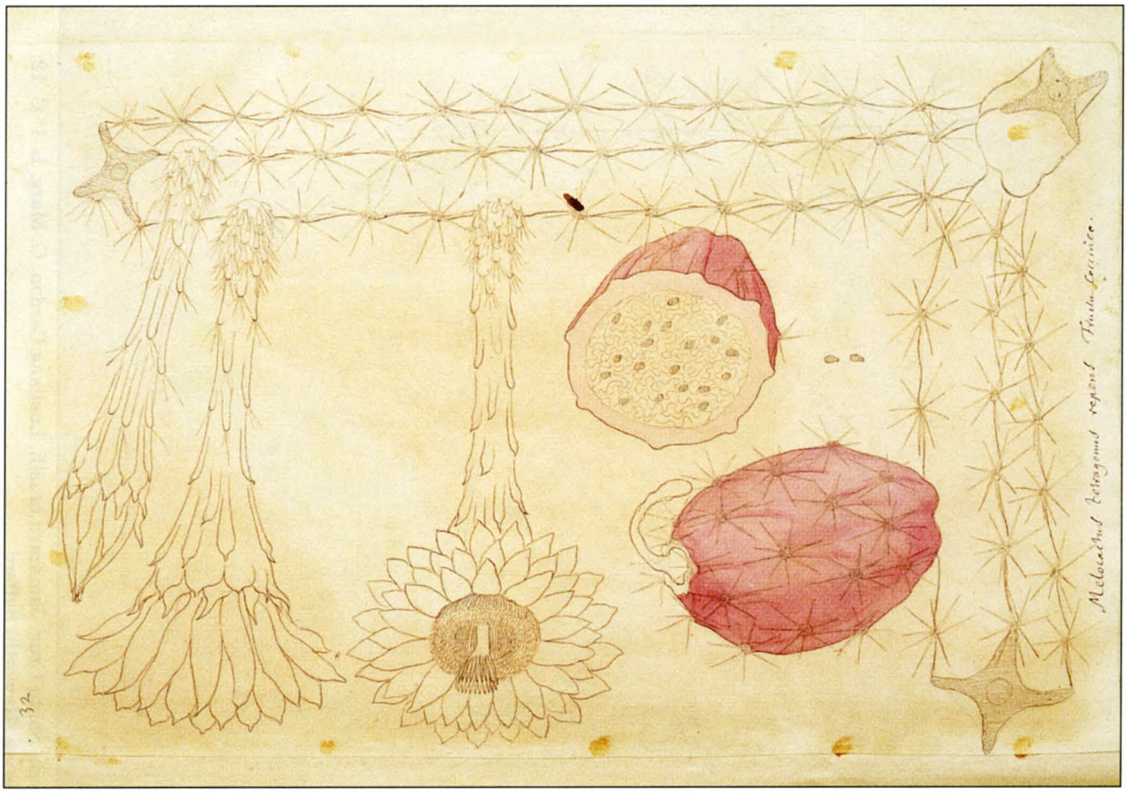
Melocactus repens pentagonus flore albo.

Mirabilis haec planta foliis omnino destituitur, cauliculis tantum constructa colubrinis longe lateque circa vicinas arbores et frutices serpentibus, quos sane totidem colubros diceres invicem intricatos, truncosque arborum complectentes ac veluti spiris suis ligantes. in multos etenim ramos abeunt praelongos dimidium brachium crassos quinque aut sex angulis aut costis striatos, virentes, aculeisque subtilibus, nigricantibus, acutissimis radiatis aristarum seu costarum crepidinem per intervalla occupantibus instructos. Tota eorum substantia carnosa et tenera succo plena sed fere insipida. Hos etiam interdum exornant flores ampli amaenissimi liliorum candorem aequantes, monopetali equidem et infundibuliformes sed in plurima segmenta divisi longa angusta, acuminata et foliorum liliaceorum instar reflexa: medium eorum occupant innumera stamina subtilia, candicantia et longa apicibusque aureis decorata; ac pistillus etiam candidus longissimus et in summitate multifidus. Tubus totus exterius virescit foliolisque instruitur longiusculis angustis, acuminatis virescentibus et ad exortum pilis quibusdam subtilibus, lanuginosis. Calyx tandem ovo gallinaceo aequalis totus tuberculis veluti squamatus apparet, super singulos tuberculos lingula acutissima prominente, etiam ad basim pilis subtilissimis candidis aut rufis lanuginosa; abitque deinde in fructum ovatum oblongum ovo anserino paulo maiorem, carnosum veluti squamatum rubentem aut aureo splendore nitentem aciditate gratissima praeditum, minutissimisque seminibus plenum.

Multoties plantam reperi per sylvas insulae Sandominicanae.



Vol. 3, plate 12 Melocactus repens pentagonus flore albo fructu rubro. Identity: ***Selenicereus grandiflorus*** (Linnaeus) Britton & Rose



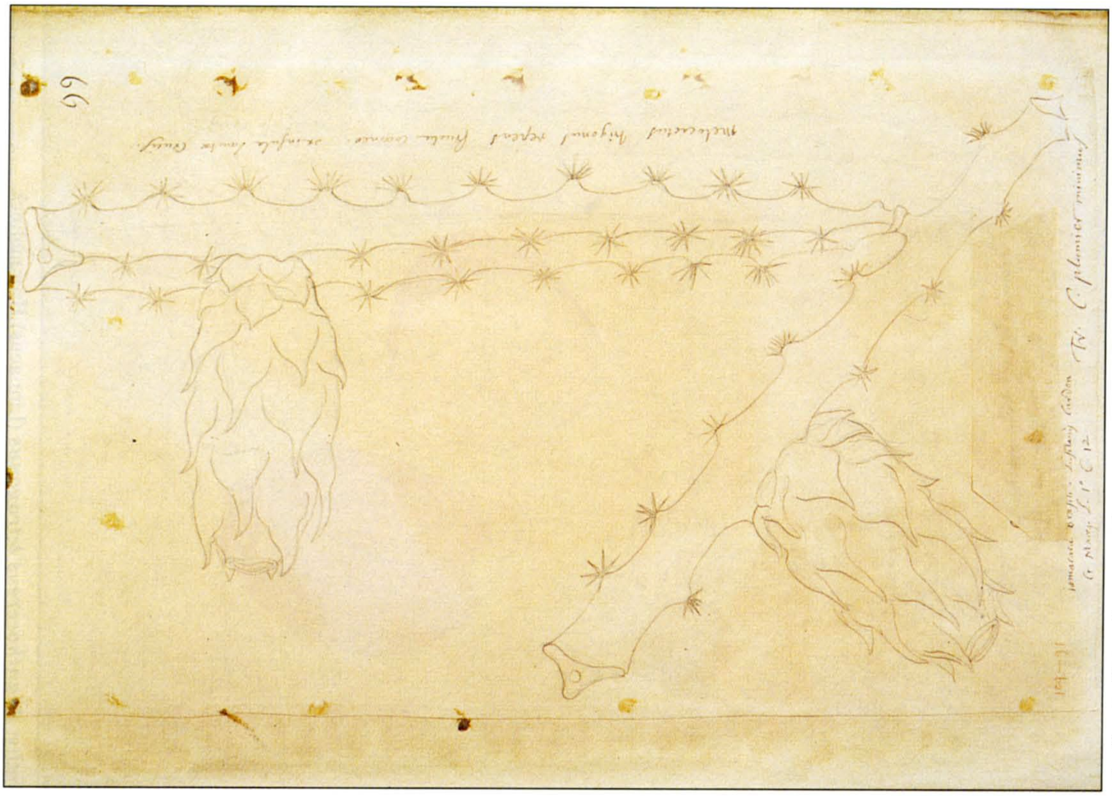
Melocactus tetragonus repens fructu rubro.

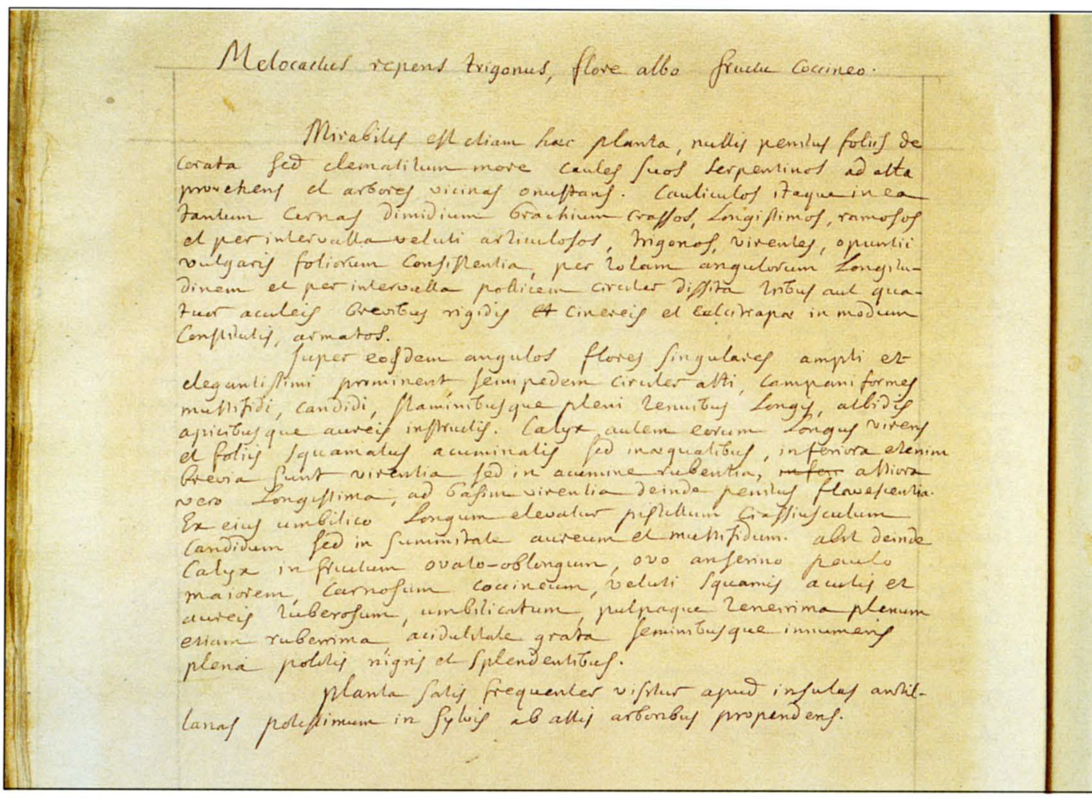
Hæc planta præcedentis more nulla obtinet folia, sed ramis longissimis tota constat, dimidium brachium crassis, serpentium longorum instar super vicinas arbores prorepentes quatuor angulis eminentibus per totam longitudinem canaliculatos et super quoscumque angulos aculeis rigidis, acutissimis fuscis et caliitrapa in modum radiatis armatos.

Super eosdem angulos interdum flores prominent ampli, candidissimi monopetali quidem et infundibuliformes sed in plurimas lacinias triplici ordine sibi invicem incumbentibus dissecti, ac innumeris staminulis candidis coronam efformantibus apicibusque aureis decoratis, ornati. Tubus eorum longus virens ac veluti squamatus e fundo suo pistillum exerit longum candidum infundibuliformem et in plurimas lacinias etiam dissectum, insidetque calyci qui deinde abit in fructum ovo anserino paulo maiorem veluti squamatum et ad singulas squamarum eminentias aculeis plurimis etiam stellatis munitum. Totus coccineo rubore splendescit, intus pulpam seu carnem continens etiam coccineam tenerrimam aciditate gratissimam seminibusque nigerrimis et politissimis plenam.

Plantam reperi apud insulas granadins vulgo dictas potissimum in illa quæ vulgo dicitur Carriou prope illum sinum (Lanse a taffakes) vocatum

Vol. 3, plate 13 Melocactus tetragonus repens fructu rubro. Identity: ***Acanthocereus tetragonus*** (Linnaeus) Hummelinck





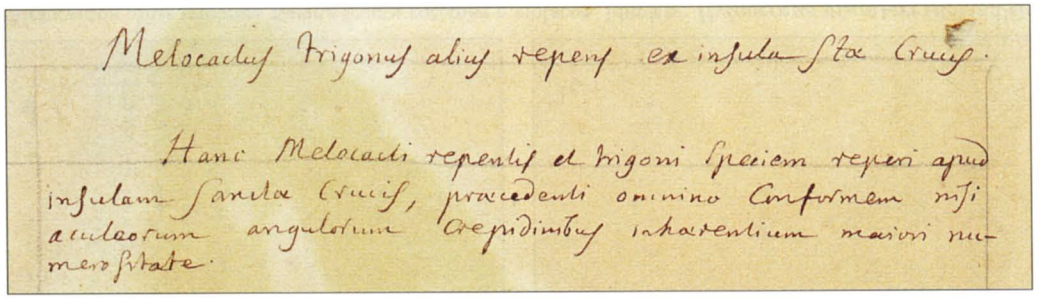
Melocactus repens trigonus, flore albo fructu coccineo.

