

II. 15 JUNE 2002, 300th ANNIVERSARY OF RUMPHIUS' DEATH**J.F. VELDKAMP**

Nationaal Herbarium Nederland, Universiteit Leiden branch
P.O. Box 9514, 2300 RA Leiden, The Netherlands
(e-mail: veldkamp@nhn.leidenuniv.nl)

On 15 June 2002, it will be the 300th anniversary of the death of the founder of Malesian botany, zoology, and geology, Georg Everhard Rumpf, better known as Rumphius (probably late 1627–1702). It seemed suitable to present a brief commemoration here. This being a botanical bulletin, I will mainly deal with the plants.

Many articles and books even have been written about this remarkable man and the results of his exploits in the Moluccas, which have given him an everlasting place of honour in the history of natural science. He is the undisputed patriarch of Malesian botany, zoology, and geology. None has had such a wide and integrated knowledge of these sciences, and was also well-versed in pharmaceutical, architectural, juridical (local and Western), ethnological, linguistic, historical, and religious matters, including astrology and magic.

Only a few of these publications were in English, e.g. Merrill (1917), Hickson (1926), Van Steenis-Kruseman (1950: 452b), De Wit (1952a, 1959b), and Meeuse (1965). Primary works have been published by Henschel (1833, in Latin) and Leupe (1871, in Dutch). Compilations of these were made by Greshoff (1902, in Dutch) and De Wit (1952a and 1959b, in English). A rather romantic account has been given by Ballintijn (1944, in Dutch). Buijze (2001, in Dutch) studied archives in Amboina, Cape Town, Germany, and Lissabon which had not been consulted before and he added many previously unknown data. Beekman (1981, and especially 1999), besides biographies and a commentary on the many and diverse qualities of Rumphius' work, translated into English a number of descriptions from the Herbarium Amboinense (Rumphius, 1741–1750) and d'Amboinschen Rariteitkamer [Thesaurus Amboiniensis or Amboinese Curiosity Cabinet (1705)]. Beekman also had access to German archives, which gave the first information on Rumphius' 'missing years', 1648–1652, which had puzzled previous biographers.

From these sources most of the following has been extracted.

He was born in Wölfersheim (Rathaus Gasse 1, depicted by Buijze, 1998b: 53), although he himself said to have come from Hanau am Main, Hessen, Germany. His mother, Anne Elisabeth Keller, apparently came from the area of Emmerich and Cleve (now Germany) where Dutch was spoken until the middle of the last century, and he had a cousin, Johan Keller, formerly of Middelburg [Prov. Zeeland, the Netherlands], where there was an important department ('chamber') of the Dutch United East Indian Company or VOC (pronounced *vay-oh-say*; founded in 1602). In Hanau Dutch was also spoken due to the great number of religious fugitives. This would explain his impeccable and even innovative command of that language that later biographers have marvelled at.

There has been some dispute about the date of his birth; he himself signed the dedication of volume 1 of the Herbarium Amboinense (1741) as '20 September 1690, in the

middle of my 63 years of age', which would make it early 1627. Beekman (1999: xxxix), however, cites a letter from Rumphius' father (29 August 1627) in which the birth is announced in less than two months, which indicates that it must have been between late October and early November.

In 1635 he was one of the few survivors of a plague epidemic, which decimated the population from 900 to about 54 (Beekman, 1999: xl).

His father, Augustus Rumpf (c. 1594–1666), was an architect and apparently earned enough in those years of crisis after the end of the Thirty Year War that he could send his oldest son to the Gymnasium in Hanau. When Georg had graduated, he wanted to see some more of the world and had the bad luck to fall into the hands of an unscrupulous recruiter (possibly even an old classmate), Count Ernst Casimir von Solms-Greifensee (1620–1648). Told that he would be going to Venice he headed probably in early 1646 for Brazil instead. There the Dutch West Indian Company (WIC) was desperately fighting the Portuguese. He never got there, for somehow he ended up in Portugal where he stayed for about 3 years. In what position is uncertain (mercenary soldier?), but he appears to have travelled widely from the north to the south, observing nature all the time, as he later said, and learning Portuguese, that came in useful later, as at the time it was the main trader's language of East Asia. In 1648 or 1649 he managed to return to Hanau.

There still is a missing period, until September 1650, but it seems unlikely that he had the time or opportunity to obtain a medical degree, as some have suggested. 'Med. Doc.' was placed behind his name in later years. Buijze (2001: xiii) suggests that Burman added the title. Rumphius himself, in the introduction to the Herbarium Amboinense, states that he was "not a learned Medicus, Physicus, or those who profess to such arts, but merely a lover of natural science, who ascribed to himself a modest (!) knowledge of the botanical arts" (Beekman, 1981: 17). It may have been an honorary degree from some German University when his fame spread, but none has claimed the honour. It seems unlikely in view of Rumphius' evident modesty that he so aggrandised himself, yet from his writings it is obvious that he had a more than common knowledge of medicine.

