Harald Riedl. 1965. Heinrich Wilhelm Schott: zur 100. Wiederkehr seines Todestages am 5. März 1965. Ann. Naturhist. Mus. Wien 68: 3 – 8.

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Heinrich Wilhelm Schott: on the 100th anniversary of his death, on 5th March 1965.

If one is to appreciate the personality of the botanist and Garden Director H.W. Schott to the degree he merits, the difficulty of finding a formula with which the many-sided activity of this man can be grasped and clarified becomes apparent. Where did his true importance lie? Was his principal merit as the greatest scholar of the plant family Araceae, or was it as an explorer who as a pioneer opened up certain regions of Brazil to his science for the first time? Are his still more general achievements as a garden designer and gardener in Vienna, reaching beyond the narrow circle of his specialist colleagues, not also laudable, today still admired by local people and those from elsewhere? Should we not see Schott above all as an aesthete to whose direction we owe perhaps the most important body of illustrations, considered as much from artistic as scientific standpoints, that Botany possesses? Should we not indeed take this very multifaceted quality as the starting point for a true estimation? To my mind, it is all these various activities together which best characterize Schott; in all we see the sensualist Schott, who sought to capture by illustration and description the incredible wealth that he encountered in Nature. Here lay his strengths and occasionally his weaknesses.

The outward circumstances of Schott's life can easily be gathered from the excellent biography by E. Fenzl (1865) and may be summarized here only briefly. H.W. Schott was born a gardener's son in Brünn on 7 January 1794, but when only a boy of 7 years moved to Vienna where his father obtained the post of Head Gardener in the University Botanic Garden. In the following years the fateful meeting took place with Alexander von Humboldt, one of the most universal geniuses of science, who thereafter was his guiding star. Humboldt visited the seriously ill youth whose most ardent wish before he should die was to meet the great scientist. This wish was reported to [Humboldt] while he was a guest in the house of the Jacquins. His encouraging words reawakened the zest for life in the sick youth so that he recovered. The way that Schott considered Nature was deeply connected to that of Humboldt, although not matched with the same genius for seeing connections [between phenomena].

H.W. Schott completed his studies in the "Benediktiner-Gymnasium bei den Schotten" in Vienna and then at the University he studied botany, agriculture and chemistry. His teachers were the two Barons von Jacquin, though he was connected with nearly all the important Viennese botanists of his time. After his studies he became first Assistant Gardener in the University Botanic Garden, and in 1815 Head Gardener in the Garden for the Flora Austriaca in upper Belvedere. A monograph he began on the genus *Silene* remained unpublished.

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Schott participated as Gardener in the 1817 expedition for natural science exploration in Brazil organized at the instigation of Count Kaspar von Sternberg in parallel with

the wedding of Archduchess Leopoldine to Dom Pedro d'Alcantara, the Emperor of Brazil. The botanist of the expedition was J. Mikan, the zoologist J. Natterer and the mineralogist J. Pohl. Th. Ender also participated as an assistant, J. Buchberger as plant illustrator and D. Socha as hunter. Famous foreign scholars like Martius and Raddi, joined the expedition. Schott, already busily collecting en route at various landfalls, undertook extensive activities once in Brazil. He himself described his excursions there; his diaries were published in K. von Schreiber's "Nachrichten von den kais. Österreichischen Naturforschern in Brasilien" II., Brünn 1822. Two years previously the first diagnoses of new plant species were published by Schott. In Rio de Janeiro he created a kind of acclimatisation garden in which plants and animals which were to be taken later to Vienna were accustomed to more temperate conditions. When he returned to Vienna in 1821 he brought with him an immense yield of living and dried plants, seeds, wood samples, etc.

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In Vienna after his return he was engaged as Assistant Director of the Botanical and Zoological Garden of Schönbrunn. In 1827 the reorganization of the grounds of the Imperial Dutch Botanic Garden was transferred to [his direction], which is the modern Reservegarten in the same place. This was followed in 1828 by his appointment as Imperial Gardener and later in 1845 as Imperial Gardener and Zoo Director. In the following period he undertook a major transformation of the Pleasure Garden of Schönbrunn from the French to the English style. His collection of mountain plants from all over the world lay behind the famous Alpengarten in Upper Belvedere, where he also directed from 1840 once again the Garden of the Flora Austriaca. As Imperial Garden Director H.W. Schott died on 5 March 1865 from an acute lung oedema resulting from chronic valvular disease of the heart.