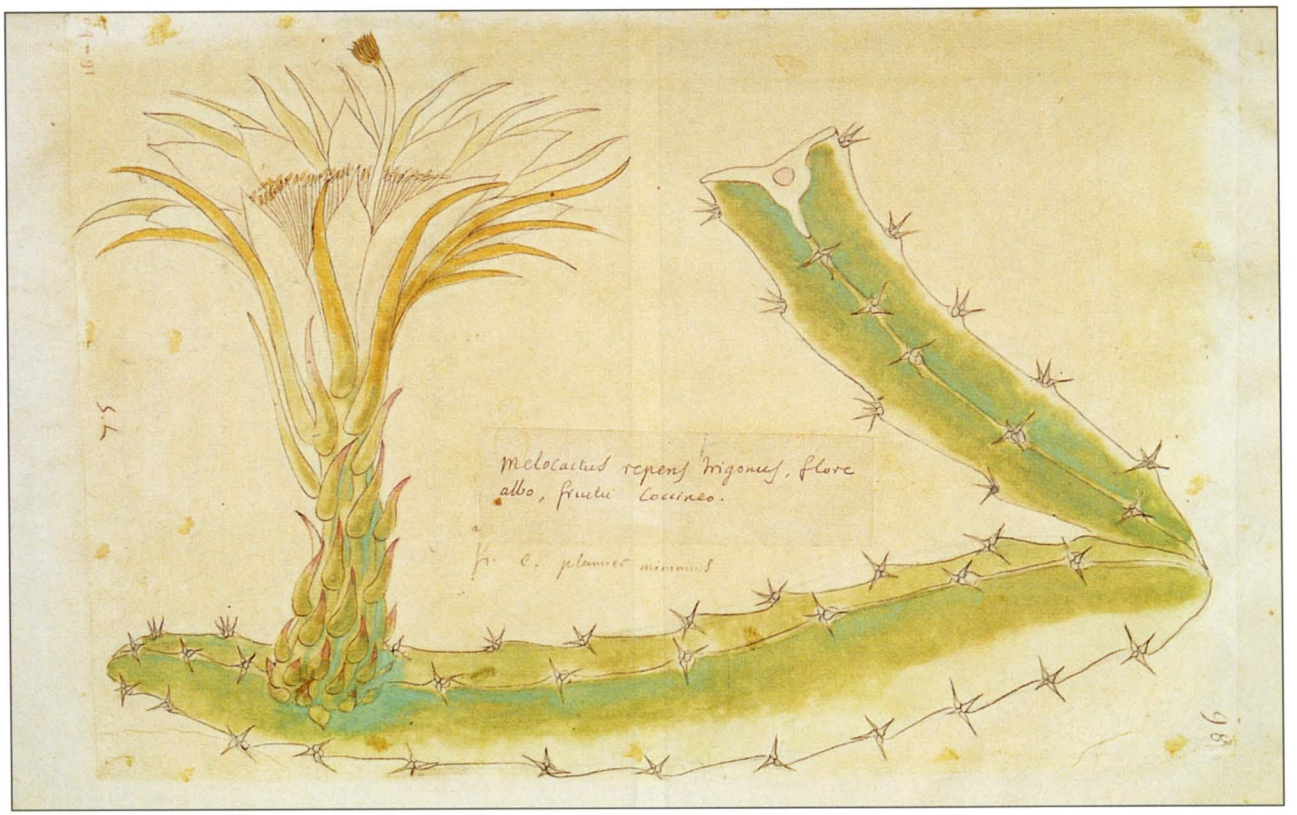
Mirabilis est etiam haec planta, nullis penitus foliis decorata sed clematitum more caules suos serpentinos ad alta provehens et arbores vicinas onustans. Cauliculos itaque in ea tantum cernas dimidium brachium crassos, longissimos, ramosos et per intervalla veluti articulosos, trigonos, virentes, opuntii vulgaris foliorum consistentia, per totam angulorum longitudinem et per intervalla pollicem circiter dissita tribus aut quatuor aculeis brevibus rigidis et cinereis et calcitrapae in modum constitutis, armatos.

Super eosdem angulos flores singulares ampli et elegantissimi prominent semipedem circiter alti, campaniformes multifidi, candidi, staminibusque pleni tenuibus longis, albidis apicibusque aureis instructis. Calyx autem eorum longus virens et foliis squamatus acuminatis sed inaequalibus, inferiora etenim brevia sunt virentia sed in acumine rubentia, ~~rufor~~ altiora vero longissima, ad basim virentia deinde penitus flavescentia. Ex eius umbilico longum elevatur pistillum crassiusculum candidum sed in summitate aureum et multifidum. abit deinde calyx in fructum ovato-oblongum, ovo anserino paulo maiorem, carnosum coccineum, veluti squamis acutis et aureis tuberosum, umbilicatum, pulpaque tenerrima plenum etiam ruberrima aciditate grata seminibusque innumeris plena pollis nigris et splendentibus.

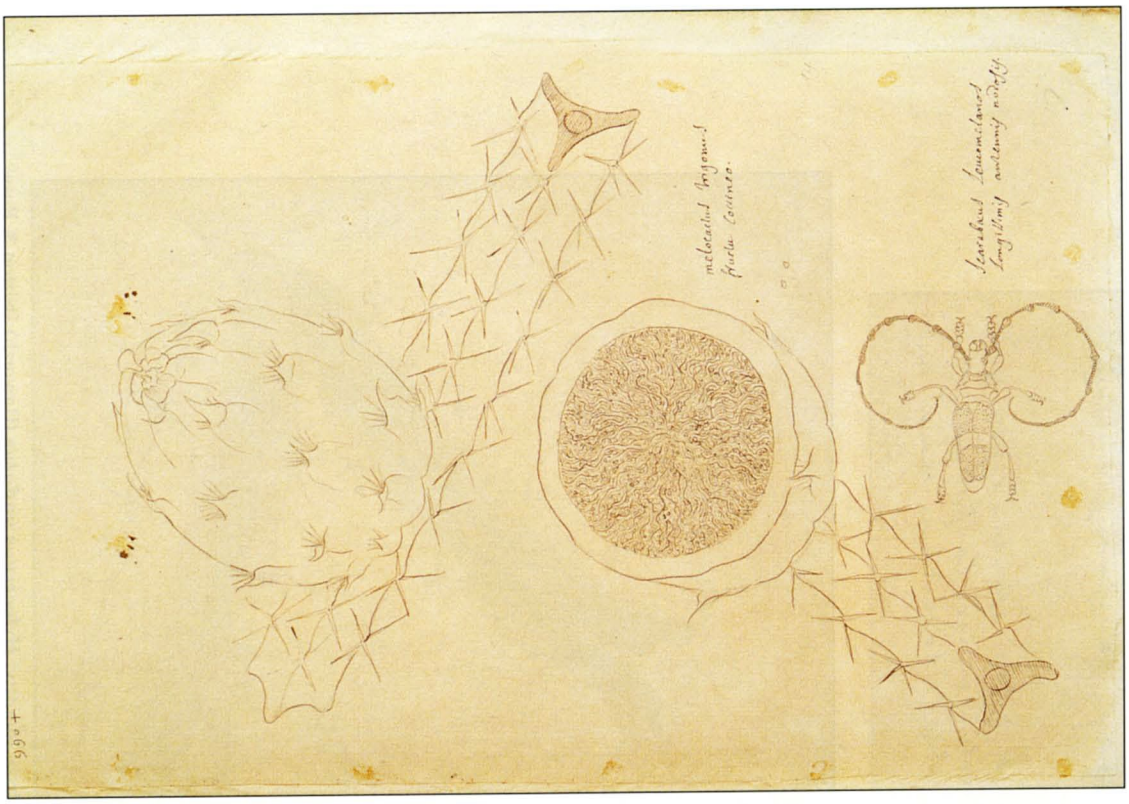
Planta satis frequenter visitur apud insulas antillanas potissimum in sylvis ab altis arboribus propendens.

Vol. 3, plate 14 Melocactus repens trigonus, flore albo fructu coccineo, ex insula Santa Cruz. Jamacaru brasili. Lusilang Cardon. G. Marg. L. 1° C. 12.
Identity: ***Hylocereus trigonus*** (Haworth) Safford





Vol. 3, plate 15 Melocactus trigonus alius repens, ex insula Sta. Cruz. Identity: ***Hylocereus undatus*** (Haworth) Britton & Rose

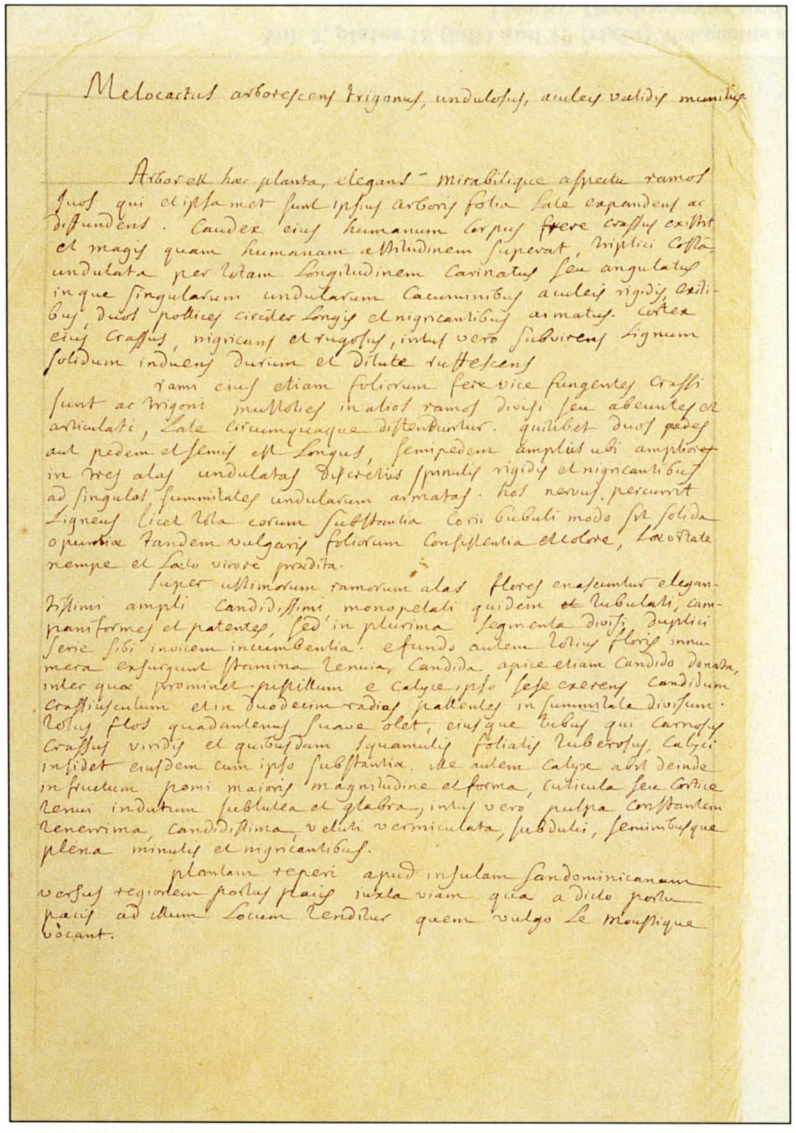


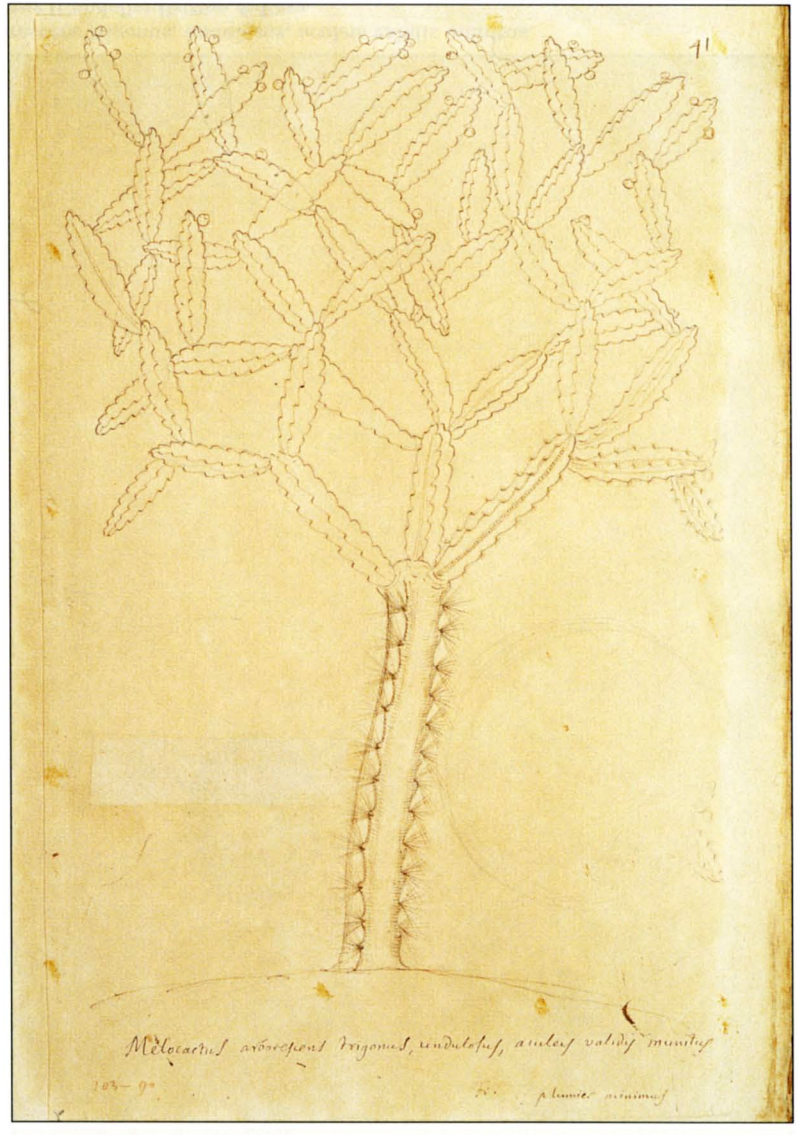
Melocactus alius trigonus repens fructu coccineo violaceo.