In September 1650 he was appointed as supervisor and architect of the reconstruction of the castle of Idstein, which experience no doubt came in useful later when he advised on fortifications in the Moluccas. Beekman (1999: xlvii) says the labourers were Flemish and that Rumphius, speaking Dutch, possibly obtained this position because he could speak with them. He also was governor of the sons of Count Johann zu Nassau-Idstein, but after one and a half year left possibly because they differed in religious views (Beekman, 1999: 381, note 72).

He may well have heard about the riches of the East Indies in Portugal and from his Dutch relatives who came to visit Wölfersheim. Perhaps through their influence with the VOC he could depart from Texel, the Netherlands, on the second day of Christmas 1652 as an 'adelborst' (midshipman) with the VOC. This rank and subsequent ones again suggest that he was not a physician, for these were in high demand with the higher pay that he certainly could have used then and later in the Indies.

On the way he stopped over at Cape Town which a year before had been established by Jan van Riebeeck (1619–1677) as a foraging post and spent a week there, of course botanising. As a student of Oxalidaceae I find it interesting to see that he collected buckets full of *Oxalis corniculata* L. [of which genus there are a few hundred (!) species in

the Cape] noting that fresh vegetables like this cured scurvy. This notion was apparently first practised consequently by Captain James Cook (1728–1779) one and a half century later, who forced his sailors to eat lemons, hence the nickname ‘limeys’ for English sailors.

In later years Rumphius explained his choice for the East Indies by saying that he had been led by the intention to see Nature’s fabled riches of the East for himself (but he may well have thought of some pecuniary share of them, as well). By the end of 1653 he arrived in Amboina, in the fabled Spice Islands, then the most important trading post of the VOC. He proved himself to be a very good employee, not only doing well in trade, but also in the planning and construction of the fortifications required to protect it. His father had wanted him to be an architect like himself, and the experiences in Germany now proved fruitful.

He also was quite a linguist, next to German he spoke and wrote exceptionally fluent Dutch, Portuguese, classical Latin, some Spanish, Greek and Hebrew, and soon was able to speak Arabic, Malay, perhaps some Chinese, and local Amboinese languages, which he then taught to ‘totok’ European missionaries. Soon (1655) he was promoted to ensign (‘vaandrig’), which made him the third military man in town. As such he took part in at least one ‘punitive’ expedition in Ceram.

In 1657 he was appointed ‘fabryck’, military engineer, as his kind of expertise was rare and much wanted in the area. However, soon after he switched from the military to the civilian and was appointed Junior Merchant (‘onderkoopman’) at Larike, on the West coast of Hitu. Here he probably married his Susanna, a local woman, possibly Chinese, as for Dutch ones marriage contracts were recorded. They had at least one son and three daughters; direct descendants (of one of the older daughters) are the family Rumphius Twijssel (Beekman, 1999: 386, note 82) of which I have found no recent data. There was a family Twijssel in Ambon around 1796.

He named *Flos susannae* after her, “in memory of her, who during her life was my first spouse and helpmate in the finding of herbs and plants, and because she discovered it” (vol. 5, 1747: 286, t. 99; Backer, 1936: 568; Beekman, 1981: 209), also called *Platanthera susannae* (L.) Lindl., but best *Pecteilis susannae* (L.) Raf. (Orchidaceae) (E.F. de Vogel, L, pers. comm.).

This species has a curious history. It was validly described as *Orchis susannae* by Carolus Linnaeus (1707–1778; 1753: 939¹) with a reference to Paul Hermann (1646–1695; published posthumously, 1698: 209, t. 209: *Orchis amboinensis, floribus albis fimbriatis. Flos susannae Rumphii*), from where Linnaeus obviously obtained the epithet.

This phrase-name alone had been given by Hermann previously in a checklist (1689) and his use of ‘amboinensis’ and ‘*Flos susannae*’ suggest a Rumphian origin of his information. In 1698, however, he gave a 15-line description and then says that the plants never flowered ‘in our gardens’ and that his plate was after one sent by Rumphius from

1) *Orchis susannae* L., Sp. Pl. 1 (1753) 939. — Lectotype: *Hermann, Paradisus batavus* (1698) t. 209, designated by Cribb (1999: 49). — Epitype: *Robinson Pl. Rumph. Amboin.* 9 (holo US; L; possibly also in A, B, BM, BO, CAL, F, GH, K, MO, NSW, NY, P, U, UC, and W), designated here.



Fig. 2. *Flos susannae* (Hermann, 1698).

Java (!). Remarkably, this plate (Fig. 2) is different from that in the Herbarium Amboinense.

