

Fenzl, E. 1865. Heinrich Wilhelm Schott. Eine Lebensskizze desselben. Wien. Aus der k.k. Hof- und Staatsdruckerei

[copy studied is a separate in the Library of the Royal Botanic Gardens, Kew].

Translation begun by Simon Mayo, 29th March 2010, completed 18 May 2018.

A sketch of the life of Heinrich Wilhelm Schott, by Dr. Eduard Fenzl.

Heinrich W. Schott, born on 7 January 1794 in Brünn [today Brno in the Czech Republic] in the province of Moravia [Mähren], came as a boy of seven years old to Vienna, whence his father – at the time in the service of the Count von Mittrowsky as gardener and well known as an outstanding plant breeder and expert on the regional flora – had been called by Joseph Freiherr [Baron] von Jacquin to take up the post of Head Gardener [Obergärtner] in the Garden of the Imperial and Royal University, following the retirement of Joseph Van der Schot from this post. Here the young Schott, bright and eager to learn, grew up under the eyes of the two Jacquins, who looked on him with favour [die ihn gerne bei sich sahen], and the iron rod of his father. Born among flowers, so to speak, and thenceforth surrounded by them, he early grew fond of nature with all its allure and at this age already used his free hours for the care of plants.

One day Baron Alexander von Humboldt, having just returned from his travels and while in Jacquin's house, heard the news that the young Schott was near death from excessive mental and physical exertion, and approached his sick bed after the youth begged to see the famous traveller before his death. The consolation and encouragement which Humboldt's words gave him, as he himself states in the dedication of his *Genera Aroidearum* to [Humboldt] acted so wonderfully on his spirit that he drew new hope for his recovery and fresh courage penetrated the soul of the convalescent. The impression that he retained from this meeting with Humboldt was ineradicable and, as he himself assured me, decisive for his studies. It was thus little wonder when the talented youngster, after the termination with distinction of his interrupted studies at the Benedictine Schotten Gymnasium [in Vienna], felt possessed by such an affinity for the plant world that he decided to live thenceforth only for the study of botany and the art of gardening [Gartenkunst]. Consequently Schott, after having attended all the courses of lectures important for his proposed career, on natural history, agriculture and chemistry, entered the local [Vienna] University Garden as a simple gardener in 1809 and served as such until 1813.

In constant contact with the botanists and florists then living in Vienna such as Host, Trattinik, Portenschlag, Wittmann and his teachers, the two Barons von Jacquin who were very well-disposed to him, the zealous youth acquired during these years of service such a remarkable knowledge of native and exotic plants that during the course of a year he was already equipped for the position of Assistant to the Garden (Assistent am Garten).

In 1815 Schott obtained the settled position of Court Gardener in the Imperial Garden of the Austrian Flora in upper Belvedere. He made use of this position to the maximum advantage henceforth for his general scientific education and the

broadening of his knowledge of native plants. He also attempted independent studies, among others, with a monograph of the difficult genus *Silene*. Unfortunately this remained incomplete due to interruption by ensuing events. From all that I knew of its aspect, scope, content and form, it is much to be regretted that this study remained unpublished.

Two years later an unexpected event, decisive for his later lifetime position and the direction of his thought, called Schott away from his prized post to a new, greater and for him even more welcome activity, since this occurrence put into immediate prospect the attainment of his youthful dreams and desires to see tropical America. This was the scientific expedition for the exploration of the natural history of Brazil, proposed by his Excellency Graf Kaspar von Sternberg and authorized by His Majesty Kaiser Franz I, on the occasion of the marriage of his daughter, Her Serene Highness the Archduchess Leopoldine, to the then Crown Prince of Portugal, the Algarves and Brazil, and later Emperor of Brazil, Dom Pedro d'Alcantara. [This expedition] was the occasion which for the first time introduced Schott automatically into the company of like-minded scientific colleagues as a partner in their toil and studies and established friendly connections between them which lasted to the end of their lives.