Duabus praecedentibus omnino conformis est haec species fructus tamen paulo ampliores, pentagoni ovati, coccinei quidem sed clamantissimo colore violaceo splendentes, + candidissima, acore levisque deforis instructi, intusque pulpa venerina + gratissima ac velut ex vermiculis innumeris compacta, pleni, seminibusque innumeris exiguis et nigerrimis fœti.

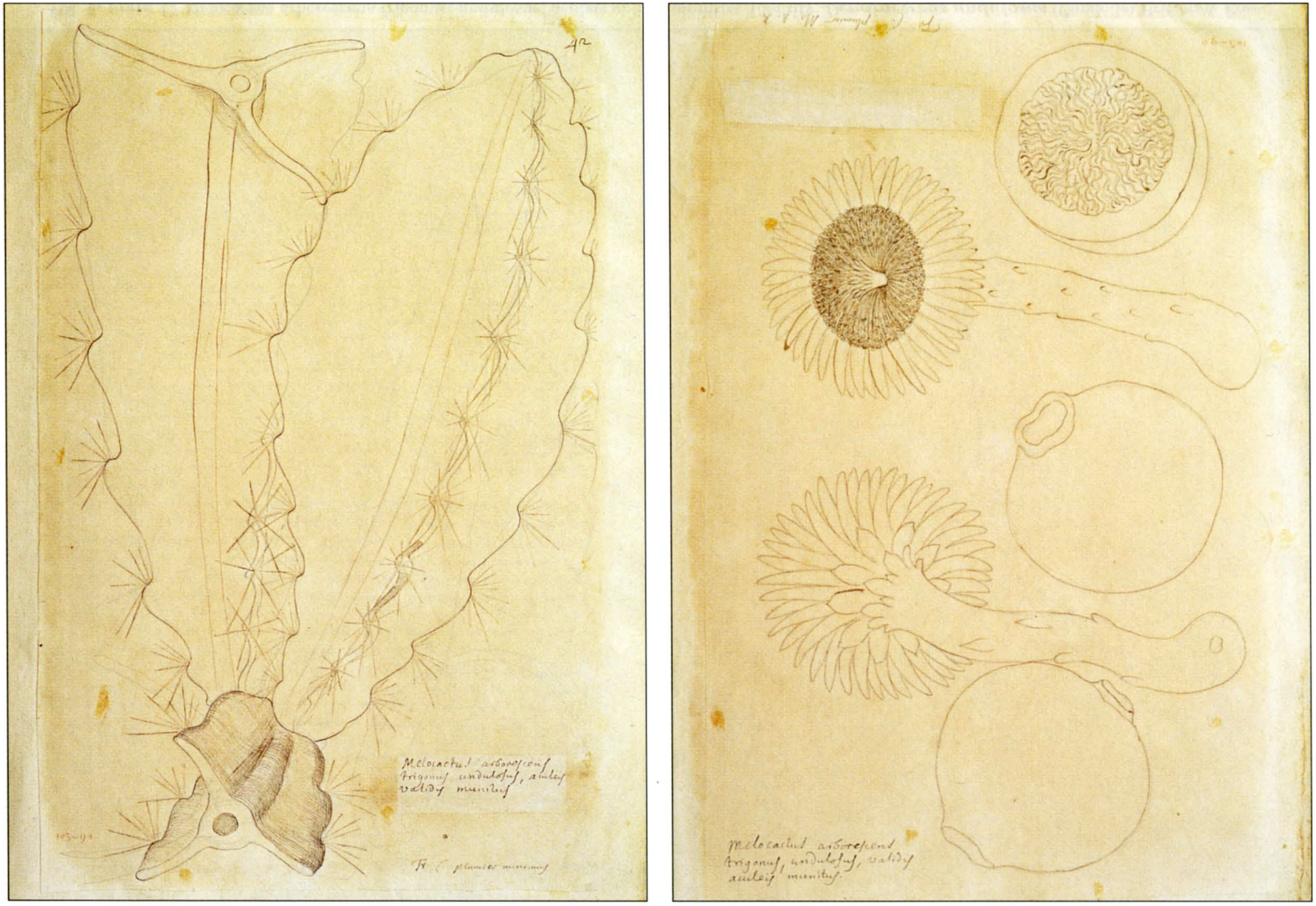
Hanc reperi apud insulas granatinas in illa + optimum insula quam Caraibæ Becouia appellant.

Vol. 3, plate 16 Melocactus alius trigonus repens fructu coccineo e violaceo. Identity: ***Hylocereus plumieri*** (Roland-Gosselin) Lourteig

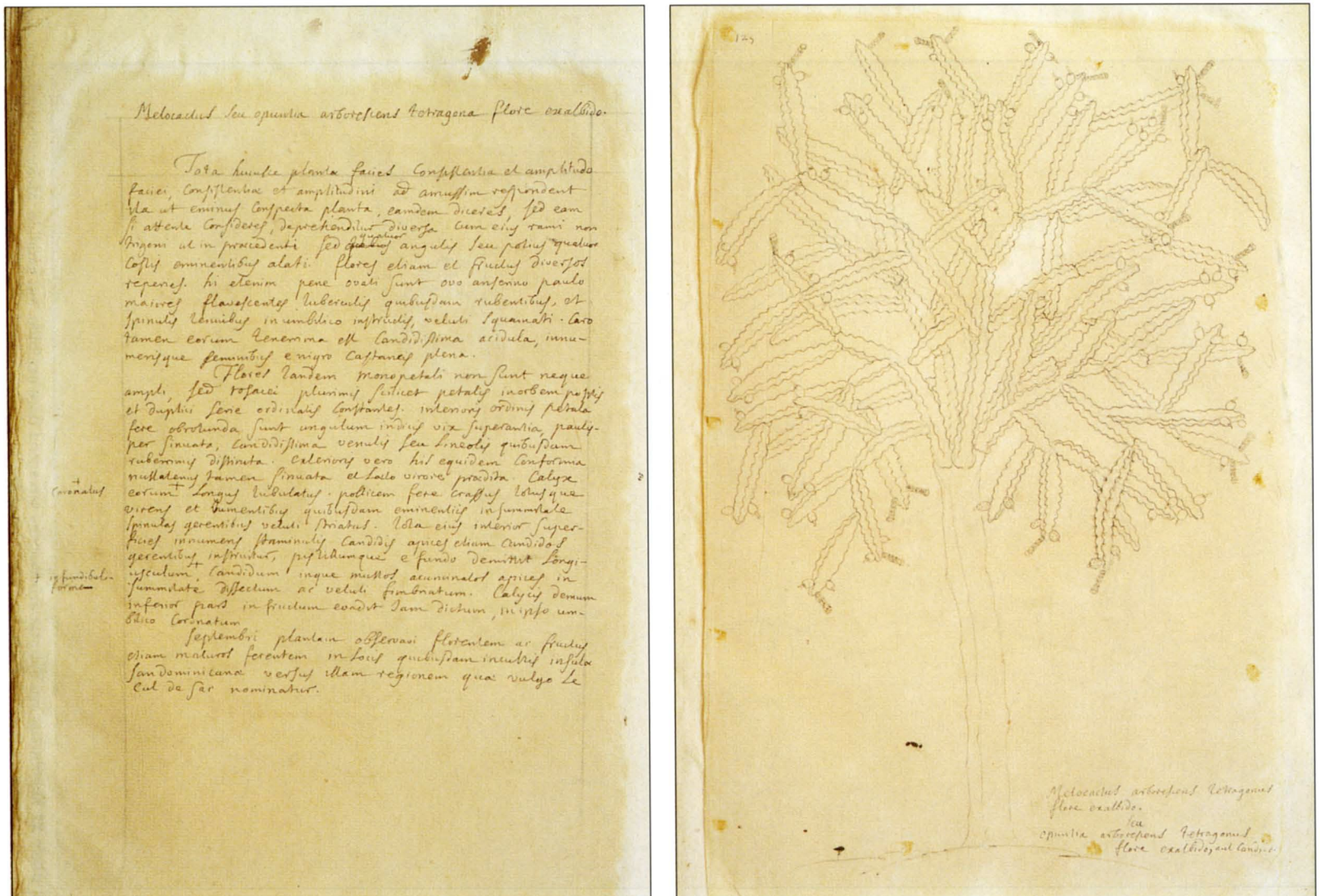




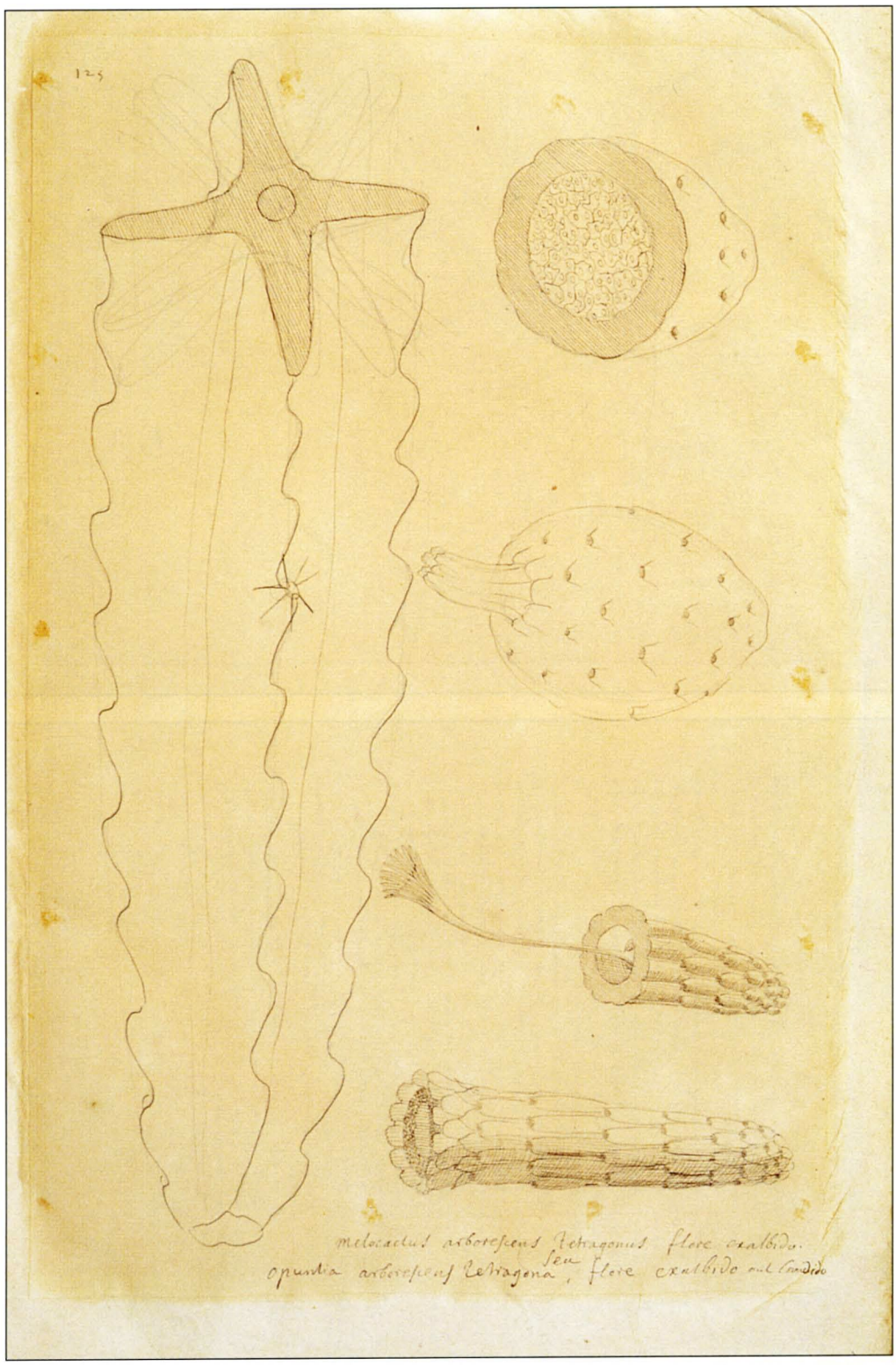
Vol. 3, plate 17 Melocactus arborescens trigonus, undulosus, aculeis validis munitus. Identity: ***Dendrocereus undulosus*** (Candolle) Britton & Rose



