

Caspar Bauhin (1560 – 1624)

Biographical data, academic career and scientific achievements as a botanist

Compiled by Jürg Stöcklin based on biographical data from Burckhardt (1917), Fuchs-Eckert (1977-1982) and Benkert (2020), 01.02.2022.

Biographical data and origin

Caspar Bauhin Caspar Bauhin was born on 15 January 1560 in Basel, where he died at the age of 64 on 5 December 1624. He came from a distinguished Protestant mediæval family from Picardy (France), whose members held high offices in Paris. His father Johann Bauhin (1511- 1582) fled the political persecution of the Huguenots in France and arrived in Basel in 1543, where he practised as a wound surgeon and also became a naturalised citizen. As a doctor, Caspar Bauhin's father showed great interest in medicinal plants and even maintained a small, private botanical garden.

Caspar Bauhin was the seventh and youngest child and the second son of the Bauhin couple. His brother Johann Bauhin (1541- 1613), who was almost 20 years older and still born in Paris, studied medicine and botany in Basel, as did his younger brother Caspar later. He became a city doctor in Lyon (France) and also made a name for himself as a botanist, among other things as the author of a comprehensive botanical encyclopaedia ("Historia plantarum universalis"), in which 5226 plants were described, including 119 species for the first time.

Education and academic career

The rise and flourishing of the medical faculty at the University of Basel in the second half of the 16th century was mainly due to Felix Platter (1536-1614) and Theodor Zwinger (1533-1588), who were joined somewhat later by Caspar Bauhin (1560-1624).

In 1575, Caspar Bauhin enrolled at the medical faculty in Basel, having already participated as a pupil in his brother's public funeral dissections in 1571/72. Bauhin studied medicine under Felix Platter and Theodor Zwinger. In 1577 Caspar Bauhin went to Padua (to Jacobus Antonius Cortusius), to Bologna (to Ulisse Aldrovandi), Montpellier and Paris (among others to Jean Robin) for medical and botanical studies. In 1580 he returned to Basel, visited Tübingen from April to October of the same year, and then again in Basel in February 1581 publicly dissected a corpse for five days, passed his doctoral examination in April and then held his disputation. Since he demonstrated exceptional didactic skills not only in this but also in a botanical course, Caspar Bauhin was commissioned by the Faculty of Medicine to offer botanical excursions every summer. In April 1582 he was elected professor of Greek, and now

devoted himself intensively to medical practice and his anatomical and botanical studies. On 10 September 1589, Caspar Bauhin was appointed the first professor of anatomy and botany, a chair established at his request after he had declined to accept the professorship of theoretical medicine following the death of Theodor Zwinger. A *Theatrum anatomicum* and a botanical garden (*Hortus medicus*) were set up for his practical teaching activities. After the death of Felix Platter, Bauhin has to take on the additional professorship of practical medicine and the post of city doctor, against his will.

In the course of his life, Caspar Bauhin worked his way up both materially and socially and gained an international reputation as a scientist. He was married three times. From his first marriage (1581-94) to Barbara Vogelmann, daughter of a high official from Mömpelgard (today Montbéliard, France), whom he had met during a visit to his older brother living there, only one daughter remained alive longer. His second short marriage (1596-97) to Maria Brüggler from Bern remained childless. With his third wife Magdalena Burckhardt, who survived him, he had a son and two daughters. Caspar Bauhin's personality was characterised by diligence, meticulous work mentality and ambition. On the other hand, he lacked (according to Burckhardt 1917) the amiability and humanistic joie de vivre of his older colleagues Felix Platter and Theodor Zwinger.

Merits as a physician

Caspar Bauhin must have had an enormous creative power. He published around 30 works, about half with medical or botanical content. With the establishment of a *Theatrum anatomicum* and his public autopsies, he made medical anatomy in Basel a centre of attraction for foreign students. His achievements in medicine were not based on fundamentally new discoveries, but above all on the improvement and systematisation of anatomical terminology and the publication of numerous anatomical writings, especially the *Theatrum Anatomicum*. This comprehensive and handy textbook of anatomy was based on his lectures and anatomical-pathological demonstrations. In it, Bauhin comprehensively arranged the anatomical knowledge of the time and illustrated it with many figures. Of practical importance was also his pharmaceutics, in which he described the usual remedies in detail with regard to their composition, preparation and method of prescription, drawing on his profound, practical knowledge.