Where and how did he get all this information? No direct contact between Hermann and Rumphius is known. The manuscript of the Herbarium Amboinense did not reach the Netherlands until 1697, two years after his death. Perhaps he indirectly had obtained plants, description, and plate through one of Rumphius' correspondents in the Netherlands (e.g. from D'Acquet in Delft)?

It was rather a surprise to (re-)discover that an Indonesian (terrestrial) orchid was in cultivation in the Netherlands in Hermann's time, as De Vogel et al. (1999) reported that by 1740 only three tropical orchids were mentioned for the Leiden Botanical Garden by Adrianus van Royen, Professor of Botany in Leiden (1704–1779). This one is not among them, so presumably it had died out, or had been grown elsewhere.

Rumphius did send material to Europe which seems not to be accounted for in the VOC archives. This is curious, for the VOC was very anxious to prevent smuggling, and ships were not allowed to carry any private goods. Yet such illegal trade was rampant among VOC personnel. Rumphius honesty is attested to by all, but no doubt he had his private channels.

In 1686 he sent a lump of resin of *Agathis* ('damar') to Leiden. I have not been able to find this there (Veldkamp & De Laubenfels, 1984: 339). He also sent specimens to his colleagues of the *Academia Naturae Curiosorum* of the German Roman Empire (founded in 1657, in 1681 situated in Frankfurt, not Vienna, as has been stated) and today still is in existence as the *Leopoldina*. Thirteen of his letters were published in its journal *Miscellanea Curiosa*, etc. Possibly disappointed by the failure of the VOC to publish his manuscripts, he sent the one of the d'Amboinschen *Rariteitkamer* in 1701 to Hendrik d'Acquet, Mayor of Delft. This deals mainly with animals, mineralogy, and geology, explicitly recognising zoological fossils (!: something which contemporary European scientists were not convinced of).

Larike was a rather desolate little place and his function gave him a lot of spare time, which he spent on the observation of Nature's treasure room that he claimed had led him to going East in the first place.

He was provisionally promoted to Merchant ('koopman') in 1660 (confirmed in 1662), as successor to Jo(h)an Maetsuycker (1606–1678), and moved to Hilu, a much more civilised place, where he lived like a prince (Valentijn, fide Beekman, 1999: lxv): daily fresh venison, plenty of fish, etc. He also kept cows, sheep, geese, ducks, and chickens, while his tables sheltered horses equipped with beautiful French and English saddles, with superb bridles, some of which were of pure silver. He had a large armed vessel with forty rowers plus a gunner. His gardens yielded beautiful cabbages, endives, superb lettuce, beautiful parsley, Chinese radishes, etc. He even had a small zoo.

In 1662 he became Senior Merchant ('opperkoopman'), the highest rank available. He then earned an extraordinary salary: 60 guilders (200 Dutch shillings) a month, more than for instance Van Riebeeck, who got 52. He stayed there for 10 years, rather exceptional, as VOC employees usually were translocated after about 5 years to prevent too good connections for graft and smuggling. This may be well be due to the good opinion his superiors had of him.

In August 1663, secure of his position, he wrote a letter to the Lords XVII, the Board of the VOC, in which he announced that he had started on a work in which plants and animals of India would be described and very politely requested that the necessary literature would be allowed to be shipped by VOC ships from Amsterdam to Amboina. Fortunately, the then Governor-General in Batavia (Jakarta), his old friend Maetsuycker and patron of the sciences, supported this plea, but apparently it took until 1666 before he received his requirements.

In the introduction to the Herbarium Amboinense he stated that part of his aim in writing the Herbarium Amboinense was to aid local physicians to obtain cures, as what the VOC shipped from Europe was often spoiled or insufficient in quantity. He also believed that God in His wisdom had provided local herbs to cure local diseases. As far as medicinal use is concerned, he remarked that he had “tested the powers in mine own house, and with other families”, but he also noted that many things might be fables, superstitions, or old wives tales. Yet, he included them anyway as there might be some truth in them. Of course he lacked the occasion and time to get to the bottom of every one of them and he did not believe any number of things until he had explored them often and diligently, but one would need another life time to test them all (see also Beekman, 1981: 14). The result is that instead of a bone-dry enumeration (as in the Flora Malesiana!) nearly each species gets a story, an anecdote, perhaps a recipe, and even pranks are not omitted, as in the case of *Herba sentiens* to test virginity, and the substitution of lumps of *Dammar batu* for sweets.

There is a lot on sickness, health, birth, and death, and all the rituals surrounding these mysteries. Obviously a lot of sexuality, too, but all is mentioned in an unprejudiced, sometimes even playful way, and not in lewdness, as some 19th century over-prude Victorians accused him of. While some people get excited by the mere view of a woman’s ankle or the tip of her nose, this certainly was not Rumphius’ problem. Who is sexually obsessed then?