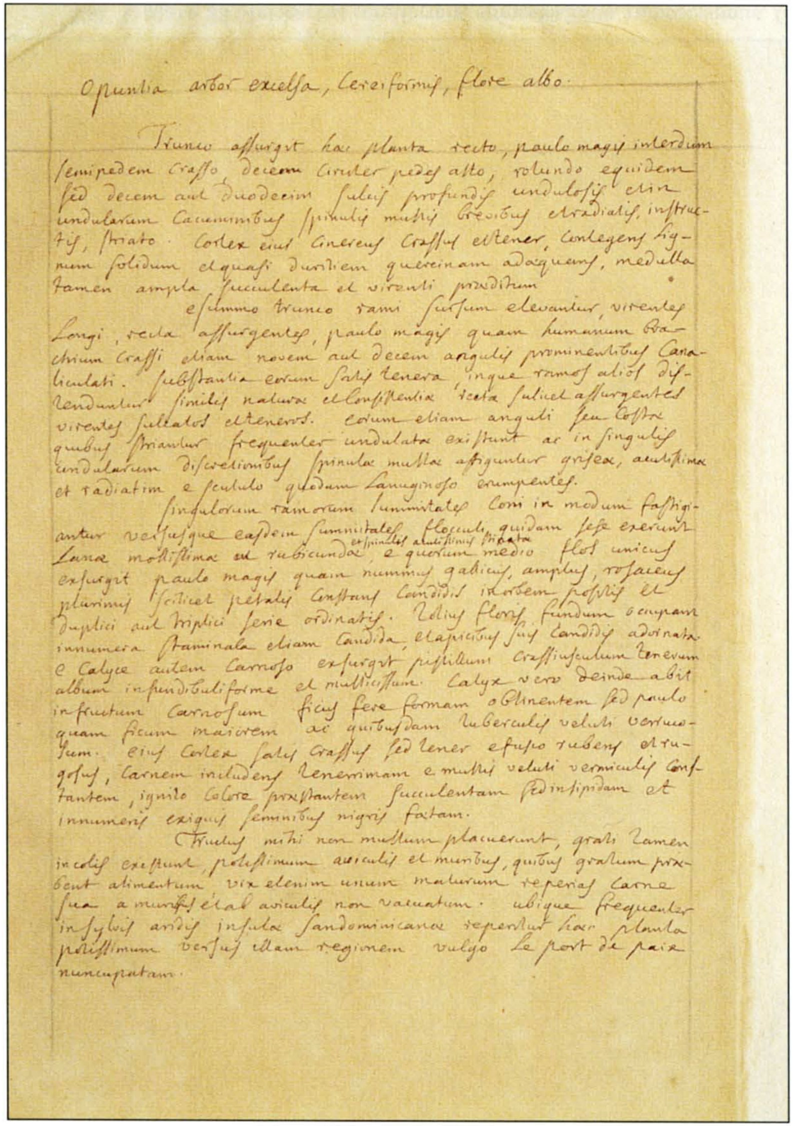
Vol. 3, plates 18 (left) and 19 (right) Melocactus arborescens trigonus, undulosus, aculeis validis munitus.
Identity: ***Dendrocereus undulosus*** (Candolle) Britton & Rose



Vol. 3, plate 20 Melocactus seu opuntia arborescens tetragona flore exalbido, aut candido. Melocactus arborescens tetragonus flore exalbido.
Identity: ***Neoabbottia paniculata*** (Lamarck) Britton & Rose



Vol. 3, plate 21 Melocactus seu opuntia arborescens tetragona flore exalbido, aut candido. Melocactus arborescens tetragonus flore exalbido. Identity: ***Neoabbottia paniculata*** (Lamarck) Britton & Rose



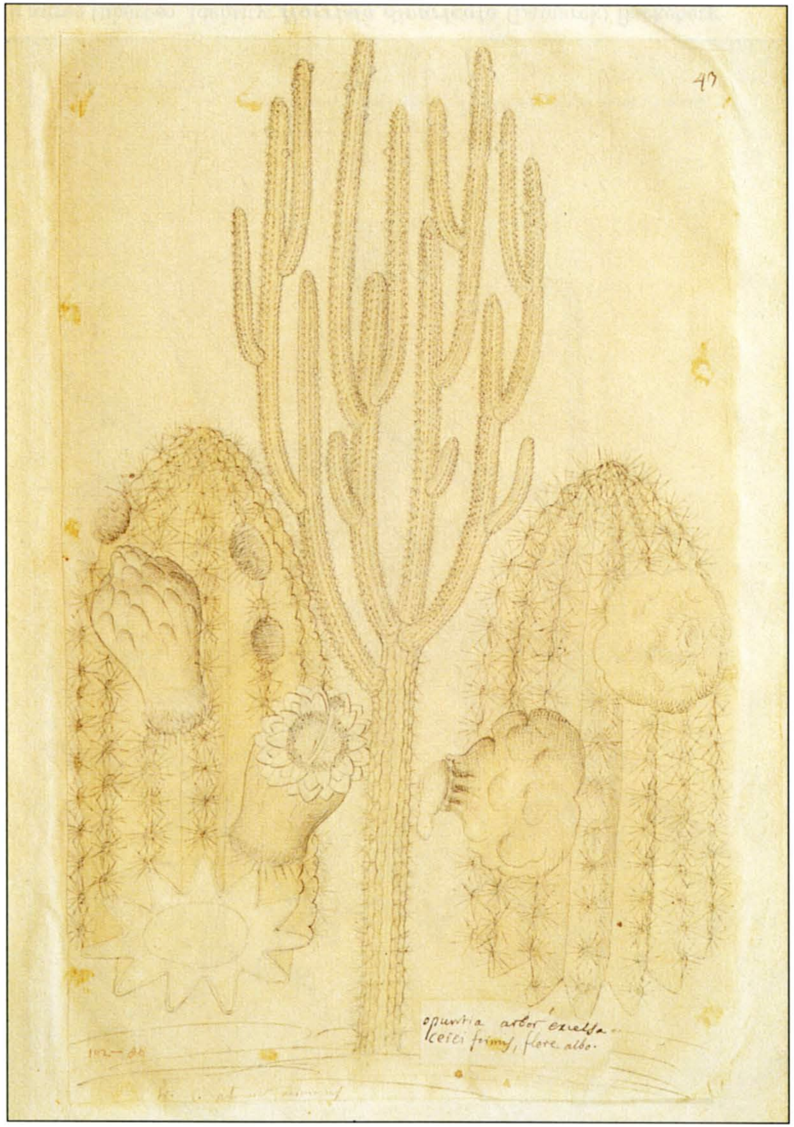
Opuntia arbor excelsa, Cereiformis, flore albo.

Trunco assurgit haec planta recto, paulo magis interdum semipedem crasso, decem circiter pedes alto, rotundo equidem sed decem aut duodecim sulcis profundis undulosis etiam undularum cacuminibus spinulis multis brevibus et radiatis instructis, striato. Cortex ejus cinereus crassus et tener, contegens lignum solidum et quasi durities quercinam adaequans, medulla tamen ampla, succulenta et virenti praeditum.

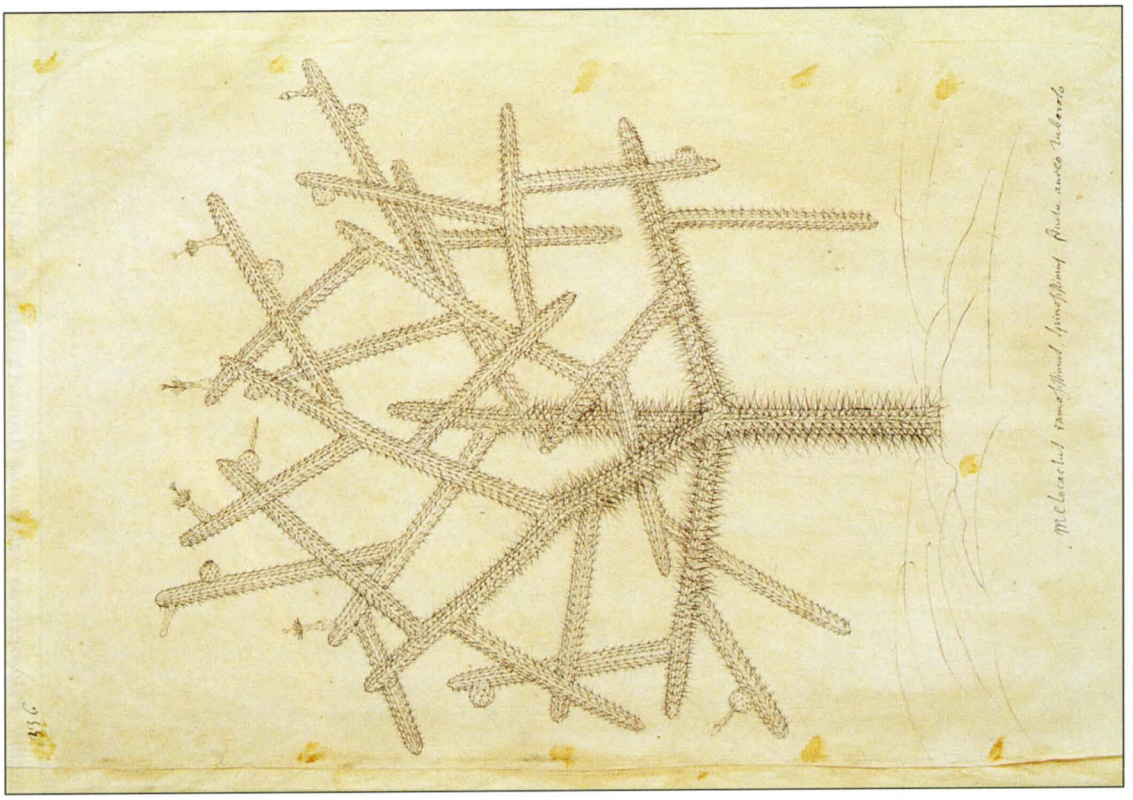
e summo trunco rami sursum elevantur, virentes longi, recta assurgentes, paulo magis quam humanum brachium crassi etiam novem aut decem angulis prominentibus canaliculati. substantia eorum satis tenera, inque ramos alios distenduntur similes natura et consistentia tecta sulcis assurgentes virentes sulcatos et teneros. eorum etiam anguli seu costae quibus striantur frequenter undulatae existunt ac in singulis undularum discretionibus spinulae multae affiguntur griseae, acutissimae et radiatim e scutulo quodam lanuginoso erumpentes.

singulorum ramorum summitates coni in modum fastigiantur versusque easdem summitates flosculi quidam sese exerunt lana mollissima et rubicunda spinulis acutissimis stipata, e quorum medio flos unicus exsurgit paulo magis quam nummus gallicus, amplus, rosaceus plurimis scilicet petalis constans candidis in orbem positis et duplici aut triplici serie ordinatis. Totius floris fundum occupant innumera staminula etiam candida, et apicibus suis candidis adornata. e calyce autem carnoso exsurgit pistillum crassiusculum tenerum album infundibuliforme et multiscissum. Calyx vero deinde abit in fructum carnosum ficus fere formam obtinentem sed paulo quam ficum maiorem ac quibusdam tuberculis veluti verrucosum. eius cortex satis crassus sed tener et fusco rubens et rugosus, carnem includens tenerrimam e multis veluti vermiculis constantem, ignito colore praestantem succulentam sed insipidam et innumeris exiguis seminibus nigris fartam.

Fructus mihi non multum placuerunt, grati tamen incolis existunt, potissimum aviculis et muribus, quibus gratum praebent alimentum. vix etenim unum maturum reperias carne sua a muribus et ab aviculis non vacuatum. ubique frequenter in sylvis aridis insulae sandominicanae reperitur haec planta potissimum versus illam regionem vulgo Le port de paix nuncupatam.



Vol. 3, plate 22 Opuntia arbor excelsa, cereiformis, flore albo. Identity: ***Pilosocereus polygonus*** (Lamarck) Byles & Rowley

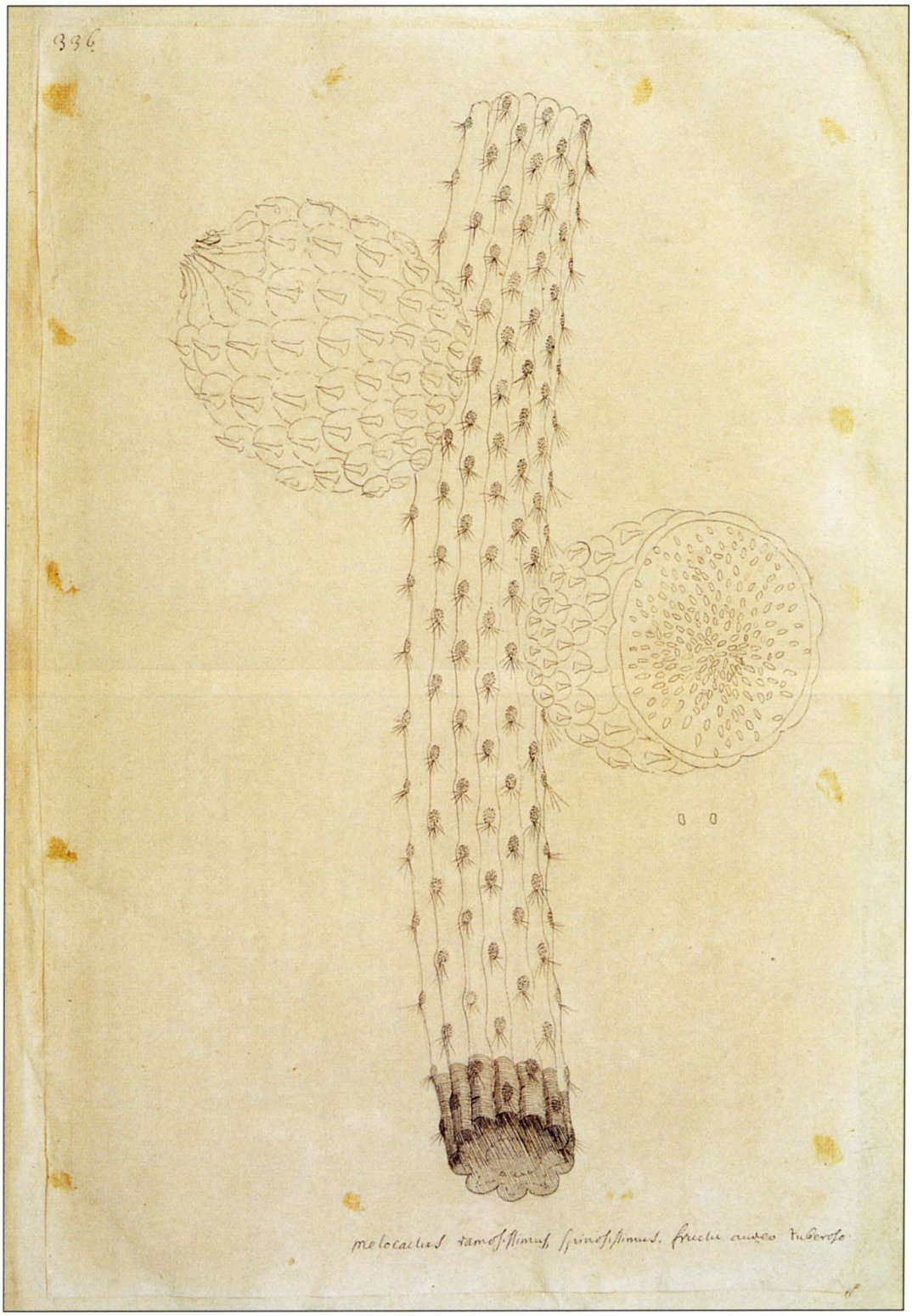


Melocactus cereiformis spinosissimus ramosissimus fructu aureo.