Recommended for the expedition by Joseph Freiherr von Jacquin, Schott was assigned to the scientific team, composed of Professor Dr. Johann Mikan for botany, Johann Natterer for zoology and Dr Emanuel Pohl for mineralogy (later also for botany), as gardener and collector of living plants, fruits, seeds, and the like. Also provided were the assistants [Hilfsarbeiter] Thomas Ender as landscape artist (the only one of the these expedition participants still living today) and Johann Buchberger as plant illustrator, and Dominik Sochor as hunter. To this scientific corps, but acting independently of it, were also associated the already renowned scholars Dr. Ph. Martius and Dr. Joh. von Spix, as well as Dr Raddi, as naturalists, [commissioned by] the governments of Bavaria and Tuscany. With the expedition ships divided between those sailing from Trieste and that of Her Highness from Livorno, Schott left his native soil on 9 April 1817 on board the k.k. frigate *Augusta* from Trieste. Already on the second day, caught in a furious hurricane (bora) and with all its masts lost, the ship had to seek shelter in the harbour of Chioggia to repair the damage. This accident, however, provided Schott with the opportunity to botanize productively throughout the island and a over good part of the Venetian mainland from 13 April to 31 May.

On the 17th June the *Augusta* anchored in the roads of Gibraltar after a rapid and felicitous voyage through the Mediterranean Sea and allowed Schott ample time to explore the southern tip of Spain as far as St Rocco, Algesiras, Tarifa and Trafalgar, until 1st September. The rich and interesting collections of rare and then still unknown plants which he described on the spot and his report to Dr Karl v. Schreibers, then Director of the royal and imperial Court Cabinet of Natural History, on the condition of the vegetation, displayed both laudable testimony of the industriousness he demonstrated on this occasion as well as bearing testimony to his botanical expertise and the knowledge he revealed thereby of individual species without the aid of specialized literature for their identification. Schott did even allow the two-day stop in the harbour of Funchal in Madeira, where the ship moored during its continued journey, to pass unused for his collecting activities. However, a completely new and more productive field for his activities became accessible to him after his arrival in

Rio de Janeiro on 5th November 1817 when he set foot [for the first time] on the mainland of Brazil.

After the expedition members had come together again for the first time since leaving Europe and had agreed on their common tasks and their coming travel plans, they divided into two groups in which each had to pursue the same goals although independent in their movements. Schott determined, together with Professor Mikan and the painter Buchberger, to explore for the time being the Captaincy of Rio de Janeiro and to set up there a type of acclimatization garden in which the living plants and animals which would be later sent to Vienna would be assembled and taken care of. Notwithstanding the many hindrances he encountered in tackling this project, due to his unfamiliarity with the land and its people, the garden nevertheless was soon filled with new and interesting objects of natural history and in a few months the collections of dried plants, fruits, seeds and wood samples reached a considerable size. Next to these time-consuming occupations he nevertheless always took the trouble to enrich the zoological collections of his colleagues and to gather worthwhile notes on the agriculture and plants used in Brazil for medicinal and technological purposes.

After the return of Prof. Mikan and Buchberger to Europe in the following year (1818), in company with the natural objects collected up to that time, the administration of the garden and associated menagerie fell entirely on Schott's shoulders. Once he had sufficiently trained an assistant - much needed for these tiresome affairs- to be able to entrust him the care of the remaining plants, he then undertook alone his first major journey, from 4 June to 1st October, to the campos of the Paraíba and Paraibuna rivers and the district of Canta-Gallo, and in the following year a second journey, lasting from 25 January to 18 April, in the region of Macacú. The fruitful results of these two expeditions were a very considerable collection of plants, animals, ethnographic objects, notes on timbers and their vernacular names, a small vocabulary of the Coroados and descriptions of new plant species¹. In his prior knowledge and botanical expertise Schott showed himself decidedly superior to his two scientific colleagues Mikan and Pohl in all these occasions.

In 1821 he returned to Vienna via Portugal, England and France, after almost four years in Brazil, and after only a few months was appointed, in recognition of his well-earned merit, as Assistant Director [zum Directions-Adjuncten] at the side of the by then elderly Court Garden and Menagerie Director Boos. Just how exceptionally active he had been during these years, in constant struggle with the unaccustomed climate and with conditions the adequacy of which were due no less to his efforts, can be judged by the scope and nature of the botanical collections which he created on his own during the last two years of his stay in Brazil. The last consignment shipped from Rio de Janeiro to Vienna comprised 76 large cases of living plants; a herbarium of more than 2000 species in at least 7000 specimens; 773 packets of seeds; 79 species of wood samples along with a not inconsiderable number of plants and fruits preserved in spirit.