In 1666, also, there was some political dickering: Rumphius was temporarily appointed to ‘Secunde’ (‘second man’), a rank immediately under that of Governor, but was not confirmed in it. In compensation he was given a piece of land that he had selected himself as personal property. Actually, one of the arguments for the donation was that it was fairly worthless, a hundred ‘rycksdielders’ (250 guilders, 833 Dutch shillings, about 4 months of his current salary) when sold. These events show that he had no powerful political protectors, an absolute must at this corporation level. Although Maetsuycker may have supported his scientific ideas, this did not extend to his career or fortune. On this plot he created a Physic Garden, possibly the first western type of botanical garden in Malesia. Maybe he came out best from the deal and was this the ultimate intention of the scheme? Not very likely in view of his evident modest, honest, and unpretentious character as shown from his own and others’ writings. He also had a forest garden, still known as Dusun Rumphius (Buijze, 2001: xxii), which shows that memories of Rumphius have survived in Ambon.

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, Rumphius 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. Life seemed to be good.

Things changed considerably when in April 1670, at 42, he turned incurably blind (*glaucoma simplex*), about the worst thing that can happen to a dedicated naturalist. The Governor of Ambon, Jacob Cops, heartlessly terminated his contract on the spot and ordered his immediate return to Amboina. After a letter of complaint about this ruthless treatment to Maetsuycker, the latter countermanded these measures, leaving Rumphius in all his high-ranking positions with retention of his salary until further notice (which never came).

Saturday, 17 February 1674, was Chinese New Year. His family had been invited by some Chinese to watch, which has suggested that his wife may have been of Chinese extraction. He had declined to attend, as he couldn't see the paper horse dances, etcetera, anyway. Suddenly, a huge earthquake followed by tsunamis struck, killing 2322 people. A falling wall killed his wife, two of his daughters, and a maid (most accounts report his youngest daughter, but Rumphius stated two: vol. 6, 1750: 195), "it was full piteous to see that man sit next to these corpses, as well as to hear his lamentations concerning both this accident and his blindness" (Beekman, 1981: 8). Because of this event, some have referred to him as the 'Job of biology' (Job is a character of the Bible, who fell victim to a wager between God and Satan). Although he lost all he had, ending up with running sores on the town's refuse dump, he remained staunch in his belief. Hence the well-known, now pan-tropical *Coix lacryma-jobi*, Job's tears (Gramineae). [*Dendrophthora lacryma-jobi* E.A. Kellogg (1996), Viscaceae, from Venezuela, is for "the tears Job Kuijt shed over the circumscription of this species"].

Rumphius (1675) published an account of this disaster in such an impersonal way that it has been thought he didn't write it. But the style betrays the man. Besides the letters published in the *Miscellanea Curiosa*, etc., this is the only major publication that appeared during his lifetime.

In 1682 he sent shells, sea animals, minerals, resins (among which another lump of 'damar'), fossils, and some parts of plants in a cabinet made by a local carpenter, Mester Hansenhand, of 56 different kinds of wood to the Grand-duke of Toscane, Cosimo III de'Medici (1639–1723). It is unknown why he did this, as no other connection between the two is known. Buijze (2001: xxvi) has suggested he needed money (but how much did he get?) for his son's studies in Holland, but the considerable lifetime savings he left in 1702 speak against this. Was it perhaps prudent to have money in Europe without transferring it from Ambon and so alerting the VOC to his fortunes? Paulus Augustus (c. 1660–1706) stayed in the Netherlands somewhere between c. 1680 and 1685, when he returned in the employ of the VOC (Buijze, 2001: xxxiv).

A partial enumeration of the Cosimo collection has survived and was published by Martelli (1903). The shells have turned up in the State Museum in Vienna (W), the plants in Florence (FI), where the original labels were destroyed and the specimens became so mixed up with others that their origins cannot be traced anymore. Martelli (1902) reported to have seen *Calamus* material in FI 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 (K; pers. comm.) has seen fruits of *Caryota sp.* and *Daemonorops calapparia* Blume there.

Gradually his fame spread to Europe and in 1681 he was appointed as the 98th member to the famed Academia Naturae Curiosorum. Members were given a cognomen (nickname): his was Plinius, a most honorific title as it was after the Roman procurator ('administrator') Caius Plinius Secundus (23–79 AD, killed in the eruption of the Vesuvius which buried Pompei and Herculaneum, and one of the ancient founders of European natural sciences, whose influence lasted for 1500 years until the end of the Middle Ages). Rumphius cited his *Historia Naturalis* frequently and seems to have identified himself with him (Beekman, 1999: lxxxv–lxxxvii). In fact, Rumphius was more than a Plinius, for where the latter was a compiler of existing knowledge, Rumphius added first-hand and new data. The epitheton 'indicus' or 'secundus' were later fabrications.