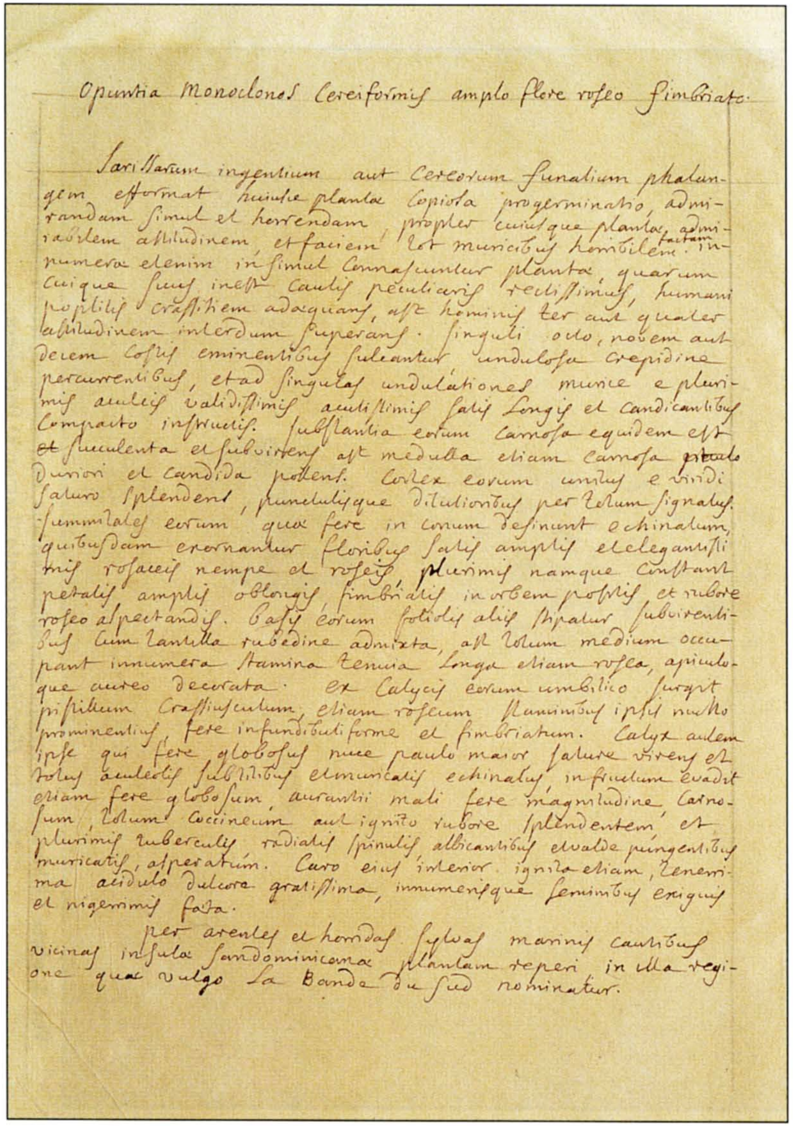
Huiusce planta truncus paulo magis quam tibiam humanam crassus tres aut quatuor pedes altus, teres, sulcis multis et rectis striatus, subsistens, satis durus innumerisque aculeis sublibus rectis et radiatis horridus. ex ipso plurimi elevantur rami plurimos alios ramos emittentes nunc supra nunc infra inordinato modo vergentes, et omnes rectos longos striatos, virentes, teneros infestissimisque spinulis per totam striarum seu costarum longitudinem armatos. eorum etiam summitas in conum desinit versusque eandem summitatem flores quidam prominent quos sane nusquam potui observare. unde an planta melocactus sit an opuntia dubito, inter melocactos tamen recensui propter praecedentium conformitatem.

Calyx tandem floris in fructum evadit carnosum fere globosum, pugno paulo maiorem, totum tuberculis versus apicem singulisque aluminalis ad singula tubercula insidentibus. cortex eius satis tener coni modo crassus e croceo aureus pulpam tamen includens tenerrimam candidissimam, subdulcem innumerisque seminibus exiguis et calliis fatam.

plantam reperi per quaedam sylvestria loca insulae sancti dominicae versus illam regionem quae vulgo le grand cul de sac appellatur, regioni leogana vicinam.



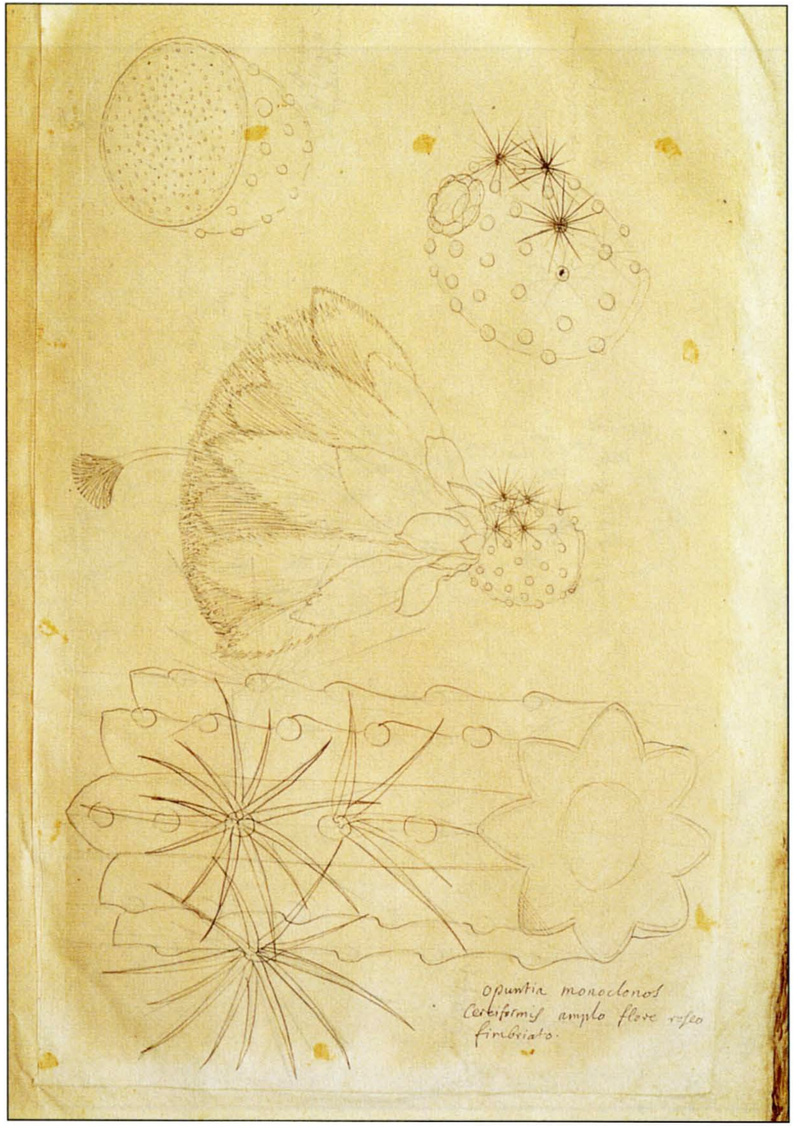
Vol. 3, plate 24 Melocactus cereiformis, spinosissimus, ramosissimus, fructu aureo tuberoso.
Identity: ***Harrisia divaricata*** (Lamarck) Backeberg



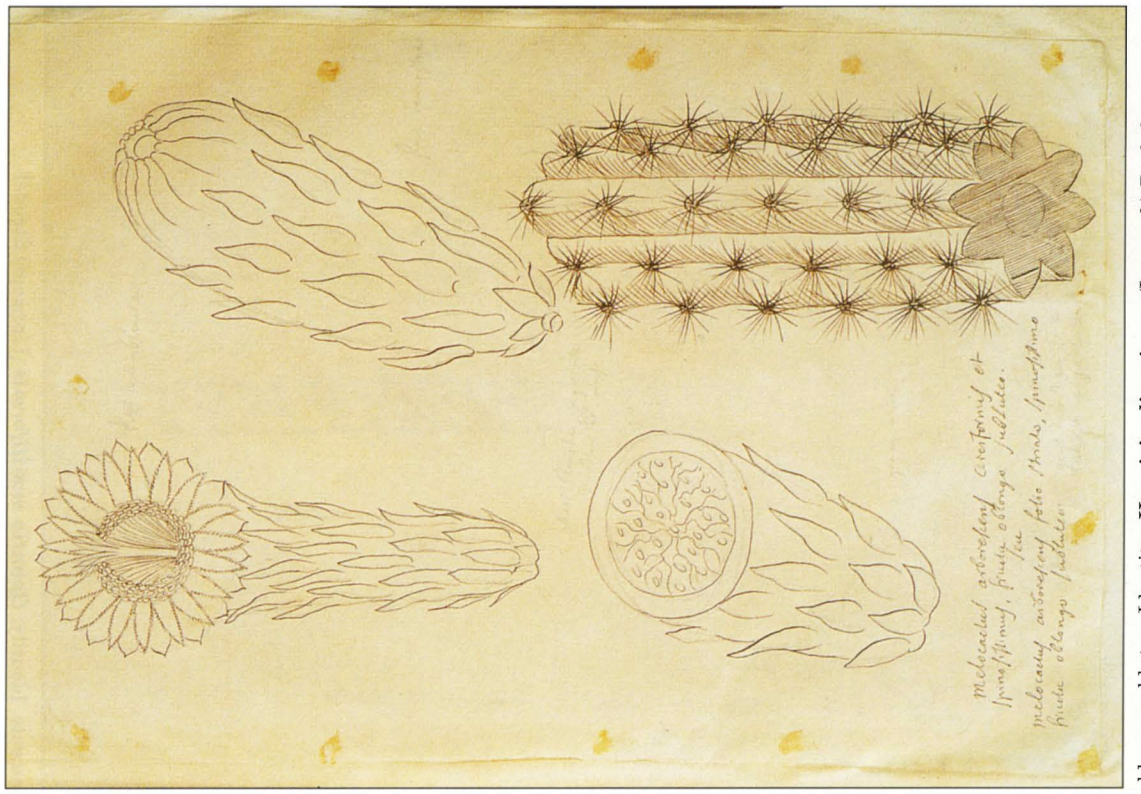
Opuntia Monoclonos Cereiformis amplo flore roseo fimbriato.

Sarissarum ingentium aut Cereorum funalium phalangem efformat huiusce plantae copiosa progerminatio, admirandam simul et horrendam, propter cuiusque plantae admirabilem altitudinem, et faciem tot muricibus horribilem factam. Innumerae etenim in simul connascuntur plantae, quarum cuique suus inest caulis peculiaris rectissimus, humani poplitis crassitiem adaequans, ast hominis ter aut quater altitudinem interdum superans. singuli octo, novem aut decem costis eminentibus sulcantur undulosa crepidine percurrentibus, et ad singulas undulationes murice e plurimis aculeis validissimis acutissimis satis longis et candicantibus compacto instructis. substantia eorum carnosa equidem est et succulenta et subvirens ast medulla etiam carnosa [illegible] paulo duriori et candida potens. Cortex eorum unius e viridi saturo splendens, punctulisque dilutioribus per totum signatus. summitates eorum quae fere in conum desinunt echinatum, quibusdam exornantur floribus satis amplis et elegantissimis rosaceis nempe et roseis, plurimis namque constant petalis amplis oblongis fimbriatis in orbem positis et rubore roseo aspectandis. basis eorum foliolis aliis stipatur subvirentibus cum tantilla rubedine admixta, ast totum medium occupant innumera stamina tenuia longa etiam rosea, apiculoque aureo decorata. ex calycis eorum umbilico surgit pistillum crassiusculum, etiam roseum staminibus ipsis multo prominentius, fere infundibuliforme et fimbriatum. Calyx autem ipse qui fere globosus nuce paulo maior saturo virens et totus aculeis subtilibus et muricatis echinatus, in fructum evadit etiam fere globosum, aurantii mali fere magnitudine, carnosum, totum coccineum aut ignito rubore splendentem et plurimis tuberculis, radiatis spinulis albicantibus et valde pungentibus muricatis, asperatum. Caro eius interior ignita etiam, tenerima acidulo dulcore gratissima, innumerisque seminibus exiguis et nigerrimis farta.

