

## Dutch pre-colonial botany and Rumphius's *Ambonese Herbal*

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### ABSTRACT

All major contributions to SE Asian botany in the 17<sup>th</sup> century were made by servants of the Dutch East Indies Company (VOC)—the first pre-colonial trading company with shareholders and a form of corporate governance. Although primarily, and often exclusively, interested in maximizing profits through trading multiple commodities along the routes from Holland to W and S Africa, Mauritius, Arabia, Persia, S India, Sri Lanka, Java, the Moluccas, China, and Japan, the VOC also had an interest in the study of native plants near their trading posts. Medicinal plants from Asia were needed for the health care of VOC employees because European simples were not efficacious against tropical diseases and exotic plants and other natural curiosities were much coveted by the wealthy traders for their private collections. On the first VOC fleet of 1602, apothecaries and surgeons had already been instructed by Carolus Clusius, the Erasmus of 16<sup>th</sup> century botany and founder of the Leiden Botanical Garden, to collect herbarium specimens and to document and draw any interesting plants encountered on the long voyage – not just of the major spice species. The three greatest 17<sup>th</sup> century pioneers of Asian botany: Hendrik Adriaan van Rheede tot Drakenstein, Paul Hermann, and Georg Everard Rumphius were probably unaware of that early instruction when they embarked on their comprehensive exploration of regional tropical floras. Most remarkably, the most productive of these three, Rheede and Rumphius, were self-taught amateurs without university training, but inspired by a great interest and love of tropical nature. With richly illustrated, elaborate descriptions of almost 1300 flowering plant species, mostly from the Moluccas and other parts of SE Asia the monumental *Herbarium Amboinense* by Rumphius—written between 1660 and 1690, and not published until 1741–1755, ranks as a solitary peak in the landscape of 17<sup>th</sup> century tropical botany. The fact that initially the Governors of the VOC refused to have the manuscript of the herbal published upon its long delayed arrival in Amsterdam testifies to the great economic importance that was attached to information on potentially useful and commercial tropical plants and on the competitiveness of rivalling trading companies from other European countries. It also testifies to the uneasy and ambiguous attitudes the profit seeking governors of the VOC held to the advancement of science by their servants throughout the existence of the company. Rumphius's life in the VOC as soldier, merchant and later as self-appointed naturalist on the island of Ambon was initially a happy and prosperous one. The fact that he persevered in his mission to complete *The Ambonese Herbal* and *Ambonese Curiosity Cabinet*, as well as a *History of Ambon* after turning blind and suffering disastrous loss of parts of his manuscripts and plates in a great fire rightly earns him the titles of great visionary, alias the Blind Seer of Ambon, Job, and *Plinius Indicus*. His great respect for the indigenous people of the Moluccas and admiration for their traditional uses of plants pervades the entire *Ambonese Herbal* and are key to the continued scientific and societal importance of this masterpiece.

KEY WORDS: Rumphius, Ambon, ethnobotany, biohistory, Linnaeus, Dutch East India Company

### INTRODUCTION

In 2002 on the occasion of the fourth centenary of the foundation of the VOC, the Verenigde Oost Indische Compagnie (United East India Company) in the Dutch Republic, Blussé and Ooms (2002) published a collection of essays on the role of this trading company in the development of science and learning. The present paper draws from a chapter by one of us (Baas 2002), written in Dutch on “The VOC in Flora’s Pleasure Gardens” and from the studies by Eric Montague “Monty” Beekman (1939–2008) associated with

his monumental translations and annotation of Rumphius’s *Ambonese Curiosity Cabinet* (1999) and *The Ambonese Herbal* (2011), which have revealed a wealth of new data and insights in Rumphius’s biography and Dutch (pre-) colonial botany in the East Indies. Other important sources on Rumphius in the context of the early history of the VOC are Buijze’s definitive studies (2004, 2006), all published in Dutch, and De Wit (1949) and Veldkamp (2002) who studied Rumphius’s role and significance in the early development of tropical botany. Here we will briefly review co-

lonial botany in Asia and Europe as a backdrop for Rumphius's development as one of the, if not *the* greatest pioneer of tropical botany of the 17<sup>th</sup> century.