In 1686 he wrote an account on Ambonese agriculture (published by Leupe, 1871: 42–44). He is also said to have introduced a more efficient method to prepare sago.

On Saturday, 11 January 1687, the town of Amboina, where he now lived, was razed by a fire which destroyed his precious library, collections, and most of his lifetime manuscripts. Only those of the Herbarium Amboinense and about half of its plates were saved. Yet, undaunted by blindness and his awful losses, Rumphius, with the aid of his son and some very able assistants provided by the VOC, managed to rewrite his accounts and redraw the lost plates. The original manuscripts were in Latin, but because his assistants didn't know that language, he dictated them in Dutch. This was actually an advantage, for in Dutch he was obviously much less restrained in word and style. Later Burman very carefully translated it all back again, for Latin was the scientific lingua franca ...

He remarried with the widow Isabella Ras, of European extraction, for the marriage was recorded but not dated. Did he perhaps name the cowry *Cypraea isabella* after her (1705: t. 39, f. 8)? She died in September 1689. Perhaps he found some companionship in a small Bengali slave called Cour, which he 'inherited' from his stepdaughter Giertje Wittekam. Cour died in 1692 (Beekman, 1999: lxxv, 388, note 132).

His son was promoted in 1699 from Second Merchant in Larike to Merchant because of the appreciation of the Herbarium Amboinense by the VOC, but dismissed in 1705 because of illness. Together with Daniel Crul, Philips van Eyck, Christiaen Gieraerts, J. Hoogeboom, Pieter de Ruyter, and Johan Philip Sipman he made many of the plates. Paulus made the only extant portrait for his 68th birthday (Fig. 1). This was published in d'Amboinschen Rariteitkamer (1705) and again in the Herbarium Amboinense (vol. 1, 1741), in which the stuffed mongoose (see the delightful account in Burman (1755: 69, t. 28); Beekman (1999: lxxv) hanging on the wall behind him) has been deleted. The title page of the Utrecht manuscript depicts a man observing a tree, who most likely is Rumphius (Ballintijn, 1944: opp. 120). Sipman collected some herbarium specimens now in the BM which (together with the specimens in FI and W) probably are as close as we can get to Rumphian originals.

Sipman also wrote part of d'Amboinschen Rariteitkamer. Some of the plates added by d'Acquet (p. 10, 233, 287) were made by Maria Sibylla Merian (1647–1717), famous for her earlier drawings of Surinam plants and animals. It was reprinted several times and translated into Latin, German, and, recently, into English (Beekman, 1999), and so must be the work best-known to the general public.

By the end of 1690 the first part of his magnum opus, six books of the *Herbarium Amboinense* were sent to Batavia. The Governor-General, Joannes Camphuys (1634–1695), a patron of science, had them meticulously copied for safe keeping. Not without reason, for it was a long way back to Europe fraught with dangers. Indeed, the ship that carried them in 1692 was sunk by the French. A second copy was made including three additional books that had arrived in the mean time, and by August 1697 everything was safely in the Netherlands. A year later the final three books were received. A manuscript is never finished until it is published, so two additional appendices were shipped by 1704. Altogether about 1200 species were treated in them, probably selected for having some kind of importance in medicinal, ceremonial, or folklore use, but also just because Rumphius took a liking to them, e.g. the 2 species he called *Pilosella amboinica*, not known by the natives then and still unknown to scientists today (Beekman, 1981: 230). In the 1660s he had started a dictionary of Malay, but when he got to the P of Pandas he turned blind, and the rest was written by someone else, and then it was stolen. In 1695 it was bought at a Batavia flea market by Christiaan Geraerts. This was a distant relative as he had married the widow of the son of Isabella. Somehow it had become in the possession of Camphuys and Rumphius wrote that he wanted it back, but nothing was heard about it afterwards, probably because Camphuys died 19 days after the letter had been sent and so may not have read it at all.

As an intermezzo, there is a correspondence between Rumphius and Camphuys in which the latter claims to have shells more beautiful than those found in Ambon, to which the first replies that this defies the honour of the Ambonese monarchy over sea curiosities. He therefore sends a hundred warriors to challenge the Batavian ones in the hope to hear of the success of their campaign some time. If they lost, they did not need to return, but might remain in captivity. Camphuys, however, had died before this battle could take place. The fate of Rumphius' army is unknown.

What subsequently happened to the manuscripts of the *Herbarium Amboinense* is not recorded. The VOC records are in the State Archives in The Hague, but Lotsy (1902: 57) reported that both the first dispatch, and the copies made in Batavia and retained for safe-keeping are in the University Library Leiden (UBL) together with the originals of the plates, most of which are coloured (!) and of a much better quality than the published ones. Only the very last part, the Appendix II, is in the Utrecht University Library (UUL), also with plates. In the City Library of Amsterdam there are copies of some chapters.