Per arentes et horridas sylvas marinis cautibus vicinas insulae Sandominicanae plantam reperi in illa regione quae vulgo La Bande du sud nominatur.



Vol. 3, plate 25 Opuntia monoclonos cereiformis amplo flore roseo fimbriato. Identity: ***Stenocereus fimbriatus*** (Lamarck) Lourteig



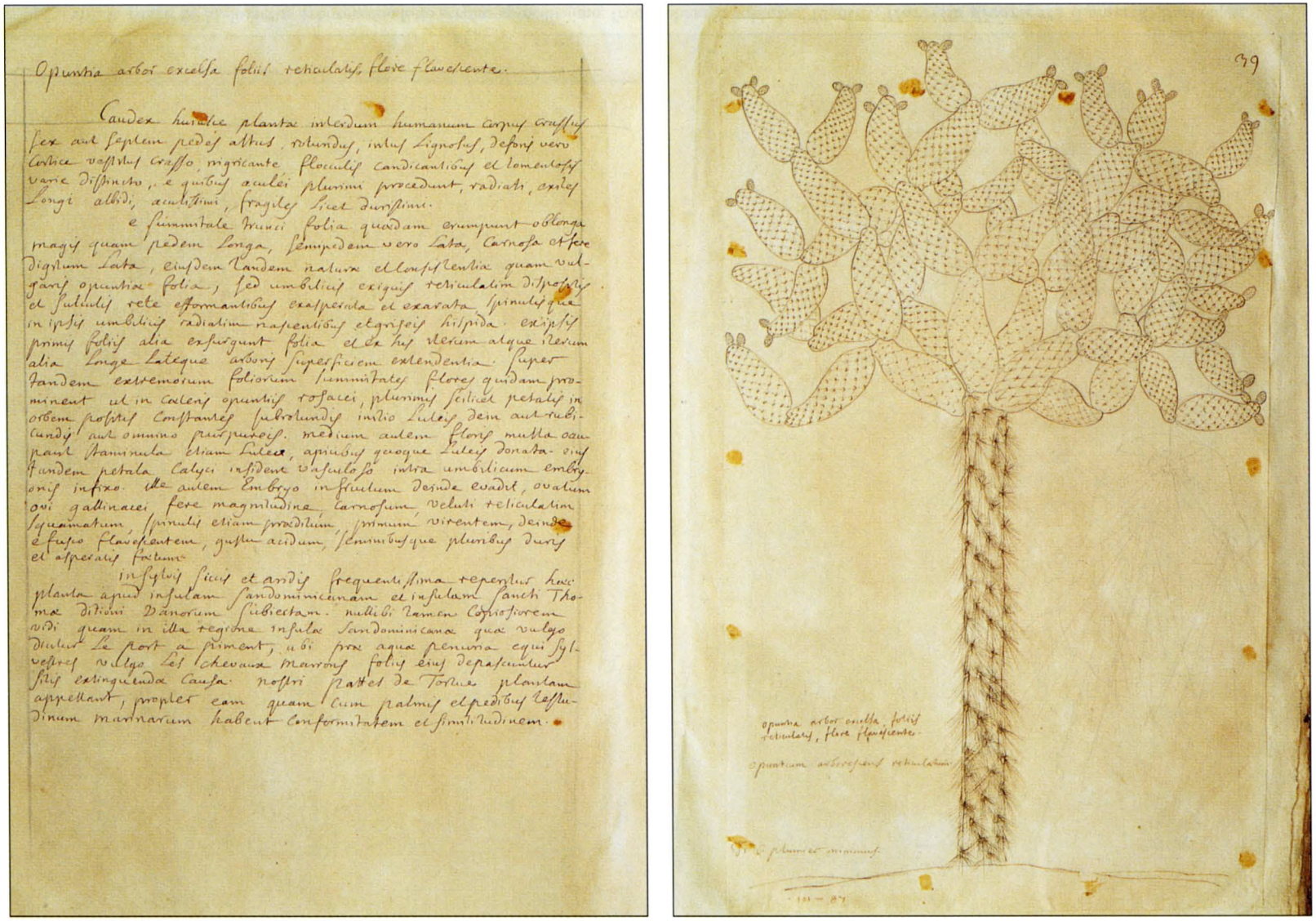
Melocactus arborescens folio striato spinosissimo fructu oblongo subluteo.

In vastam et arboream molem exsurgit haec planta
Cuius Caudex humanum fere Corpus Crassus striatus, spinis
aculeatissimis nigricantibus circumcalum proprijs instructus, lignosus et durus sed medulla carnosa et albicante donatus. ex
ipsius summitate plurimi promanant rami virentes, longi
recti, etiam striati et spinosi, alios producentes ramos ejusdem natura et forma ramos et hi deinceps alios quibusdam
floribus adornatos satis amplis, monopetalis quidem campaniformibus et patentibus sed in plurima segmenta acuminata angusta fimbriata, candidissima et duplici serie ordinata
difficilis. + Calyx eorum Longus Crassus, virens, foliisque
angustis et acuminatis veluti squamatis, ex umbilico suo Longum emittens pistillum Crassiusculum Candidum infundibuliformi et multicissum. idem autem ipse Calyx in fructum evadit
oblongum seu Cucumeriformem, Carnosum subluteum foliisque acuminatis squamatum. cuius Caro interior Candidissima
est, moschum ipsum fere redolens, acidulitate gratissima innumenisque seminibus subrotundis et nigricantibus fata.

Plantam Septembri adinveni per Sylvas illas Steriles et ardentes insula San dominicana Regioni illi quae
vulgo Le grand cul de Sac appellatur vicinas.

+ et innumeris staminibus etiam candidis et apices candidos gestantibus stipatis

Vol. 3, plate 26 Melocactus arborescens folio striato spinosissimo, fructu oblongo subluteo. Identity: ***Harrisia divaricata*** (Lamarck) Backeberg



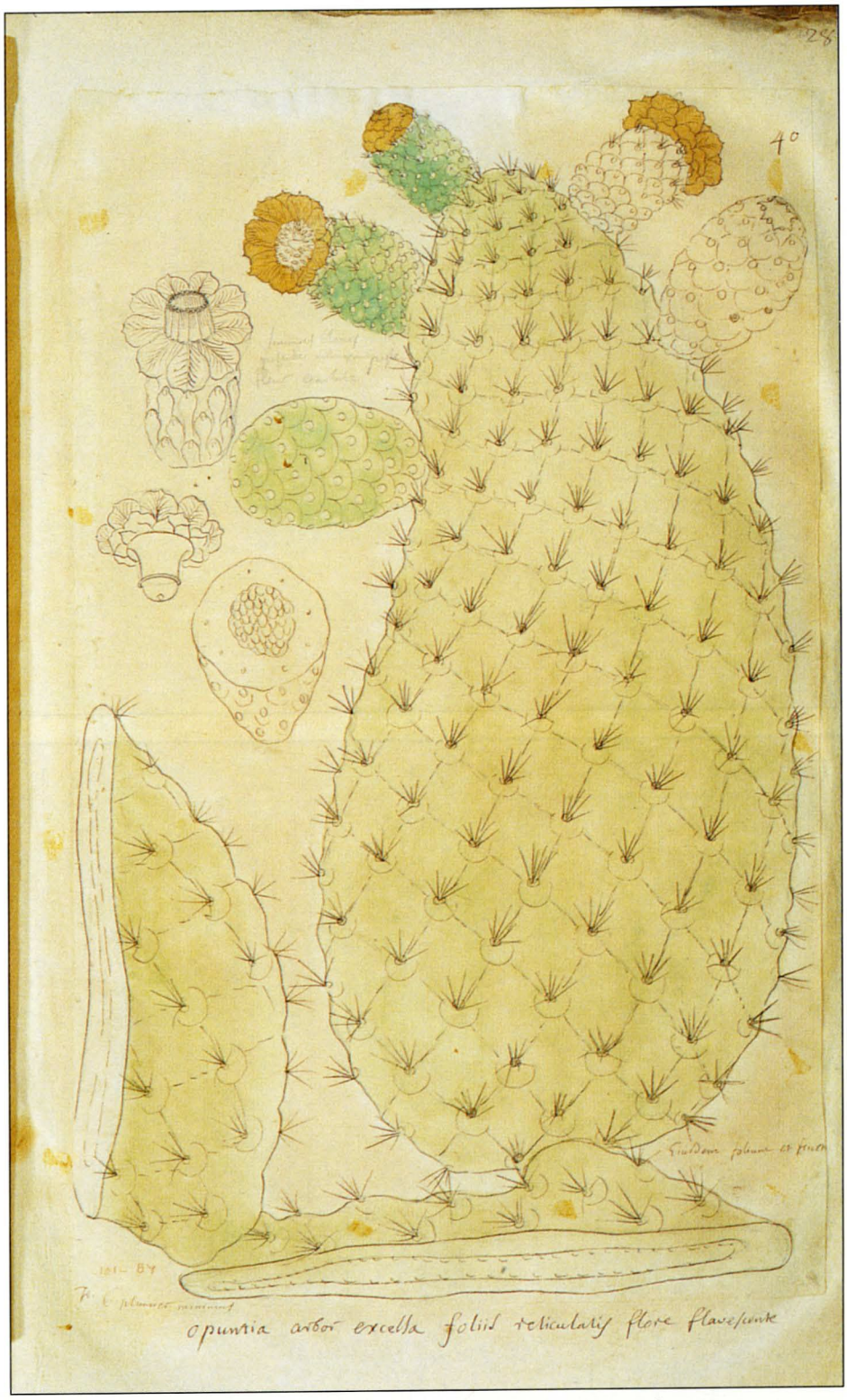
Opuntia arbor excelsa foliis reticulatis, flore flavescente.

Caudex huiusce plantæ interdum humanum corpus crassitie æquat, septem pedes altus, rotundus, intus lignosus, deforis vero cortice vestitus crasso, nigricante, floccis candicantibus et lomentosis varie distincto, e quibus aculei plurimi procedunt, radiati, exiles, longi albidi, acutissimi, fragiles, sed durissimi.

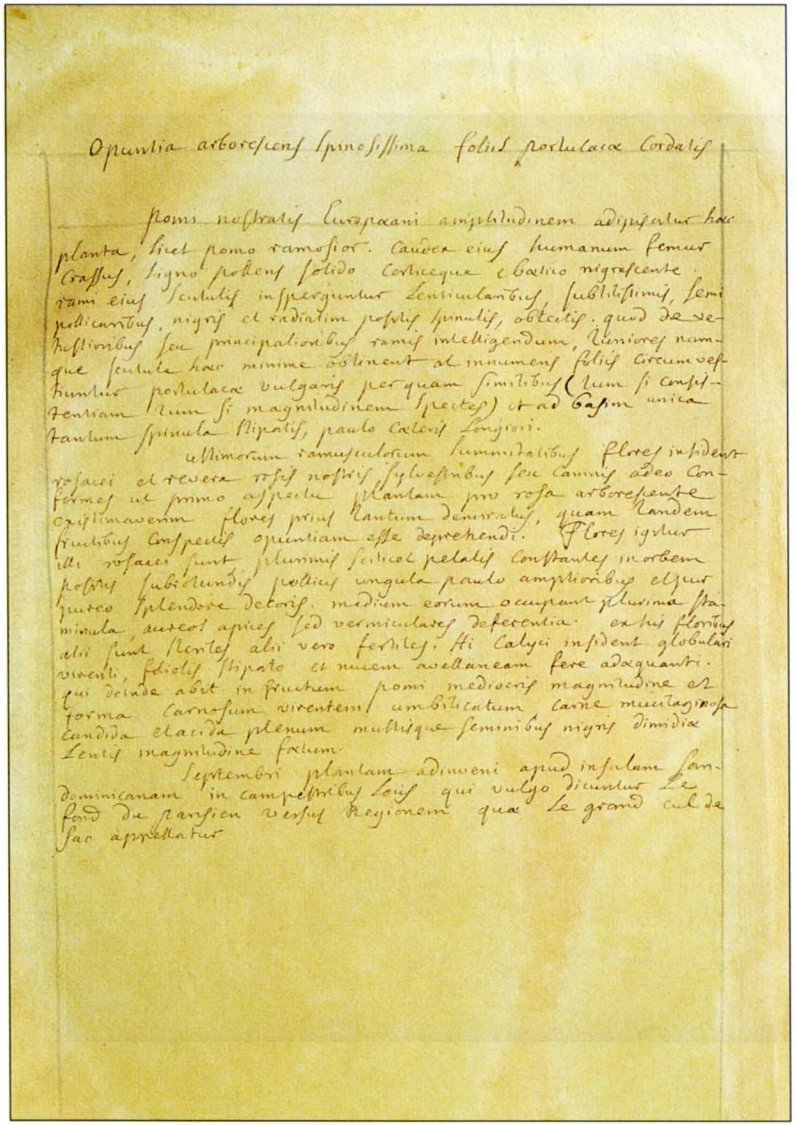
E summitate trunci folia quædam erumpunt oblonga, magis quam pedem longa, semipedem vero lata, carnosa et fere digitum lata, eiusdem tandem naturæ et consistentiæ quam vulgaris opuntiæ folia, sed umbilicis exiguis reticulatim dispositis, et sulculis rete efformantibus exasperata et exarata, spinulisque in ipsis umbilicis radiatim nascentibus et erectis hispida. Ex ipsis primis foliis alia exsurgunt folia et ex his rursum atque rursum alia longe lateque arboris superficiem extendentia. Super tandem extremorum foliorum summitates flores quidam prominent ut in cæteris opuntiis rosacei, plurimis sericeis petalis in orbem positis constantes, subrotundis, initio luteis, dein aut rubicundis aut omnino purpureis. Medium autem floris multa occupant staminula etiam lutea, apicibus quoque luteis donata. Sic tandem petala calyci insidente vasculoso intra umbilicum embryonis infixo. Ille autem embryo in fructum deinde evadit, ovatum ovi gallinacei fere magnitudine, carnosum, veluti reticulatim squamatum, spinulis etiam prorsum primum virentem, deinde e fusco flavescentem, gustu acidum, seminibusque pluribus duris et asperis fœtum.