#### EARLY BEGINNINGS

As pointed out elsewhere in this volume by Widjaja and Kartawinata ("Economic Botany from the *Herbarium Amboinense* to the Plant Resources of Southeast Asia"), the early explorations by Van Linschoten and others of the East Indies had whetted the appetite of Dutch maritime traders, resulting in 1602 in the establishment of the Verenigde Oost-Indische Compagnie (United East India Company, VOC), the first company in the world under corporate governance and supported by shareholders. The apothecaries and surgeons aboard ship were instructed "...that they bring along branchlets with their leaves, laid between paper..... Especially of the searched after spices: pepper, nutmeg, mace, cloves and cinnamom, but also of any other interesting plant. To make illustrations, and to record local names and uses, and how and where they grow". The instruction had been drafted by Carolus Clusius (1526–1609), the multitalented Erasmus of European botany, who had been appointed in 1593 as the first Prefect of the Leiden Botanical Garden and Honorary Professor of Leiden University in his old age, and whose role in the development of tropical botany cannot be overestimated. In 1567 he had translated Garcia da Orta's (1563) book on spices and medicinal plants from India, from Portuguese into Latin. His knowledge of exotic plants had earned him enough authority to be invited to England to study and describe the botanical spoils of Sir Francis Drake's circumnavigation (1577–1580), including plants from the Malesian region. Clusius would catalogue all his knowledge on exotic plants in his *Rariorum Plantarum Historia* (1601) and *Exoticorum Libri Decem* (1605), later to be made accessible to a wide and eager readership in the Low Countries in a bulky appendix to the fourth edition of R. Dodonaeus's famous herbal or *Cruydt-boeck* (1608), written in Dutch.

The VOC instruction to study plants, drafted by Clusius, was slow to yield any tangible effects. Only in 1630, Jacobus Bontius (1592–1631), personal physician to the first governor general of Batavia, Jan Pieterszoon Coen (1587–1629), and son of the Leiden Hortus Prefect Geraert de Bont, described 70 plant species from Java which, unlike Clusius, he had seen alive in the field, so that he could subtly correct some mistakes by his famous predecessor.

#### MULTIPURPOSE 17<sup>TH</sup> CENTURY TROPICAL BOTANY

The archives of the VOC testify to a lively interest in commercial and ornamental plants, and contain numerous lists of plant species and their seeds (Heniger 1986, Baas 2002). These were collected not only for the botanical gardens of Leiden (founded in 1590) and Amsterdam (1638) but also for the private gardens of VOC Directors ("Lords XVII") and the rulers of the day such as the King-Stadhouder William III (1650–1702). It was popular to acclimatize plants from the Far East, especially ornamental plants from the South African Cape, where the VOC founded a settlement in 1652 with a Company Garden that is still present in the centre of modern Cape Town. The main spices: pepper, nutmeg and mace, cloves, and cinnamon remained primary money spinners throughout the two centuries of existence of the VOC (Jacobs 2006), but many other plant commodities also were of interest. The seawater resistant fibers of abacá or Manila hemp (*Musa textilis* Née, Musaceae) were indispensable for caulking the VOC ships, and Jan Pieterszoon Coen succeeded in obtaining a trade monopoly from the sultanates of East India, where this fibre banana plant was cultivated. Black ebony (*Diospyros* spp.) from Mauritius and Sri Lanka provided a highly priced luxury wood for cabinet making. Coffee from Arabia and tea from Java and China were soon added to the cargoes of the VOC ships. Another focus of the VOC had to be on medicinal plants from the regions where they established settlements. Although the VOC was extremely well organized with apothecary shops available

in, e.g., Amsterdam and Batavia (Jakarta) to stock the ships on the outward and homeward journeys with medicinal supplies, this arrangement proved unsatisfactory: European simples were ineffective against the tropical diseases and subject to rapid moulding and decay in the humid tropics. Even before this would result in the great studies by the VOC servants Bontius, Rumphius (1627–1702), Hermann (1646–1695), and Van Rheede tot Drakesteijn (1636–1691) in Java, Ambon, Ceylon (Sri Lanka) and the Malabar Coast of India, respectively, the Company had learned to use fresh plants and fruits to their advantage in the fight against scurvy on the long sea journeys. Plants rich in vitamin C, such as shamrock (*Oxalis* spp.) from South Africa, and scurvy grass (*Cochlearia officinalis* L., Brassicaceae) from Europe, but planted in the Cape, were successfully employed. The more traditional *Citrus* fruits (lemon and orange) were already used by the Portuguese and Spanish to combat scurvy earlier in the 16<sup>th</sup> century, and the VOC ships had lemons aboard ship for their first outward journey of 1602. Later they would provide lemons for the slaves who were exported from Africa to the sultanates in the East Indies, to keep them in good shape so as not to decrease their commercial value during the journey. Thus when Rumphius developed his passion for the natural world of Ambon in the second half of the 17<sup>th</sup> century he was not starting in a vacuum.