¹ See C. v. Schreiber's o.c. II Theil. Anhang Seite 1-96.

In 1827 the remodelling of the Dutch Botanical Garden (now the Court Plant Garden) was entrusted to Schott, a task which he expedited with such success that after his promotion to Royal and Imperial Court Gardener in 1828, the necessary resources were immediately granted to him to construct new glasshouses according to his own plan, to replace the old ones which had become in part dilapidated and in part insufficient. These buildings were completed shortly before his appointment as Director of the Royal and Imperial Court Garden and Menagerie, and gained him further recognition. With the laying out of the upper part of the Court Plant Garden (the so-called New Grounds), begun in the winter of 1848-49 and completed in the course of the following year, the restructuring of this part of the Garden was completed. Under his overall management the transformation of the area of the great Pleasure Garden at Schönbrunn nearest to the Imperial Palace into a park in the English style was completed and the great Floral Parterre, the so-called Light Alley and the grounds surrounding the Colonnade Building were created.

For more than 20 years Schott cultivated alpine plants with a particular fondness and diligence and he knew how to obtain them, partly by correspondence and partly by expeditions organized by him independently and sent at his own expense beyond the borders of the Empire. Later, as the financial resources were made available to him from higher authority for the expansion of this area, he extended it to include alpine plants obtained from all parts of the world and by all means and in this way created a unique and extremely educational collection of these wonderful offspring of the world of the Alps.

In addition, after the death of Freiherr v. Jacquin in 1840, the upkeep of the Garden for the Flora of Austria in Upper Belvedere was again entrusted to him, the same one of which he was Supervisor before his journey to Brazil. The modern and well-executed transformation of this Garden is likewise his work. – So much, then, for what Schott achieved in general as a gardener and scientific collector. We turn now to his strictly scientific activity, at the stage it was about ten years after his return from Brazil.

It begins, in collaboration with his brilliant friend Dr Stephan Endlicher, with the publication of the *Meletemata Botanica* in 1832, followed two years later by the independently authored *Fragmenta Botanica* and almost at the same time the *Genera Filicum*.

Already in the first of these works – a folio volume with five plates issued in only about 50 copies that never entered the book trade but were only given away as gifts and thereby are among the rarest botanical publications of modern times – Schott, in his treatment of the hitherto very incompletely known Balanophoraceae, emerged as a colleague on a par with Endlicher, with an expertise, confidence in interpretation of the morphological significance of the organs and stylistic skill in expression such that one is immediately convinced that one is in the presence not of a dilettante, but an experienced specialist. The same is true of the other two works. Regarding his four-volume *Genera Filicum* it is most regrettable that he did not continue it due to a disproportionate sensitivity to a criticism concerning the interpretation of the generic value of the characters made from a different point of view and the publication of Presl's Pteridographie. On the other hand, from this time onwards Schott threw himself with all his energy into the study of the just as interesting order of the

Aroideae, which had captured to the greatest degree his full attention since his sojourn in Brazil. There he was offered an opportunity, so favourable as not to be vouchsafed to any other travelling botanist in the foreseeable future, to study living plants of a large number of species from a variety of genera and to survey their morphological and biological peculiarities, and now he had the means, as Garden Director, to obtain a much greater number of species from all parts of the world and take up more effectively his earlier study of the group. By means of his numerous connection to major gardens, museums, holders of herbaria and travellers, he was able to amass during 40 years such an enormous collection of this Order that in recent times he could say without exaggeration that there were only a small number of described species or those known only from their names which he had been able to study neither in the living state nor from dried specimens nor from material preserved in spirits. At a cost of more than 16,000 Gulden of his own money, he commissioned scientific plates, prepared under his personal supervision, of all plants which seemed to him new or interesting, the flower and fruiting organs of which were illustrated by painstaking analyses made by his own hand. In this way he created a collection of 3282 folio plates the like of which can be sought in vain.

The first major publications based on these sumptuous illustrations are the two folio volumes of his Aroideae which appeared in the years 1853 and 1855, provided with very cleanly produced lithographic plates². In 1858 to these was added his *Genera Aroidearum*³ in a folio volume.