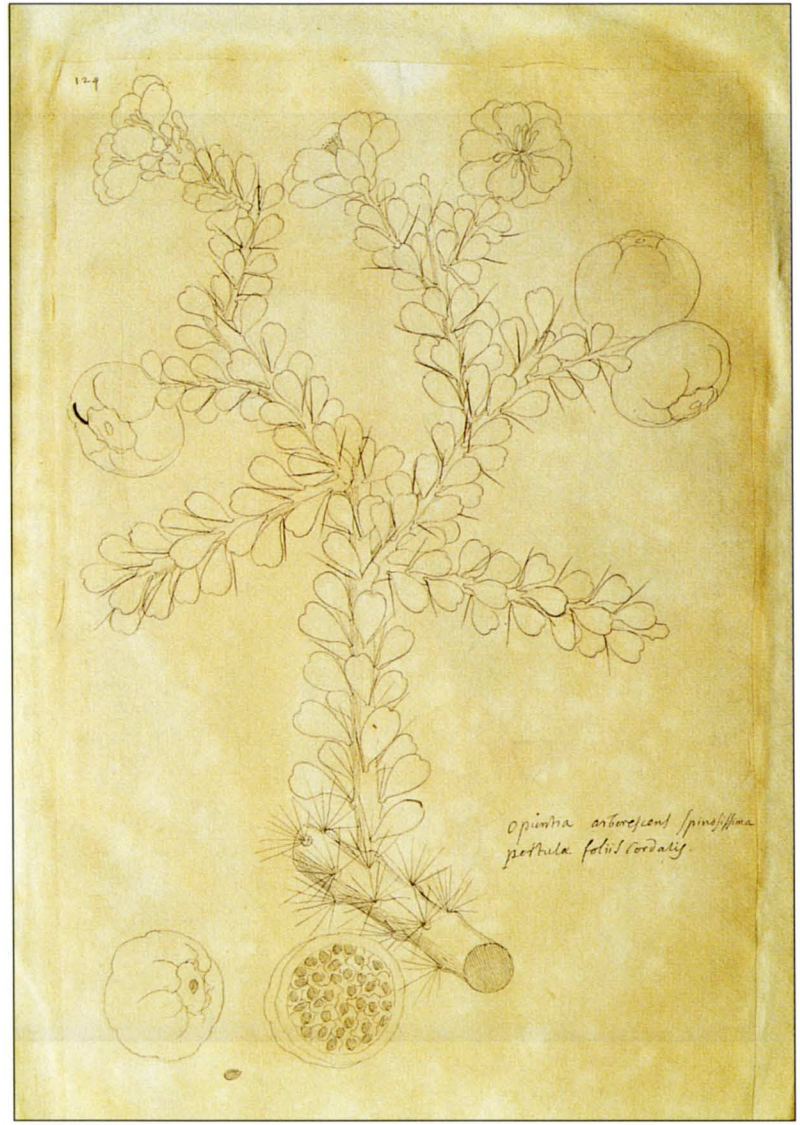
In sylvis siccis et aridis frequentissima reperitur hæc planta apud insulam Sandominicanam et insulam Sancti Thomæ ditionis Danorum subjectam. Nullibi tamen copiosiorem vidi quam in illa regione insulæ Sandominicanæ quæ vulgo dicitur Le Port a Piment, ubi præ aqua penuria equi sylvestres vulgo les chevaux marrons foliis eius depascuntur sitis extinguendæ causa. Nostri Patres de Tortue plantam appellant, propter eam quam cum palmis et pedibus testudinum marinarum habent conformitatem et similitudinem.

Vol. 3, plate 27 Opuntia arbor excelsa foliis reticulatis, flore flavescente. Identity: ***Opuntia moniliformis*** (Linnaeus) Steudel

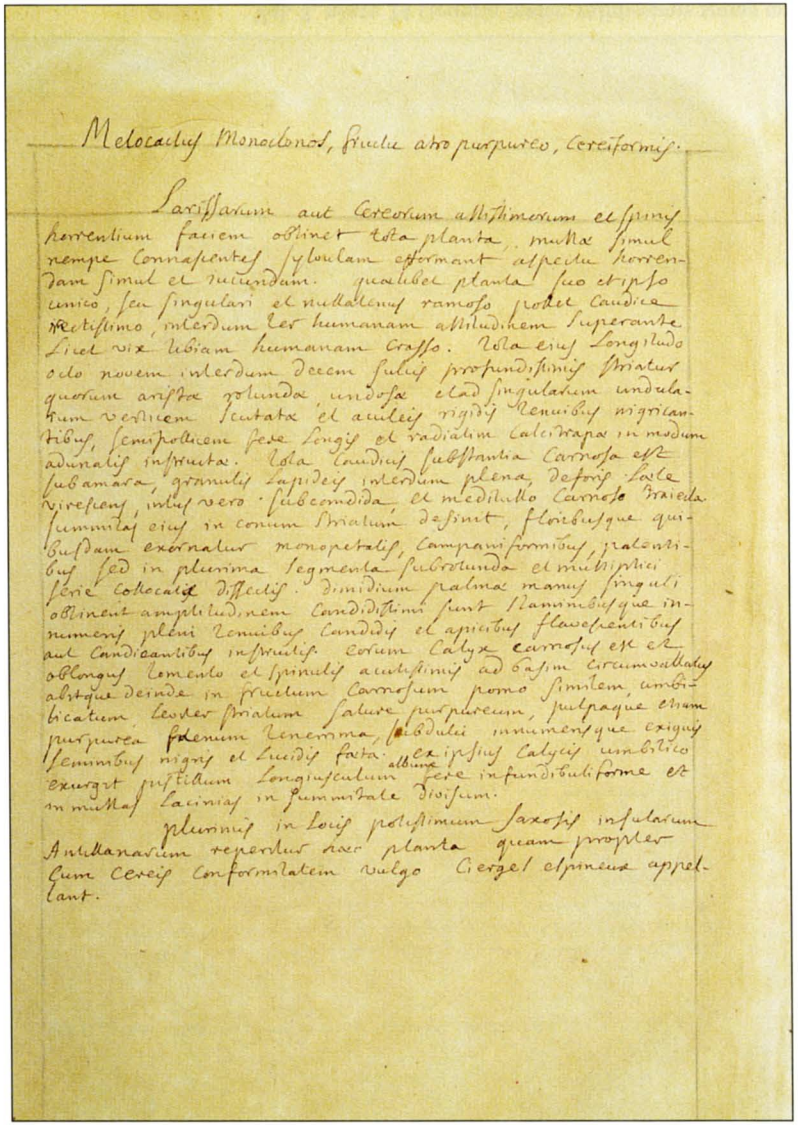


Vol. 3, plate 28 Opuntia arbor excelsa foliis reticulatis, flore flavescente.
Identity: ***Opuntia moniliformis*** (Linnaeus) Steudel

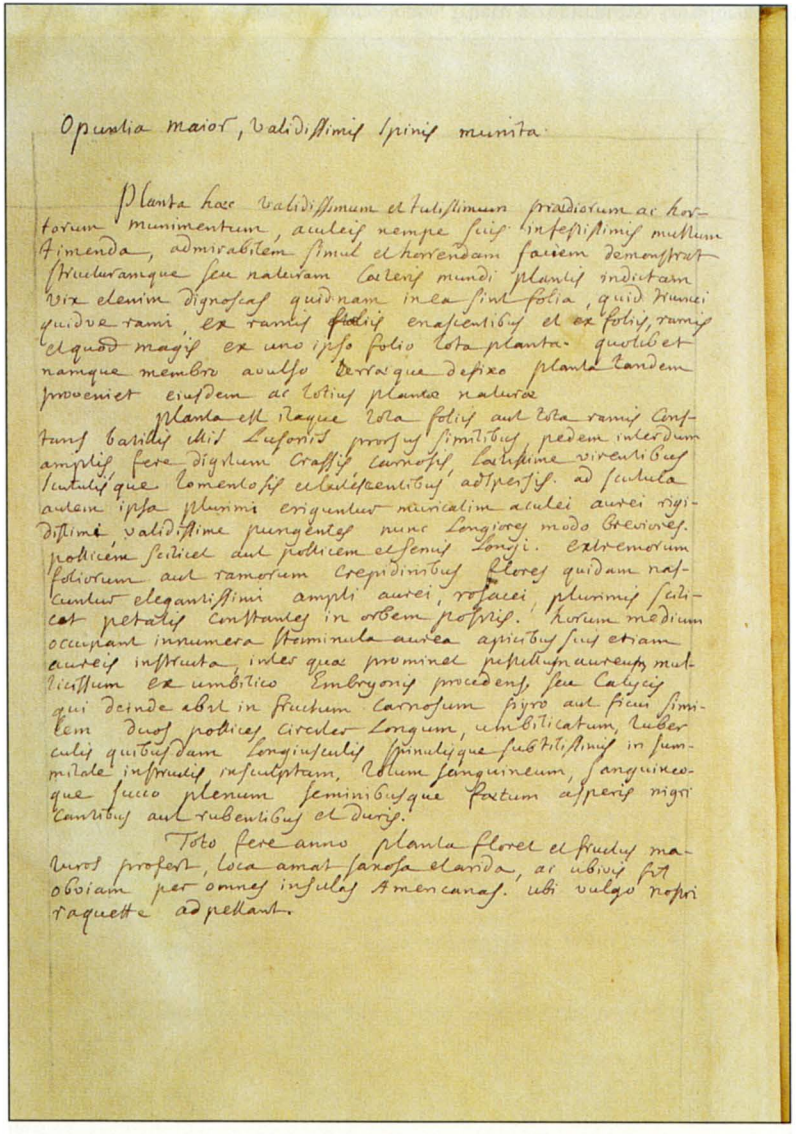




Vol. 3, plate 29 Opuntia arborescens spinosissima foliis portulaca cordatis. Identity: ***Pereskia portulacifolia*** (Linnaeus) Candolle



Vol. 3, plate 30 Melocactus monoclonos, fructu atropurpureo, cereiformis. Inst. rei herb. 653. Identity: ***Pilosocereus royenii*** (Linnaeus) Byles & Rowley