Caspar Bauhin's merits as a botanist

Compared to his merits as a physician, Caspar Bauhin acquired far greater historical fame as a botanist. It is to him that Basel owes the founding of the Botanical University Garden, the organisation of botanical excursions, systematic botanical lectures within the medical faculty, and finally the publication of one of the first comprehensive local floras in the world, which served as a guide for students on excursions. Bauhin not only botanised in the immediate vicinity of the city of Basel, but also maintained a Europe-wide network of contacts with the leading botanists of his time, from whom he

received information about newly discovered plants and plant material from all over Europe and overseas. In his botanical works he aimed to give a complete overview of all plants known at the time and to arrange them systematically. In doing so, he critically examined each entry and aspired to provide the corresponding herbarium specimens for the plant names of other botanists in order to clarify their taxonomic affiliation. In this way he achieved that his herbarium finally contained about two thirds of the plant species known at that time, many of them with the specimens collected by the corresponding authors. This herbarium formed his actual working and research tool and served as the basis for the development of his systematics. In the "Pinax Theatri Botanici" (1623), Caspar Bauhin's most important publication, he described 5600 plants, referred to all earlier authors, gave the plants a new name on the basis of his own observations, and listed all the associated synonyms, an effort which was enormously useful for botanical science at the time and still is today. His nomenclature was a groundbreaking advance because he was the first to establish the clear distinction between genus and species. He shortened the species names, and even though they remained descriptive and could still contain several words, they were structured hierarchically. The result of his almost immeasurable diligence over more than four decades made Caspar Bauhin a forerunner of Linné. The latter was able to rely on Bauhin for the further development of plant systematics and nomenclature. Bauhin's "Pinax" (1623) (literally table, register) was intended as a preliminary work for a "Historia plantarum universalis", the only volume of which only appeared posthumously in 1658. Bauhin also wrote the first scientific description of the potato. In 1596, Bauhin described it in his "Phytopinax" as *Solanum tuberosum esculentum*, a name that was adopted by Linné as *Solanum tuberosum* L. and is still used today.

Caspar Bauhin's Herbarium

In the second half of the 16th century, herbaria became an essential working tool for the developing scientific botany. According to Caspar Bauhin's own information, his herbarium contained more than 4000 plant species around 1620. Unlike other herbaria of his time, which were usually bound into books, Bauhin kept the pressed plants loose in folded sheets of paper together with a label on which he noted the names of the plants and sometimes also their origin, often together with a printed illustration. This loose form of the herbarium facilitated the comparison and systematic ordering or reordering of the plants. After his death, the herbarium remained in the possession of the Bauhin family for a long time, who granted access to interested botanists and also allowed them to use it for their own collections. In 1736, Albrecht von Haller consulted the herbarium. In 1763, the apothecary Johann Andreae visited the herbarium and reported that the collection was in very poor condition. Somewhat later, Werner De Lachenal bought the herbarium. He had been professor of anatomy and botany at the University of Basel since 1776 and integrated Bauhin's specimens into his own herbarium, which he bequeathed to the Botanical Institute after his death in 1800. In 1818, the herbarium of Caspar Bauhin was subjected to a critical but incomplete taxonomic examination by A.-P. de Candolle. In 1830, the herbaria of Bauhin and

Lachenal were separated again. August Binz "revised" Bauhin's herbarium at the beginning of the 20th century and destroyed several hundred badly damaged specimens, but kept the labels of the rejected specimens. In the herbarium of the Botanical Institute at the University of Basel, 1921 foldet sheets of paper with about 2400-2800 herbarium specimens of Caspar Bauhin survived (depending on whether separate labels or individual plants are counted as specimens). In addition, 633 labels without plants exist. The number of vouchers and labels outside BAS is unknown. Today, the herbarium of Caspar Bauhin is kept as a separate collection in the Basel Herbaria (Index Herbariorum: BAS).

Original botanical publications by Caspar Bauhin

Bauhin C (1596) ***Phytopinax*** seu Enumeratio Plantarum ab Herbariis nostro seculo descriptarum cum earum differentiis, cum plurimarum hactenus ab iisdem non descriptarum succinctae descriptiones et denominationes accessere: additis aliquot hactenus non sculptarum Plantarum vivis Iconibus. *Basilea, per Sebastianum Henricpetri.* 669 pp. Full text: <https://www.biodiversitylibrary.org/item/30648>

The «Phytopinax» is a plant directory of 2460 known and 164 new plants. The genera are briefly characterised. The polynomial names of the individual species were practically without exception given by Caspar Bauhin himself. For the known species, the synonyms of the authors who described the species for the first time are listed. C. Bauhin presents here for the first time his innovations in botanical systematics and nomenclature.