#### RUMPHIUS'S LIFE

As Beekman (1999, 2011) emphasized, it is not easy to reconstruct someone's personality and character from 17<sup>th</sup> century archives and professional writings, and one has to resort to much intuitive interpretation of "the man" through what he "wrote between the lines". We will here mainly concentrate on well recorded facts in Rumphius's CV, reviewed in depth by Beekman (1999, 2011), Buijze (2004, 2006), and Veldkamp (2002).

Rumphius was born in 1627 in the small town of Wölfersheim as the oldest son of August Rumpf (1591–1666) and Marie Keller († 1651). The father was a *Baumeister*—builder

and architect—in the service of the Protestant nobility of the Hessen, a German state in the Holy Roman Empire. Although in a prestigious position, the family would never become very rich because August's employers were bad in paying for his services. Mother Marie is thought to have been of Dutch extraction and had relatives with important links to the ruling elite of the young Dutch republic. One of Rumphius's nephews would even become ambassador to the Court of the Czar in Moscow and was also influential in VOC circles. At the time of Rumphius's birth and early youth Germany was ravaged by the 30-years war when Calvinists, Lutherans, and Roman Catholics were fighting each other and external powers in a very intolerant phase of European history. For many young Germans of that era, leaving the country for other shores with better opportunities was the desired option. Especially an escape to the "land where the pepper grows", i.e. the East Indies, was a dream for many (Beekman 2011).

Young Rumphius received excellent schooling in both Wölfersheim and later in the nearby and larger city of Hanau. Beekman ranks Rumphius's education equivalent with that of a modern Bachelor's degree in the Arts. Rumphius himself put it on record that he was particularly attracted to the "*Arts and Mysteries of Nature*." When 18 years old he sought adventure and was conscripted in the Dutch army with other young men from Hanau by Count Casimir Von Solms-Greifenstein (1620–1648)—a man "with the heart of a crocodile" according to Rumphius himself—to help the Venetian Republic to beat the Turks. However, Casimir left the young men alone in Holland, and instead they joined ships off the coast of Texel in North Holland to help lift the siege of Pernambuco in Brazil. That never came to pass, because the ship carrying Rumphius, the *Black Raven*, ended up in Portugal and Rumphius spent three years in that country, probably as a mercenary in the Portuguese army fighting the Spanish, but gaining an admirable command of Portuguese, warfare, and the Portuguese flora, as we can read in the *Herbarium Amboinense* published a century later.

In 1645 he was back in Germany where his father secured him a position as *Bauschreiber* (builder and building maintenance) in Idstein. Rumphius had to combine this prestigious job with teaching the children of the noble landlord—he never received his salary—and was very upset to be in the service of an intolerant prince, who promoted witchhunts and tolerated the prosecution of Calvinists. In 1752, at 25 years old, Rumphius had enough of Germany and joined the Dutch East India Company (VOC). On Christmas Eve he left with a fleet from Texel sailing to Batavia on Java. In early 1653 there was a stop-over at the Cape of Good Hope in South Africa, where a year before Jan van Riebeeck (1619–1677) had just established the Cape Colony – present day Capetown. Rumphius had a good time here. On Lion’s mountain he collected masses of shamrock, *Oxalis* spp., to serve as vegetable and to cure scurvy among the shipmates. After some weeks in Batavia he was put under the command of the very cruel Arnold de Vlamingh with whom he set sail to Ambon in the Moluccas to fight in the complex Moluccan wars, motivated by the VOC to maintain their world monopoly in the clove and nutmeg trade by ruthlessly cutting down orchards that would produce spices in excess to be sold to Portuguese, English, and other competing traders. Destroying the livelihoods of the local populations was one of the goals of these cruel campaigns.