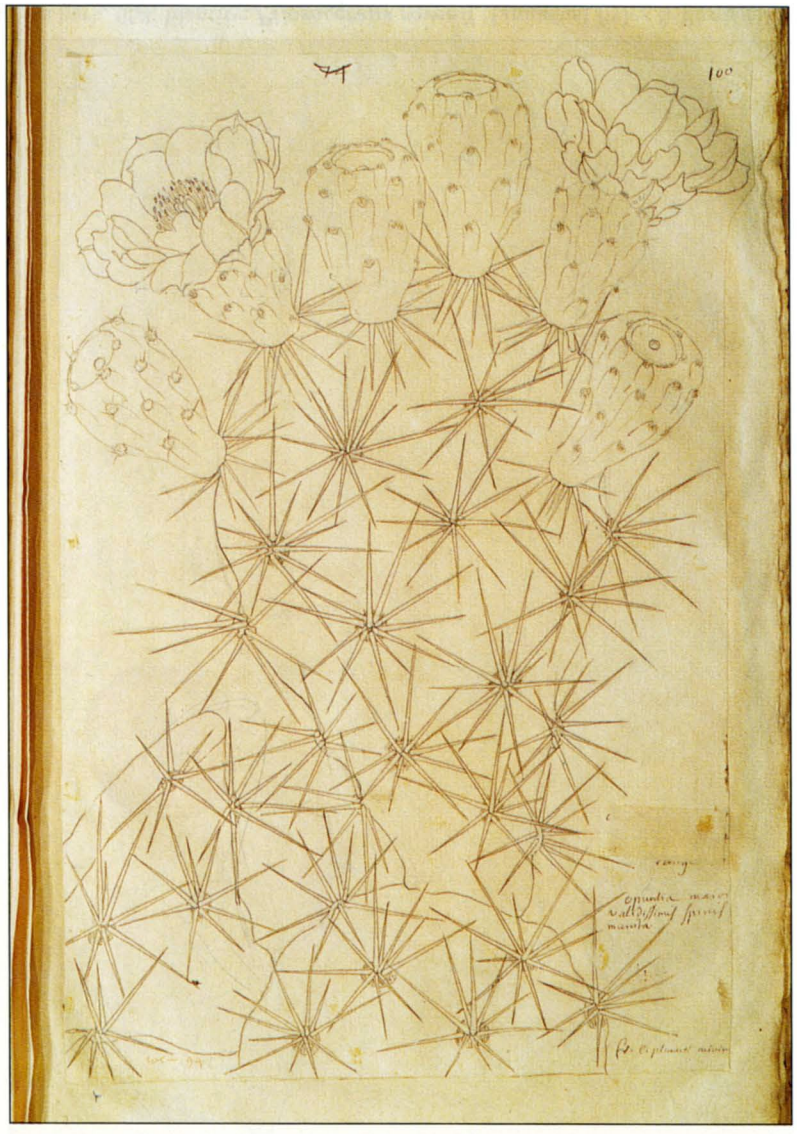


Opuntia maior, validissimis spinis munita

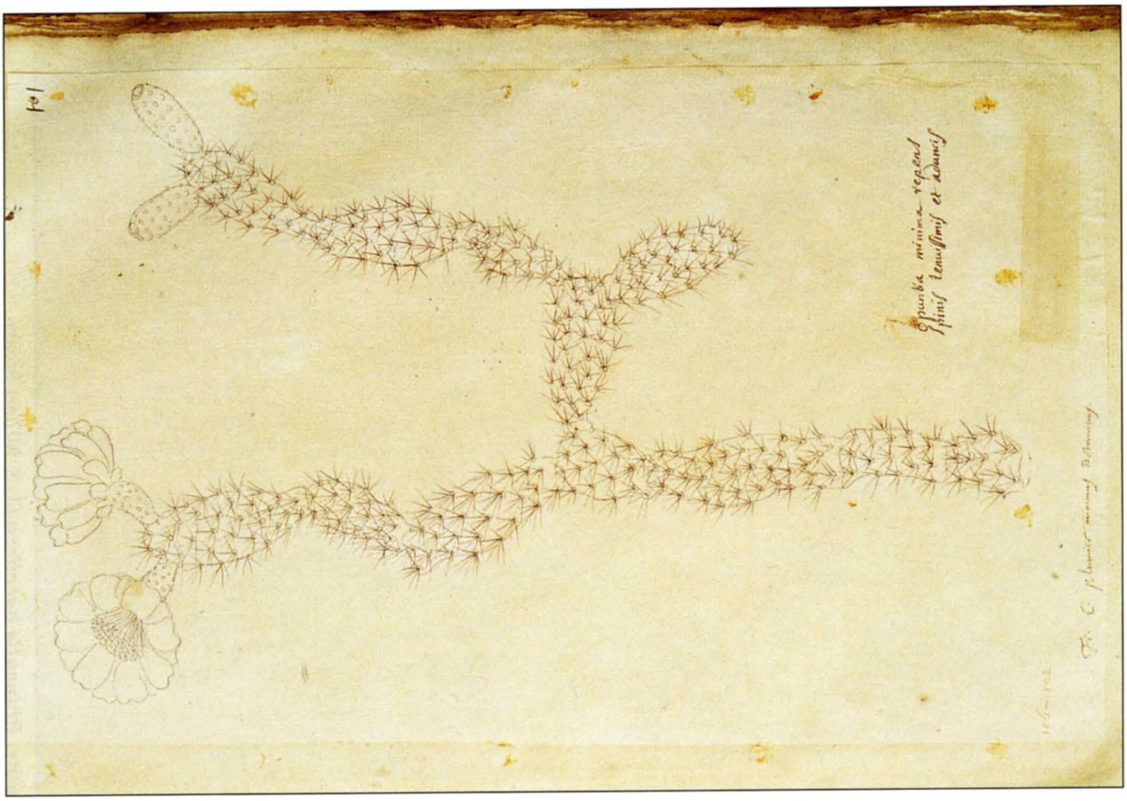
Planta haec validissimum et tutissimum praedioruum ac hortorum munimentum, aculeis nempe suis intestissimis multum timenda, admirabilem simul et horrendam faciem demonstrat structuramque seu naturam caeteris mundi plantis inditam. Vix etenim dignoscas quidnam in ea sint folia, quid rami, quidve trami, ex ramis foliis enascentibus et ex foliis, ramis et quod magis ex uno ipso folio tota planta. quotlibet namque membro avulso terraque defixo planta tandem proveniet eiusdem ac totius plantae naturae

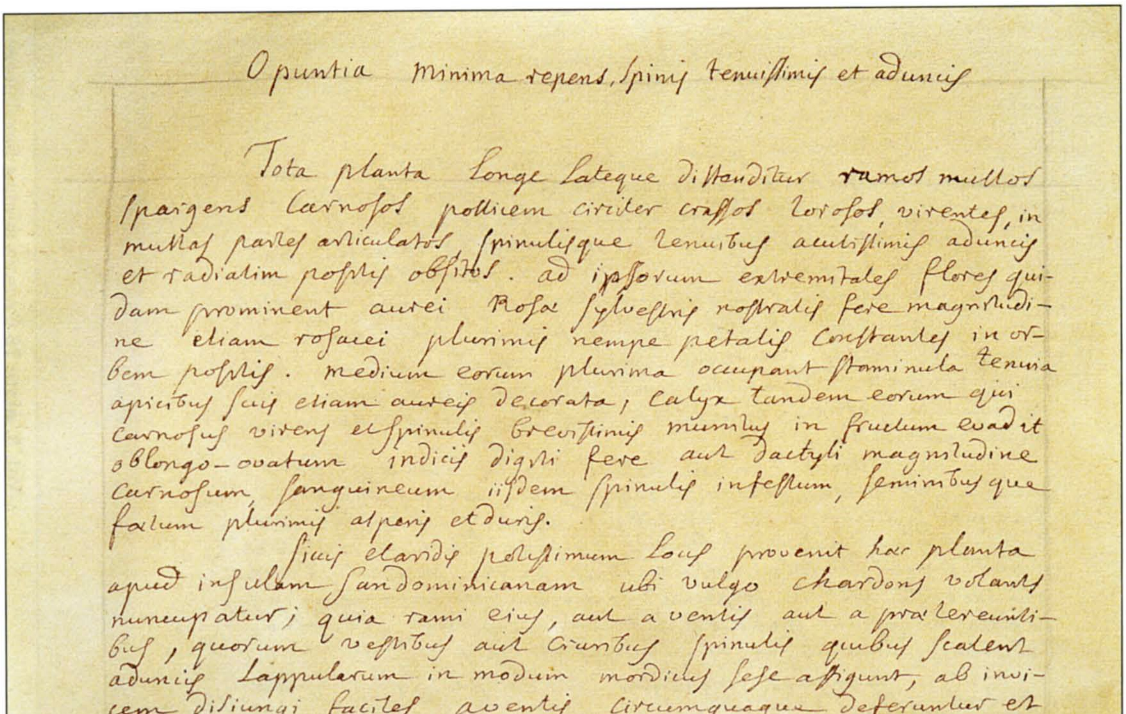
Planta est ramea tota foliis aut tota ramis constans basibus ibid Luporis prossus similibus, pedem interdum amplius fere digitum crassis carnosis, laetissime virentibus tactuque lomentosis et deciduis adspersis. ad tactum autem ipsa plurimis eriguntur naturaliter aculei aurei rigidissimi validissime pungentes nunc longiores modo breviores. postremum scilicet aut postremum et senus longi. extremorum foliorum aut ramorum crepidinibus flores quidam nascuntur elegantissimi ampli aurei, rosacei, plurimis salicet petalis constantes in orbem positis. horum medium occupant innumera staminula aurea apicibus suis etiam aureis instructa. inter quae prominet pistillum aureum, multicissum ex umbilico Embryonis procedens, seu Calycis qui deinde abit in fructum carnosum pyro aut ficui similem duos postremos circiter longum, umbilicatum, tuberculis quibusdam longiusculis spinulisque subtilissimis in summitate instructis insultatum, colore sanguineum, sanguineoque succo plenum seminibusque factum asperis nigri carinibus aut rubentibus et duris.

Toto fere anno planta floret et fructus maturos profert, loca amat sabulosa clarida, ac ubique fit obviam per omnes insulas Americanas. ubi vulgo nopri raquette appellant.



Vol. 3, plate 74 Opuntia maior, validissimis spinis munita. Identity: ***Opuntia dillenii*** (Ker-Gawler) Haworth



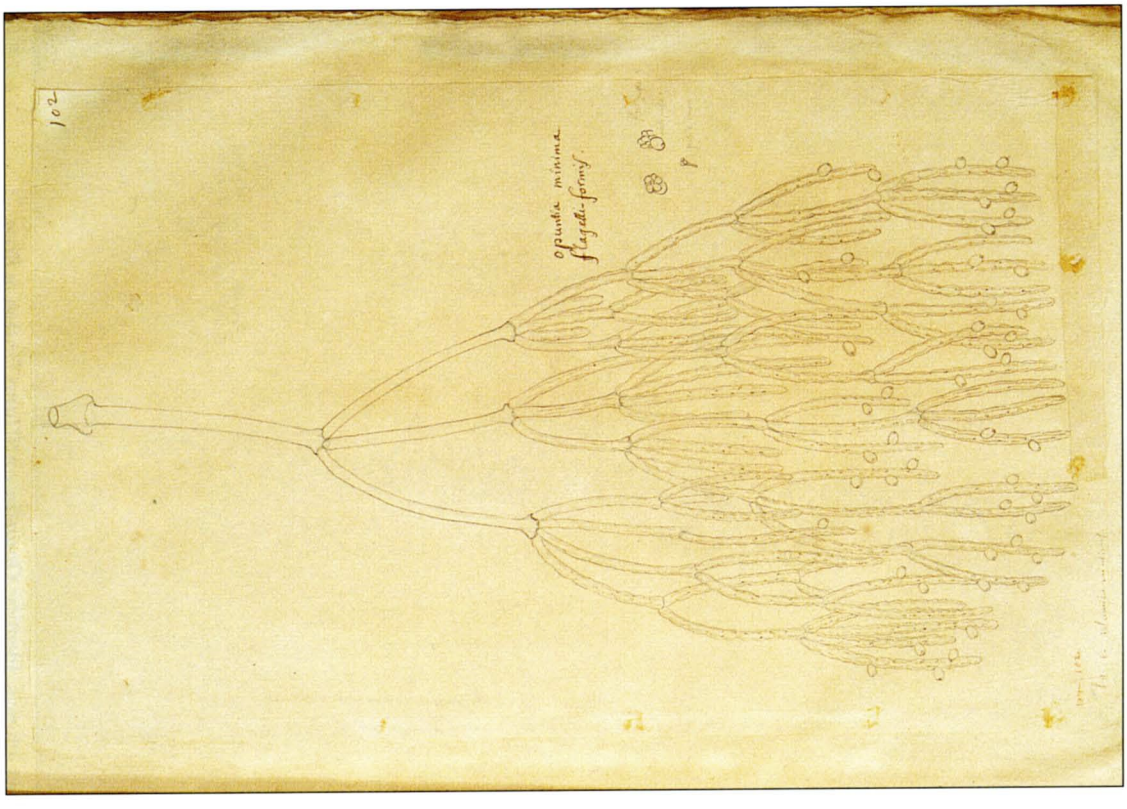


Opuntia minima repens, spinis tenuissimis et aduncis

Tota planta longe lateque distenditur ramos multos spargens carnosos pollicem circiter crassos torosos, virentes, in multas partes articulatos spinulisque tenuibus acutissimis aduncis et radiatim positis obsitos. ad ipsorum extremitates flores quidam prominent aurei Rosae sylvestris nostratis fere magnitudine etiam rosacei plurimis nempe petalis constantes in orbem positis. medium eorum plurima occupant staminula tenuia apicibus suis etiam aureis decorata; calyx tandem eorum qui carnosus virens et spinulis brevissimis munitus in fructum evadit oblongo-ovatum indicis digiti fere aut dactyli magnitudine carnosum, sanguineum iisdem spinulis infestum, seminibusque fartum plurimis asperis et duris.

Siccis et aridis potissimum locis provenit haec planta apud insulam Sandominicanam ubi vulgo chardons volants nuncupatur; quia rami eius, aut a ventis aut a praetereuntibus, quorum vestibus aut cruribus spinulis quibus scalent aduncis Lappularum in modum mordicus sese affigunt, ab invicem disiungi faciles a ventis circumquaque deferuntur et volitantur

Vol. 3, plate 75 Opuntia minima repens, spinis tebnuissimis et aduncis. Identity: ***Opuntia antillana*** Britton & Rose



Opuntia minima flagelliformis

Ex altarum arborum Caudicibus propendet haec Elegantissima planta, polygoni marini seu Ephedrae modo geniculata et ramosa. nulla ei insunt folia sed rami tota constat interdum rotundi interdum angulosi, vix duas uncias crassi modo longiores modo breviores, et punctulis quibusdam cinereis signatis, ac virore laete praedito

iuniores plantae spinulis polleut subtilissimis et brevissimis iuxta ramorum angulos melocactorum cereiformium modo; inadulti vero spinulae illae evanescunt et illarum vestigia tantum remanent, scilicet illa punctula iam dicta

in ultimis tandem totius plantae ramulis flores quidam affiguntur exigui aut rosacei aut monopetali in quinque scilicet partes subrotundas dissecti aut quinque petalis in orbem positis constantes pusillo brevissimo tubulo incipiti et aureo stipatis et calyci inhaerentibus exiguo, oviformi et virenti qui deinde abit in fructum carnosum etiam ovatum pisopaulo minorem patentem, mucagine quadam sed fatuapleneum, seminibusque minutissimis et nigris factum.

plantam frequenter reperi per sylvas insulae Sandominicanae.