During the time which lies between these two extremely estimable publications, appeared two smaller works on the same Order, one composed of two volumes and entitled "Araceen Betreffendes"⁴, and the other comprises the first half of a *Synopsis Aroidearum*⁵. Apart from these separate publications, numerous smaller papers, notices and descriptions of new Aroids filled the pages of the yearly volumes of the Austrian Botanical Weekly Magazine from 1853 to 1859.

His *Prodromus systematis Aroidearum*⁶, which appeared in 1860 forms a worthy conclusion to the whole cycle of his both intensive and extensive studies of this Order, and is a masterpiece of the critical utilisation of morphological and biological characters gathered by him for the purpose of composing a natural system of all species known to him into genera and divisions with their more important synonyms.

If one judges the genera and species he erected from a strictly taxonomic standpoint, and does not deviate too much from the guiding ideas of the author, then no one can deny the value of the individual investigations, the constancy and conscientiousness which he devoted to them and the great acumen which he used in them for characterizing the individual species. Whoever wishes in future to occupy themselves

² Aroideae, auctore H. Schott Fasc. I (1853) with title page, 2 pages of text and 10 plates; Fasc. II. (1855) with 5 pages of text and 10 folio plates, printed by C. Gerold and Son, Vienna.

³ *Genera Aroidearum exposita* a H. Schott, Vienna. 1858. Printed by C. Überreuter. Folio. – Tit. cum dedicatione "Humboldtio sacrum" praefationis loco; Conspect, tribuum etc. 99 text pages and 98 plates.

⁴ *Araceen Betreffendes* by H. Schott. Heft I. Vienna 1854; II 1858. Octavo..

⁵ *Synopsis Aroidearum*, complectens enumerationem systematicam generum et specierum hujus ordinis, auctore H. Schott, I. Vienna. 1856. Octavo.

⁶ *Prodromus systematis Aroidearum* auctore H. Schott, Vienna, 1860. Octavo.

with this Order will ever be obliged to draw inspiration from this source and always refer back to it.

For all his fondness for this plant family, it did not diminish his interest for other Orders and genera, and certainly did not quench it. Wherever there were groups whose species required new enquiries and revision, they attracted his full attention and not unusually thereby became objects of detailed examination and painstaking experimental cultivation. So it was the genera *Primula*, *Aquilegia*, *Sempervivum* and some others in which he tried to use his critical powers for distinguishing taxa although with varying success. Testimony to these enquiries are the numerous articles, descriptions and critical essays by him in the early volumes of the Proceedings of the Royal and Imperial Zoological-Botanical Society and in most volumes of the *Österreichisches botanisches Wochenblatt*; his separately published papers on *Primula* and its hybrids; and finally the *Analecta Botanica* published in collaboration with Nyman and Kotschy.

As in his major works, so in these smaller ones – and in these often more than in the former – one sees the same tendency to sharply individualize closely related forms and give diagnostic importance to characters which others were accustomed to consider of little or no significance or only incidental. That in many cases the acute gardener's eye, so acutely attuned to differences, clouded the more correct conception of the knowledgeable scholar that he was and remained in spite of all, can hardly be denied, but in no way undermines the evaluation of the overall importance of his work.

If his position and outstanding achievements as Director of the Gardens and Menagerie had already ensured him important recognition, so his scientific activities earned him a still greater fame among his colleagues both within and beyond his homeland, as well as honorable recognition and distinctions of all kinds. Thus in 1848 he became a corresponding member of the Imperial Academy of Sciences in Vienna; in August 1857 he was appointed to be a member of the Imperial Leopoldine-Caroline Academy of Natural Sciences, with the sobriquet *Veloze* and in 1858 he received the honorary diploma of a Doctor of Philosophy from the University of Jena. Apart from these academic institutions, many national and international natural history associations and societies elected him as a full or honorary member. In 1856 His Majesty the Kaiser bestowed on him the Knight's Cross of the Franz-Josef Order; in May 1859 he received the Great Gold Medal for Arts and Sciences; in April 1864 His Majesty the Emperor of Mexico granted him the Imperial Mexican Order of Guadeloupe.

Despite such wide recognition and scientific renown, it is remarkable how little his own independently published works were disseminated within this same community. Most of the blame for this is due to himself insofar as due to an impregnable aversion to all negotiations with book dealers, he refrained from putting his works into circulation using the usual route. From this also came as a consequence the low income that he derived from this side of his activities and the disparity between this and the sacrifices which he made for his scientific work.