Rumphius (vol. 5, 1747: 464, t. 172) had described *Corona ariadnes punicea* with red flowers and *Corona ariadnes lutea* with yellow ones, but did not say which of the two the plate represented. The coloured plate in the UBL shows red flowers, so after about 254 years we now know that the plate represents the *punicea* form, a synonym of *Hoya coronaria* Blume (Apocynaceae/Asclepiadaceae). Similar problems may well be solved so easily.

Nearly immediately there were requests to publish the manuscript, but the Lords XVII decided that the books contained too much sensitive information and might lure competitors (English, Danish, French, Portuguese) into 'their' area. So the manuscripts were locked up in the VOC vaults for some time. When in 1702 they allowed it to be printed as soon as there was a new demand, there were no takers until 1736 ...

On 19 May 1702, the Governor of Ambon wrote to the High Government at Batavia about Rumphius “nothing more was to be expected of that old gentleman, having lived his years”; on 15 June he died, 75 years old, very old for a European in the tropics. No special mention is made in the missives from Ambon; casually, under another heading it is noted that he left 4000 ‘rycksaelders’ (10,000 guilders, 33,333 Dutch shillings), quite a fortune, several million guilders at present rates, savings of about 27 years of duty (note that he earned 60 guilders a month; putting away about 10% of one’s salary for a pension is presently advised by many investment firms; was there a similar advice then when there were no pension schemes?).

A summary may be made of his character based on his own and others’ writings: modest, unprepossessing, leniency to other people’s views (e.g. his mild comments on the superstitions of the Amboinese ‘heathens’, even when Christianised, magnanimous discussions of errors made by previous botanists, where ‘points’ might easily have been scored), on the other hand unbelievable resilience to disasters (his blindness, loss of family and life work), perseverance under these stresses and persistent sense of humour – where this might easily and understandably have led to bitterness – linguistic ability, and especially his continuous perspective curiosity, which continues to surprise. You would do well to make him your example.

OTHER WRITINGS

Although this paper was intended to deal mainly with the Herbarium Amboinense, I have mentioned that Rumphius was active on many other subjects, as well. A summary of his major publications by date of first publication, others were pilfered by Valentijn.

- 1675 Waerachtig verhael van de schrickelijcke aerdbevinghe in en omtrent de eylanden van Amboina. Reprinted in 1978 by the Dutch Embassy, Jakarta, with Bahasa translation by T. Slamet, so far the only Bahasa text of Rumphius. Translated into English by Buijze (1998a).
- 1683–1698 Thirteen letters published in the *Miscellanea Curiosa*, etc.
- 1684 Antwoort en rapport op enige punten uijt name van seker Heer in ’t Vaderlant voorgesteld door d’Edele Heer Anthonij Hurt. Reprinted in *Tijdschr. Staatshuish. Statist.* II, 1, 13 (1856) 137; Buijze (1998b) with notes and an English translation.
- 1705 D’Amboinse Rariteitkamer. Translated into English by Beekman (1999) with notes and a biography.
- 1741–1755 Herbarium Amboinense, 6 volumes, edited by Burman, who added a 7th volume, the *Auctuarium*, with additional notes and an unpaginated index using Linnean nomenclature (more or less copied from Stickman, 1754) and the first work of a non-Linnean pupil where Linnean nomenclature was used.
- 1871 Advys over den Ambonschen landtbouw. Dated 23 August 1686, published by Leupe (1871).
- 1910 De Ambonsche historie (written 1672–1679). The contents were so sensitive that it was suppressed by the VOC. Part of it was used by François Valentijn (1666–1727, from 1686–1695 and 1707–1712 in Amboina). He was the father-in-law of Paulus’ widow and Adriana Augusta, one of her

daughters, and so he obviously had access to the family heirlooms. He published an 8-volume history of the East Indies (1724–1726), in which several instances more or less clearly have been taken from Rumphian manuscripts, some of which have mysteriously disappeared, e.g. the 3-volume one dealing with animals. Published in *Bijdr. Taal-, Land- & Volkenk.* VII, 10, 2 vols. Den Haag.

- 1983 Amboinsche landbeschrijving, made on commission from the VOC when already blind between 1672–1678, but publication suppressed by the VOC. Typoscript by Z.J. Manusama, Penerbitan Sumber-2 Sejarah 15. Jakarta. Transcribed and provided with many notes by Buijze (2001).

HERBARIUM AMBOINENSE AFTER RUMPHIUS' DEATH

Johannes Burman (1707–1779), in 1731 at 24 years of age already Professor of Botany in Amsterdam, had a great interest in S African and Asian botany, and was allowed by the Lords XVII to prepare the manuscripts for publication. He meticulously translated Rumphius' sometimes poetic and flowery Dutch back into Latin and had etchings made of the drawings and colour plates. Printing the plates in colour, as had been Rumphius' intention, then as now, was too costly, which is most unfortunate, of course, and in some instances has led to lack of information (see the example above).