The first botanical publication of Schott was not, as reported by Fenzl (1865), the "Meletemata Botanica" of 1832, co-authored with St. Endlicher, but the previously mentioned new descriptions of Brazilian plants from 1820, which appeared when he was still stationed in Brazil. A series of short reports under the title "Für Liebhaber der Botanik" were especially important, although unfortunately very inaccessible [today]. These were published in 1829 and 1830 in the "Wiener Zeitschrift für Kunst, Literatur, Theater und Mode". To take just one fundamental example, one finds here the very first description of the well-known genus *Philodendron*. All his life, Schott preferred this more aphoristic kind of publication, alongside his more extensive works, as they provided him with a way of capturing recent results while they were still fresh in his mind. On the other hand this created certain difficulties for the user. The founding of the "Österreichisches Botanisches Wochenblatt" in 1851 gave him the opportunity, in his own city, to be able to publish his descriptions of new species at any time. No author provided so many contributions to the early volumes of this journal as him. When the weekly series was abandoned in the 8th volume and the title changed to its modern form "Öesterreichische Botanische Zeitschrift" [this was in 1965; now the journal is *Plant Systematics and Evolution*], this first volume of the new series was dedicated to him. Occasionally, or only seldom, he published also in the "Verhandlungen des Zoologisch-Botanischen Vereins in Wien", which had also appeared for the first time in 1851. Between 1861 and 1865 he published such papers mainly in the journals "Bonplandia" and B. Seemann's "Journal of Botany". A bibliography which includes also these small works will be published by the author of this paper in the journal Taxon [H. Riedl 1965. Heinrich Wilhelm Schott (1794 – 1865), Taxon 14(7): 209 – 213]. Alongside articles of his favourite groups, the

Araceae, the Primulaceae and the genus *Sempervivum*, one finds here also new descriptions from other taxa and chiefly those of new species which his friend Theodor Kotschy had sent him from Turkey.

The already mentioned "Meletemata Botanica" inaugurated the series of major publications in 1832. In this work, Schott, together with his friend and patron Stephan Endlicher, concerned himself mainly with the hitherto poorly known family of the Balanophoraceae. As Fenzl reported (Fenzl 1865) this work appeared in only 50 copies and is thus one of the most valuable publications of botanical literature. It would be beyond the scope of the present paper to enumerate in detail all those things that held passing interest for Schott. Perhaps among the most important are that Schott occupied himself with detailed studies of the generic classification of the ferns (the well-known ornamental genus *Nephrolepis* was described by him), the genera *Primula*, *Sempervivum*, *Ranunculus* and *Aquilegia* and the family Rutaceae. However, the most important group was always the Araceae, to which he devoted the greater part of his more extensive works and innumerable smaller ones. The major works to be mentioned are: *Aroideae* (1853 – 58), *Synopsis Aroidearum, complectens enumerationem generum et specierum hujus ordinis I* (1856; only this one volume was published), *Icones Aroidearum* (1857), *Genera Aroidearum* (1858) and as the crowning achievement and summing up of the whole, finally the *Prodromus systematis Aroidearum* (1860). Schott's strength lay not so much in furnishing a system planned in all details but rather to give, by means of his good and detailed descriptions, a conception of the diversity that he had found through his investigations. On this point it should be made clear that many taxa described by him were united with others as synonyms by later authors. He was not concerned with forcing onto nature a far-reaching concept of species and genera, the difficulties of which may never have concerned him deeply. For him, denomination [of taxa] was a means to the indication of distinctions, the origin of which he neither intended nor with the methods of the time would he have been capable of clarifying. He wanted, in short, to give a picture of that part of nature which he had seen and experienced. And this approach doubtless has its great value, though systematists of modern times in general have other goals. Least of all can we agree today with his "Analecta Botanica", printed in 1854 but which never appeared in bookshops, published together with C.F. Nyman and Th. Kotschy, and which is concerned mainly with the Flora of Siebenbürgen. The narrow species concept which in exotic plants known only from single specimens was doubtless justifiable using the above arguments according to Schott's interpretation, here loses its sense in this much better known region which provides easy opportunities for their verification. And indeed, in 1868 A. Neilreich made an objective and justifiable critique of this work.