The unjustifiable harshness with which, according to the testimony of all the companions of his youth and older benefactors, his father trained him; the no less

unenviable conditions under which he matured to manhood; his later position as Director, in which he had to battle continuously with those thousands of inconveniences that always accompany such a position; and finally a long term disease which gradually worsens with the years and which embittered his life, all these things together conferred a certain harshness to the character of this energetic man, easily aroused to anger and as easily wounded but otherwise admirable, and which caused many people to avoid closer contact with him and which isolated him more than he would have liked. Stockily built and though of not especially strong physique, accustomed to deprivation and extremely frugal in his daily needs, he was in his younger years able to resist the severe effects of the tropical world and in his later years could endure labours that would have soon exhausted others. Because of his inherited splenetic physical constitution and tendency to rheumatic-arthritic disease, in his later days he had virtually to forgo many of the agreeable things of life such as the pleasures of dining and the like, which made him more and more withdrawn and was often the reason for his sudden resentments and ill temper. However, in the midst of all these distressing circumstances, it was a great advantage for his scientific work that he needed little sleep. It was easy for him to spend two thirds of the night every day of the week, working at his desk, without becoming mentally or physically exhausted. At the same time, he was gifted with an exceptionally good and accurate memory, which was of great benefit to him both in relation to his swift and decisive oversight in directing administrative business as well as in his scientific work. His knowledge of natural history was very comprehensive and even though employed in the field of descriptive systematics, not at all one-sided. He was familiar with both the old and the latest literature to an extent unusual among botanists of our times and he followed with the greatest interest the advances in plant anatomy ["Phytotomie"] and plant physiology and knew how to utilize this knowledge for his purposes.

Once again seriously ill in the last years and never completely recovered, as if sensing that his end was nigh, he sought to complete as far as possible his studies of the Aroideae now so dear to him. In this regard, as he entered his most recent and fatal illness, he congratulated himself that he was still able to complete the determination of the Aroideae which Dr Welwitsch had collected in New Guinea and sent to him. This enumeration, published in Dr Seemann's journal, was the last fruit of his tireless and rapturously passion for his science. Still a few days before his death, after an unexpected improvement in his illness, he was still investigating with his usual zeal some living Aroideae that he had received, when a sudden acute oedema of the lungs, caused by a chronic defect of his heart valves, brought his life to an end on the 5 March of this year [1865].

In him, the nation has lost a most upright, faithful and patriotic servant, Science one of its most talented disciples and most outstanding monographers, the Gardens of Schönbrunn its regenerator and the upholder of its long-renowned scientific reputation which under the aegis of the Great Empress and her equally great son Joseph II, they received through the exertions of Nicolaus Freiherr von Jacquin. May those to whom it falls to sustain the splendour of this wonderful creation of imperial munificence not forget that the Gardens of Schönbrunn, not only because of their abundance of floral treasures but above all because of the preeminent scientific spirit which was everywhere acknowledged, were in their day the greatest of all European royal gardens; that in this regard they rivalled Versailles and served as the model for

the only later similarly renowned royal gardens of Kew and St Petersburg. Were one tempted, through unfortunate self-delusion concerning the value of scientific leadership, to put this creation of Schott simply in the hands of a skilful horticulturist, then it would very quickly sink down to that level of banality and intellectual degeneration in which he found Jacquin's precious legacy when he, the man of science, undertook to raise it once again to new honour and prestige. He who is jealous of the inherited fame and brilliance of the imperial court in all branches of its household will also safeguard the reputation of the Schönbrunn Gardens and will not allow their fame to be surpassed by that of the gardens of lesser royal houses [kleineren Höfen]. The time is now passed when such places could be mere showplaces for plants, without a pervading scientific consciousness. Horticulture has long been a branch of industry, and if gardens so large and richly endowed as those of Schönbrunn wish to keep pace with today's flower industry [Blumistik] and with the current good taste of the public, and have an improving influence on both, then they must be set on the course indicated by deeper understanding of the plant world and which science alone can open up. This would be the most worthy monument for the so rightly celebrated Old Master of Austrian Botany and his no less able and knowledgeable pupil. May this hope come to fruition and may also be preserved through imperial munificence, the treasury of illustrations which Schott created for Science with such heavy sacrifice.