In 1657 Rumphius requested to leave the military arm of the VOC, and to join its commercial branch. He was appointed Under Merchant in Larike—a small settlement with a nutmeg store on the west coast of Ambon. He did well because in 1660 he was already promoted to Chief Merchant in a much better station near the fortress Amsterdam in Hila. Somewhere around this time he must have met his first wife Susanna—a local woman of mixed race—with whom he would have two daughters and one son.

Although he was an excellent and zealous servant of the VOC as a successful merchant, he had much free time on his hands to explore the mysteries of nature on the small island of Ambon along the coasts as well as in the low

mountains where he observed, collected, and described any interesting plant and animal that attracted his attention. In 1663, at 36 years old, he wrote a very important letter to the VOC Lords XVII in Amsterdam, explaining his ambition to catalogue the plant diversity of Ambon and surroundings in what he called the “*Water Indies*” modestly pleading that the knowledge of plants and their uses by the local people would also be of interest to the Noble Company and the health care of its servants. It took a long time to receive an answer, but in 1665 the first batch of books was sent from Amsterdam and throughout the rest of Rumphius’s life. So many books would follow that ultimately Rumphius’s library could rival that of any western botanist (Buijze 2004). In this prosperous and happy decade of the 1660s Rumphius embarked on the *Herbarium Amboinense*—initially written in Latin and illustrated by his own drawings.

Rumphius’s marriage to Susanna was as far as we can reconstruct a very happy one. Together they discovered a beautiful orchid which he named after her: “*Flos Susannae*”—the Susanna flower, now *Pecteilis susannae* (L.) Raf. (Orchidaceae), “in memory of her who during her life was my first companion and assistant in the finding of herbs and plants, she was the first to show me this flower”. This touching dedication would have an interesting follow-up about 330 years later when Montague Beekman dedicated his monumental translation of Rumphius’s *Ambonese Curiosity Cabinet* to his wife: “*for Faith: my Susanna*”. Susanna was an ideal partner in the production of *The Ambonese Herbal*, because as a woman she had access to traditional gynaecological knowledge of the local women that was not normally passed on to men. Even their young daughters were used in information gathering. For example, an excellent lady teacher from Banda promoted the writing and learning skills of her pupils by letting them chew on a secret herb. That secret was not safe with one of the Rumphius daughters and she cunningly followed the teacher when she collected her mind enhancing plant on a rubbish dump behind the school and brought a specimen home to her fa-

ther (*Bidens biternata* (Lour.) Merr. and Sherff, Asteraceae) who later admiringly noted in his *Herbal* that all the pupils of this teacher from Banda were indeed very bright. This is a charming example of one of the “old ladie’s tales” that Rumphius warned his readers about in his Preface to *The Ambonese Herbal*, but that “may hold a kernel of truth”. *ABCDaria* (*Acmella paniculata* (Wall. ex DC.) R. K. Jansen) is another member of the Asteraceae, described and very wittily named by Rumphius and credited with mind enhancing powers, as it was reported to be used by a local imam to improve the ability of his pupils to read and write Arabic.

In 1666 Rumphius was temporarily appointed to ‘*Secunde*’ (second man of the VOC on the island), a rank immediately under that of Governor, but he was not confirmed in it. In compensation he was given a piece of land near Rumah Tiga that he had selected himself as his personal property. On this plot he created a Physic Garden, the first western type of botanical garden in Malesia, if not of Asia. Maybe he came out best from the deal. His contract with the VOC expired in 1668 and there was a strict rule that Europeans not in active service could not stay in East India. However, he requested for an extension of 8 or 10 months to prosecute his ‘curious studies’. He was actually granted another year, but when that ended he refused to embark on the ship that would take him to Batavia as it would be of an unsuitable condition. The Governor disagreed, but as a result of this wrangling Rumphius was able to stay for another year, and ultimately for the rest of his life.