The estimation of Schott as one of the best ever specialists of the Araceae would be incomplete if no mention were made of that magnificent work of illustration, which was created on his own initiative and at a personal cost of more than 16,000 gulden, employing outstanding artists and which has really no equal in the whole of Botany. It comprises over 3,400 (not 3282 as stated by Fenzl) illustrations in folio, of which 1,444 are entirely or partly in colour, most prepared from living plants or more rarely herbarium specimens. The [quality of the] drawing is unique both in scientific exactitude and aesthetic design. The basic technique was that of water colours in the case of the coloured illustrations. The additional use of Chinese White [Deckweiss] in the further elaboration [of the composition] made possible an unheard of graphic and

life-like appearance. Since the original [herbarium] specimens of Schott's own species were destroyed during the Second World War, the illustrations represent contemporary types and are consequently of special scientific value. Here we should give the names of the artists who, under the long-lasting direction of Schott himself, not only reproduced the habit and the smallest details of the floral and fruit structure with flawless exactitude and scientific accuracy but also did justice to their beauty. Their names, which in some cases became well-known because Schott dedicated new species to them, read as follows:- Engelhardt, Liepoldt, Nickeli, Oberer, Seboth, Unger and Zehner. After Schott's death the entire work was purchased from the heirs by Kaiser Franz Josef I. and incorporated into the Imperial Botanical Cabinet […Botanischen Hofkabinett], later the Botanical Department of the Natural History Museum, where it remains to this day as one of its most treasured possessions. Similar illustrations also exist for the genera *Primula*, *Soldanella* and *Sempervivum* but their number is much smaller. A small number of the illustrations were published in Schott's lifetime, mostly not in their original layout, in his works, particularly in the "Icones Aroidearum" and "Aroideae". The work "Aroideae Maximilianae" brought a further number [of plates into the public view]. This work was based on Schott's descriptions and contained the enumeration and diagnoses of the Araceae collected by [Archduke Ferdinand] Maximilian, later Emperor of Mexico, and was published [eventually] by Josef Peyritsch in 1879. A selection of 60 coloured illustrations [from the Schott Icones] will be published this year by the Akademischen Druck und Verlaganstalt in Graz.

Schott's rich herbarium was purchased after his death by the Emperor Maximilian of Mexico and taken across the ocean [to Mexico]. But in 1867 after the collapse of that Empire the valuable collection was brought back to Europe on the initiative of Curator Bilimek and so came into the hands of Dr Ludwig Haynald, Archbishop of Kalocza and later Cardinal, a person much esteemed in botany […des um die Botanik hochverdienten Erzbischofs …]. 1,379 numbers of Araceae and two small collections from Schott's early life were put into the care of the Botany Department of the Natural History Museum. However, at least the Araceae collection was destroyed towards the end of the Second World War even though it had been evacuated [from Vienna] on account of the danger from bombing.

It is characteristic of Schott as Garden Director that the enlargement of the English Garden was much nearer to his heart than the preservation of the French Garden. He wanted to present nature directly and not enforce his design upon it. And so it came about that his successor, A. Vetter, restored the French Garden but without following the slavish regularity of the earlier plan. On Schott's initiative, the previously mentioned grounds of today's Reservegarten gave way to the glasshouses, then admired the world over, where the famous South American water lily *Victoria regia* Lindley was first cultivated in Vienna during the Fifties [1850s] [Auf Schott's Initiative gehen die bereits erwähnten Anlagen des heutigen Reservegartens zurück, wo in den damals von der ganzen Welt bewunderten Gewächshäusern auch die berühmte südamerikanische Wasserrose *Victoria regia* Lindley erstmalig in den fünfziger Jahren in Wien kultiviert wurde]. I have already referred previously to Schott's predilection for alpine plants which during his lifetime were cultivated in Schönbrunn and in 1865 were transplanted by Maly to the garden of Upper Belvedere. E. M. Kronfeld (1923) has impressively described Schott's activity for Schönbrunn. He emphasizes that no other Garden Director at Vienna had ever achieved such

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honour as a scientist as Schott, who amongst other things was awarded an Honorary Doctorate and furthermore had been a member of the Imperial Academy of Sciences. It was precisely Schott's activities as a botanist that stimulated his most beautiful horticultural works, and it is a matter for regret that since that time these two fields of activity have so seldom been combined in [the activity of] a single person.

So, looking back today over a period of one hundred years, it may be said with justice that few people have stamped their own mark so decisively as Schott on the science they served and on the city where they worked.

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