Bauhin C (1623) ***Pinax Theatri Botanici*** sive Index in Theophrasti, Dioscoridis, Plinii et Botanicorum, qui a Seculo scripserum Opera: Plantarum circiter sex millium ab ipsis exhibitarum nomina cum earundum Synonymiis et differentiis methodice secundum earum et genera et species proponens. Opus XL. annorum hactenus non editum, summopere epetatum ad auctores intelligendos plurimum faciens. *Basilea, Sumptibus et typis Ludovic. Regis.* 522 pp. [10.3931/e-rara-26291](https://www.biodiversitylibrary.org/item/14431). Full text: <https://www.biodiversitylibrary.org/item/14431>

The «Pinax» is a plant directory of all 5640 plant species known at that time, a more careful and complete version of the «Phytopinax», more clearly structured and more useful thanks to a more detailed index. The individual species are accompanied by a complete list of synonyms, thus overcoming the Babylonian confusion of the time when naming plant species. The «Pinax» is Caspar Bauhin's most important work and had a great influence on Linné's «Species Plantarum» (1753). The «Pinax» was intended as a table of contents for a comprehensive 12-volume «Historia plantarum universalis» planned by Bauhin, the first volume of which only appeared posthumously in 1658.

Bauhin C (1620) ***Prodromus Theatri Botanici***, in quo plantae sura sexcentae ab ipso primum descriptae cum plurimis figuris proponuntur. *Francofurti a. Main, Typis Pauli Jacobi, impensi Johann. Treudellii.* 160 pp. [10.3931/e-rara-25436](https://www.biodiversitylibrary.org/item/14431).

Full text: <https://www.biodiversitylibrary.org/item/14431>

In the «Prodromus» Bauhin describes 618 species, 140 of which are illustrated. Among them are many American species which Bauhin received by exchange from European colleagues. The classification and nomenclature corresponds to that of «Pinax».

Bauhin C (1622) *Catalogus Plantarum* circa Basileam sponte nascentium cum earundem Synonymiis et locis, in quibus reperiuntur: in usum Scholae Medicae, quae Basileae est. Basilea, Typus J.J. Genathii. 111 pp. 10.3931/e-rara-28834

The «Catalogus» is an index of the plants growing naturally in the vicinity of Basel (radius of a German mile, approx. 7500 m, only the Mons waterfall is further away); Bauhin's Basel Flora contains well over 1000 species. Included are the names, synonyms, habitats and localities. The «Catalogus» is a pocket flora intended for excursions, in this form one of the first local floras worldwide.

Bauhin C (1658) *Theatri botanici* sive Historiae Plantarum ex Veterum et Recentiorum placitis propriaque observatione concinnatae. Liber primus. Johann Caspar Bauhin (Hg.). Basilea, Ioannem König. 340 pp. [10.3931/e-rara-73659](https://www.biodiversitylibrary.org/item/30654)
Full text: <https://www.biodiversitylibrary.org/item/30654>

This is the first volume of the "Historia plantarum universalis", on which Caspar Bauhin worked throughout his life, and for which "Phytopinax", "Pinax" and "Prodromus" were only intended as preliminary work. The grasses are treated. Systematics and nomenclature correspond to the «Pinax», the description of the species is extensive, and also contains detailed information on occurrence and (medicinal) use. This work was published by Caspar Bauhin's son, Johann Caspar Bauhin, 1606–1685. What happened to the other planned volumes, of which at least the second volume was already ready for printing, is not known.

Literature used:

Burckhardt A (1917) Geschichte der medizinischen Fakultät zu Basel 1460–1900. Verlag Friedrich Reinhardt, Basel. 494 pp.

Benkert D (2020) Ökonomien botanischen Wissens: Praktiken der Gelehrsamkeit in Basel um 1600. Schwabe Verlag, Basel. 352 pp

Fuchs-Eckert HP (1977 – 1982) Die Familie Bauhin in Basel. Teil 1, Bauhinia 6: 13-48 (1977), Teil 2, Bauhinia 6: 311-329 (1979), Teil 3, Bauhinia 7: 45-62 (1981), Teil 4, Bauhinia 7: 135-153.