After a decade of bliss, misfortune struck in Rumphius’s life, not once but repeatedly. In 1670 he turned blind within a timeframe of three months. Despite numerous experiments on himself, over the years, using Ambonese and Chinese herbal medicine Rumphius’s blindness (narrow angle glaucoma) remained uncured. On Saturday, February 17, 1674, during the Chinese New Year celebrations a strong earthquake occurred followed by tsunamis, killing 2,322 people, among which were his wife and one of his daughters. According to Beekman (2011) the

sales of his *Naturalia Cabinet* to Cosimo the Third of Tuscany under pressure of his employers in Amsterdam must also be ranked among these great disasters (but see below). In 1687 a great fire destroyed the plates belonging to the nearly finished *Herbal* manuscript, and in 1695 a box with 91 illustrations was stolen from his office. Rumphius’s reactions to these disasters can only inspire the greatest admiration. As a consequence of his blindness he depended on assistance to write his *Herbal*, but his son Paul August (c. 1665–1706) and clerks provided by the VOC did not read or write Latin. So Rumphius started all over by dictating his texts in Dutch—mostly from memory. If it would have depended on the cruel and corrupt VOC Governor Jacob Cops (1621–1784) of Ambon, his blindness would have been sufficient reason to send him back to Holland via Batavia, but the powerful Governor General in Batavia, Maatsuycker, made it clear that Rumphius was to keep his salary and that he should be treated with respect. Rumphius was, however, moved from his much beloved Hila to the island’s capital Kota Ambon, where the East India Company would make extensive use of his experience and wisdom as a Councillor and an author of various reports, including a full-sized *History and Description of Ambon* for instruction of younger VOC servants (Buyze in Rumpf 2006).

Not all was gloom and doom for Rumphius during the second half of his life from 1670–1702. His great knowledge and understanding of Asian nature was recognized by the most exclusive and important club of scientists, the *Academia Naturae Curiosorum* in Germany, later so-called the *Leopoldina* Academy. Founded in 1652, a decade before the Royal Society in London, Beekman ranks this first European Academy of Science superior above its English equivalent. Rumphius was invited to join this august academy in 1678/1681 as the 98<sup>th</sup> member in its history and received the honorific nickname *Plinius* after the great Roman natural scientist from classical times (AD 23–79). The sale of his natural history collection, housed in a beautiful cabinet inlaid with 55 native timber

species from Ambon, hailed as a disaster and source of enduring frustration for Rumphius by Beekman (2011), can also be seen as a sign of recognition. Buijze (2006) also researched this transaction, and found in the archives no sign of any pressure exerted by the VOC Lords, and considers that this profitable transaction would have suited Rumphius rather well because in the 1670s he needed financial reserves in Amsterdam a) to pay for the numerous books he ordered for his studies, b) to have money sent to his impoverished father in Hanau, and c) to pay for the study of his son Paul August, who was sent over to Holland to complete his education in the 1680s. We shall never know whether, and if so, how much, frustration and anger should be read between Rumphius's lines, when he wrote about the great value he attached to this irreplaceable collection, assembled over a period of 28 years. Not only the Leopoldina Academy, also other members of the scientific elite in Batavia, e.g. Joannes Camphuys (1634–1695), Cornelis Chastelein (1657–1714), Andreas Cleyer (1634–1698), Joan Maetsuycker (1606–1678), Willem ten Rhyne (1647–1700), etc., and in Europe, e.g., Hendrik D'Acquet (1632–1706), mayor of the city of Delft, Nicolas Witsen (1641–1717), several times mayor of Amsterdam, delegate to the States-General, and one of the Lords XVII of the VOC, and Pieter Blaeu (1637–1706) of a famous patrician family, held him in very high esteem.

In 1702 Rumphius died, an old man who, despite immense adversity, had combined a successful and profitable career as VOC servant with an impressive production of bulky scientific manuscripts on Zoology, Botany, Geography, and History, none of which he saw published in his lifetime. Only his short communications on some interesting animals/shells and plants to the Leopoldina Academy saw the light during his lifetime (Beekman 2011, Buijze 2006).

#### THE FATE OF THE HERBAL MANUSCRIPTS AND THE COLLECTIONS

So what happened to Rumphius's manuscripts? After the misfortunes of blindness,

earthquake, and fire, the original was finally ready and carefully packed and sent to Batavia in 1690, where Governor General Camphuys had it fully copied for his private use and interest. The original was forwarded only two years later, to be eternally lost on the bottom of the sea after the ship *Waterland* that carried it was sunk by the French off the coast of Brittany. Thank God there was a backup copy in Batavia. That copy was copied once again by staff of the VOC, and finally an almost complete set arrived in Amsterdam in 1697. In 1704 an *Auctuarium*—that is a volume of addenda—arrived (Figures 1, 2). Although a consortium of publishers in Amsterdam was interested, the Lords XVII initially decided in 1700 that this manuscript contained such sensitive and valuable information on the natural resources of the Moluccas that it was to be kept secret in the vaults of the Company. In 1702 this decision was reversed, and publication was allowed as long as it would not cost a penny to the Noble Company. Alas, at that time no commercial publisher or consortium thereof was prepared to make the investments needed for publication.