Somewhere I have read, but cannot find the reference, that during his preparations, which took him until 1755, Burman was assisted by both Linnaeus, who happened to be in the Netherlands at that time (1735–1737), and Van Royen. The end result were 6 folio volumes of 1660 pages (1741–1750), with nearly 700 plates and describing about 1200 species mainly of flowering plants. The *Auctuarium* (Burman, 1755) is usually regarded as the seventh volume.

Linnaeus, who lived for some months at Burman's house before he went to stay with George Clifford (1685–1760), collaborated in the writing of the *Thesaurus Zeylanicus* of 1736 (Uggla, 1937: 131–135), and Burman assisted him with the *Fundamenta Botanica* (1736a) and *Bibliotheca Botanica* (1736b). When Linnaeus got too oppressed by his loneliness in the Hartencamp, Clifford's sumptuous estate in Bennebroek, near Haarlem (and the mansion is still there) he fled to Leiden or Amsterdam: there at least he could speak with people (in Latin of course; for, although he spent 3 years in the Netherlands, he never learned much Dutch). Burman recorded that he used to work on his Rumphius translations early every morning when others were still in bed, but it can hardly be doubted that Linnaeus must have seen the voluminous manuscripts, which must have fascinated them both.

The three, more or less of the same age, all three in charge of the botanical treasure troves of the Botanical Gardens in Amsterdam, Leiden, and the Hartencamp, dedicated if not fanatic collectors of naturalia, must have had much in common. No doubt they collected together in these places, and exchanged specimens. Unfortunately at the time it was not customary to indicate sources and provenances, and especially Linnaeus was most secretive using private codes (Stearn, 1959: 106), and Van Royen rarely gave a provenance. Van Royen rearranged the Leiden Garden according to Linnaeus' system,

Linnaeus in the *Species Plantarum* (1753) cited Van Royen's *Prodromus* (1740) as the first reference (after his own, of course), and Burman in 1755 was one of the first to use Linnaeus' system and nomenclature.

I think that there was a kind of gentlemen's agreement among them: not to mention taxa based on the Rumphian manuscripts until Burman had published them.

Although Van Royen's *Prodromus* was mainly based on what he had available in the Leiden Botanical Garden, he added other exotics as well, but did not mention Rumphius at all.

De Wit (1952a: 106) stated that Linnaeus did see the manuscript and Merrill (1917: 31) listed 19 species that were included in 1753. Linnaeus (1753: 1199) excused himself for not including all names as, he said, he received the work after the type-setting was done ["*absoluto a typographo opere*" (1753: 1199)]. It is hard to believe that such an important botanical work from a close friend, the first volume appearing in 1741, would have reached Linnaeus in its entirety only just before 24 May 1753 (when volume 1, p. 1–560, of the *Species* was published), or 16 August 1753 (when volume 2, p. 561–1200, appeared). If true, it is of course obvious that he couldn't include the barrage of novelties described by Rumphius on short notice, but it does not explain the occurrence of six others in the remainder of the book. The full citations under the five species of *Cynometra*, *Averrhoa*, *Garcinia* came from Rumphius' volume 1 (p. 382–383, 428, 444), and of *Acrostichum* (p. 1070) from volume 6. From the typography it is hard to believe they were last-minute insertions. The palms (p. 1187–1189) from volume 1, it is true, could have been added at a very late stage. Six others are in the Appendix (p. 1194–1197), obviously final additions, and one in the Addenda (p. 1200), the ultimate possibility.

Already in May the next year Olavus Stickman, one of his PhD students, published what probably actually was Linnaeus' account of the plates with many of the newfangled Linnean binomial names. Either Linnaeus was a very fast worker (which he was), or he had the list already at least partly available.

As an indication of the impact of Rumphius' Herbarium Amboinense on Malesian botany, De Wit (1952a: 106) wrote that more than 350 binomia rest on, or are typified by, the plates in these books and that (in 1952) more than a thousand scientific botanical publications referred to them. Every student who is engaged in the study of Moluccan plants or Malesian botany, will meet it on his way. If information is desired here is the most exhaustive, generally also the most reliable source. He included data on the anatomy, physiology, ecology, uses (recipes for edible ones!), pharmacology, ethnobotany, vernaculars, and many other aspects.

Of course, he had very different concepts of genera, species, and sexuality (male/female) where he applied the classical criteria so very different from the present ones.

In modern times it is exceptional that a scientific work over 300 years old carries so much authority and occasionally provides the first and last word to some questions!