It would not be until 1735 when the young and ambitious Professor of Botany and Medicine and director of the Amsterdam Botanical Garden, Johannes Burman (1706–1679) was allowed to edit the Dutch manuscript and translate it into Latin. A consortium of printers finally published the *Herbal* in six expensive Folio Volumes and the *Auctuarium* between 1741 and 1755. Five hundred copies were printed and over the years cost between 80 and 100 guilders, about a month's salary for a well-off Amsterdam physician. There are no colored editions, as that would have been completely out of reach.

And what about Rumphius's collections? No herbarium survives. Only the contents of the Curiosity Cabinet, sold to Cosimo III by Rumphius, probably survive somewhere, although Buijze, and Beekman and his wife were never able to find the cabinet despite extensive searches. A partial enumeration of the Cosimo collection has survived and was published by Martelli (1903). The shells may be present in the State Museum



Figure 1. Drawing of Rumphius from the title page of the *Auctuarium*.

in Vienna, the plants in Florence, but the original labels were destroyed and the specimens became so mixed up with others that their origins could not be traced anymore. Martelli (1902) reported to have seen *Calamus* material in Florence (the FI herbarium) which he thought came from Rumphius, but when he wanted to examine them more closely he met with such opposition that he had to give up the attempt. Dr. J. Dransfield (Royal Botanic Gardens, Kew, pers. comm.) has examined fruits from Rumphius's cabinet of *Caryota* sp. and *Daemonorops calapparia* (Mart.) Blume housed there.

#### LINNAEUS AND THE AMBONESE HERBAL

When Burman prepared his accounts Carolus Linnaeus (1707–1778) frequently stayed at his house, and he is mentioned in the introduction to Burman's *Thesaurus zeylanicus* (1736) to have provided some descriptions. In a letter to Albrecht von Haller (1708–1777; L 0166 of 3 April 1737—for Linnean correspondence see <http://linnaeus.c18.net/>) he wrote that Burman intended to publish the *Herbarium Amboinense*: “He [Burman] has taken upon himself to publish the most admirable Rumphian work or the *Plantae amboinenses*. Ah, that he may finish it!” Indeed, there seem to have been plans that the young Linnaeus would assist Burman more seriously, but then he was snatched away by George Clifford.

Linnaeus also was engaged in finding publishers. In a letter to Olof Celsius (L 0110, Nov–Dec 1736) he wrote that he had persuaded Burman and five booksellers to publish the Herbal at a cost of 30,000 guilders, a vast fortune. The earliest published Linnean reference to the work seems to be in *Hortus cliffortianus* (1737: 183) where under *Garcinia* Linnaeus said: “I remember having seen an excellent account and plate of this plant in Rumphius's first volume.” This must refer to chapter 38 in the manuscript of the Herbal, as the first published volume of the *Herbarium Amboinense* is of 1741. Yet in the *Species Plantarum* (1753: 444) he somehow knew the page, 132, and the plate, 43. In 1747 he cited “RUMPHIUS, G. E. *Consul Amboinensis* / *Herbarium Amboinense* / *Amstel.* 1740 &c. *vol.* 6.

*latino-belgice*” and included 5 Rumphian species with full references to phrase name, volume, page, and plate in volume 1: *Averrhoa* (2 spp.: 79), *Corypha* (1 sp.: 186–187), and *Cynometra* (2 spp.: 74). That he cited these is remarkable, but even more curious is that there were so few, for Burman cited numerous references in the *Thesaurus*, and Linnaeus could easily and honestly have incorporated these in his own works. These species also occur in 1753, but in the last quire a great number of especially palms are incorporated. Linnaeus explains that he had only recently received the *Herbarium Amboinense* and that most of the text had already been set.