Of the flowering plants at least 129 carry an epithet dedicated to him (*rumphii/-ae*, *rumphianus/-a/-um*). There is the genus *Rumphia* L. (1753: 1193). Its only species, *R. amboinensis* has mystified later authors (see extensive discussion by Warburg, 1902: 77–78) and it has been placed in Anacardiaceae, Boraginaceae, and Euphorbiaceae. It is based on Tsem-tani, an Indian plant described by Hendrik Adriaan van Rheede tot

Drakenstein (1683: 25), and this is the only Rheedean taxon which Nicolson et al. (1988: 319) could not identify. Dr. D.J. Mabberley (pers. comm., 2001) still thinks it is most likely *Croton* L. (1753), a genus with perhaps 750 species, and another 1200 synonyms.

I have no idea how many animals there are in his honour, there must be quite a few. The botanical journal 'Rumphia', of 4 volumes (1836–1849), edited by C.L. Blume (1796–1862), was a predecessor of 'Blumea'. Finally, there is the up to 2670 m high Rumphius Range in Irian Jaya, S of Mt Wilhelmina (now G. Trikora).

Of course there have been a number of attempts to interpret Rumphius' species with contemporary concepts starting with Burman and Linnaeus (Stickman, 1754). These had no knowledge of local circumstances, better equipped were Radermacher (Java, 1780–1782), Hamilton (India, 1824, 1832), Hasskarl (Java, 1866), and various others in lesser degree, usually dealing with a single species.

The best way to find out what exactly Rumphius had observed is of course to go to Ambon itself, and try to collect the species he described. An attempt was made by a number of botanists (see the list of collectors in Van Steenis-Kruseman, 1950: xcvi) of which the most successful was C.B. Robinson sent by Merrill. The good news is that he collected about 600 (of the c. 1200) species described by Rumphius, and no less than 1124 that weren't (Merrill, 1916), which shows that Rumphius' account was far from complete, and that another attempt is much needed (if they are still present!).

The bad news is that his was an unfortunate end caused by local superstition. In the area there was a belief of headhunters ('potong kepala') coming down from the mountains between November and December to make human sacrifices. On Friday, 5 December 1913, Robinson surprised a boy from an unnamed Butonese settlement between Aerlo and Seri, c. 9 miles from Amboina, who ran off and alarmed the place of a strangely garbed European. The chief gathered some men to prevent this ogre from obtaining his evil intentions and they cut him down, instead (Merrill, 1914: 194).

Merrill (1916, 1917) wrote up the results, and in many aspects his is the final word. The collections by Robinson were in 18-fold, with the first set with Merrill's personal annotations deposited in US (Nicolson & Arculus, 2001), others in A, B, BM, BO, CAL, F, GH, K, L, MO, NSW, NY, P, U, UC, and W (the one in PNH was lost). As except for possible specimens in FI and/or W there is no extant original Rumphius material, the Robinson collections should be appointed as neotypes, when there are no plates, or epitypes, when there are.

PHYTOGRAPHY

Rumphius had to work in an environment with little scientific interest and a period in which there was not yet a formalised terminology for characters and their states. Eventually he obtained some floristic works after his request in 1663, but these were in Latin and usually could not cope with the manifold forms present in Ambon, but not in Europe. The only equivalent works were the *Coloquios dos simples e drogas da India* (1563) by the Portuguese Garcia de Orta [translated to *Aromatum et simplicium* (1567) by C. Clusius], *De medicina indorum* (1642) by the Batavian surgeon Jacobus Bontius, and Van Rheede's contemporary *Hortus indicus malabaricus* (1678–1703) with 742 species from Kerala, S India, but he could only have had an incomplete set of the latter, and

when he got these he was already blind. Ballintijn (1944: 89) claimed that of the about 700 main species (out of the c. 1200) described by Rumphius less than 50 had been mentioned by others.

Thus he was forced to create his own set of terms and here again his linguistic abilities may be marvelled at. Even more important, he had an excellent feeling for words and sentences, and a dry sense of humour, which not only makes the plant vivid for the reader's eye, but, on occasion, may make him grin in appreciation. How rarely this happens in contemporary revisions or botanical handbooks (but see Backer, 1936!). De Wit (1952b) and Beekman (1981) cited a few amusing examples. The descriptions are examples of Rumphius' pleasant, lenient, and humorous criticism of popular superstitions (De Wit, 1952b: 18).

Monuments have been raised for Rumphius, the first destroyed by tomb-robbers, the second erected in 1824 hit by an Allied bomb in 1944, a third was built in a slightly different place (yard of the Xaverius Junior High School, Jl. Pattimura) in 1996 (Buijze, 2001: 282, fig.). At the time of writing (October 2001) this was reported to be still intact. But no human activity can destroy the true monuments reminding us of this remarkable man: the works on plants, animals, and stones that he has left us.

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