It seems not unlikely that Linnaeus had made notes, but to make correct descriptions he needed Burman's Latin text for, as Linnaeus admitted himself, he might be a genius, but not in languages, and so could not read Rumphius's Dutch. As soon as he had access to the volumes he set to work, no doubt aided by notes he already had, and after nearly one year his student Olaf Stickman obtained a Ph. D. on a list of Linnean binomia for many of Rumphius's illustrations. Diagnoses were added in the *Systema naturae*, ed. 10, 2 (1759).

#### SOME HIGHLIGHTS FROM THE HERBAL

So let us finally dwell on the contents of the *Herbal*. In the Leiden University Library we have a number of original hand-colored drawings that deserve further study and documentation (Harm Beukers, personal communication). Here we reproduce a very small selection.

The Starfruit (*Averrhoa carambola* L., Oxalidaceae, Figure 2), which Rumphius reported to be refreshing and good to treat fevers and gall-related ailments.

The Durian (*Durio zibethinus* L., Malvaceae s.l., Figure 3), had as many lovers as people who could not stand its foul and penetrating odour as it has today. Rumphius noted a few local uses, but also warned against the effects of overconsumption. Durian also induces sweating and “lewdness”.

Cloves (Figure 4), the aromatic dried flower buds of *Syzygium aromaticum* (L.) Merr. & L.





Figures 2-5, from the original water colors in the Leiden University Library. 2. Starfruit. 3. Durian. 4. Cloves. 5. Areng palm.

M. Perry (Myrtaceae), were of course among the most important commodities to be dealt with. Rumphius devoted no less than 4 chapters of 13 pages and 3 illustrations to them. As a good Christian Rumphius subscribed to the belief that God had created plant species in each part of the world in such a manner that each region had its ideal set of species to cure the prevailing diseases there. But for cloves he reckoned that God had made an exception, because *Caryophyllum*, as he called it, was locally only used in ointments for skin care and for smoking in the very special Indonesian krètèk cigarettes, and again to stimulate lust, especially among the erotomaniac Chinese. However in the Northern world cloves were not only an attractive spice in the European cuisine, they were also believed to be of great medicinal value against numerous northern diseases. In Abraham Munting's Dutch Herbal *Nauwkeurige beschrijving der aardgewassen* [Careful description of terrestrial plants] (1696: 146–150) one can find over 15 medicinal attributes of cloves from curing headaches, the plague, constipation, dizzy spells, and heart palpitations to mind-enhancement, and providing a good breath.

Many people have justly sung the praise of Rumphius's linguistic style. Even today his Dutch is very readable and amusing. Not only in prose but also in poetry he was quite talented. A classic example, as cited by H. C. D. de Wit (1949) in *Flora Malesiana*, is the description of the Areng palm (*Arenga pinnata* (Wurmb) Merrill, Arecaceae, Figure 5): “*being in its black-green foliage wildly and sombrely attired...the trunk is...not only very uneven, and rough with mosses, but also so much overgrown and covered by a variety of ferns and Polypodium that he is scarcely recognisable before being cleaned by the gardeners; which makes him seem a drunken peasant, as he leaps from his sleep in his patched clothes and ruffled hairs; verily, it is the least attractive among all trees.*”

#### EPILOGUE

The most comprehensive contemporary character portrait of Rumphius is by Pieter Mar-

ville—another VOC servant in Ambon. In 1666 he wrote in a letter to his superiors in Batavia: “*Hij heeft den roem en oock het uyerlyck aensien, te syn een man van goede kennisse en ervarentheyt in dese landen, bysonder op de kust van Hitoe. Van een goet en statigh leven en van een onbillycken maer nedrigen en heusschen ommegangh, en vooral van een conscientieus en oprecht gemoet, niet gierigh ofte inhaligh*” [“He has the reputation and also the appearance of a man of good knowledge and experience of these lands, especially of the coast of Hitu. Of a good and dignified life and of an unfair \* (but see Beekman 2011, note 151) but humble and just behavior, and above all of a conscientious and honest nature, not stingy or greedy.”

From what we have learned from his posthumously published masterworks and the details of his biography as revealed by Beekman (1999, 2011) we would like to add to that character sketch that Rumphius was a true *Homo universalis*, modest, unprepossessing, lenient to other people's views, with an unbelievable resilience to disasters (blindness, loss of family, and data of a life's work), yet with a persistent sense of curiosity and humour—where this might have led easily and understandably to defeat and bitterness.

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