

Documenta inedita



Domenico Cirillo's Collections

A Recently Rediscovered 18th-Century Neapolitan Herbarium

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Abstract

The herbarium of the 19th-century Neapolitan botanists Vincenzo and Francesco Briganti was acquired by Orazio Comes in 1892 for the Royal Higher School of Agriculture in Naples. Based on a study of the handwriting on their labels, Comes concluded that some of the dried specimens were the sole remains of the herbarium of Domenico Cirillo, the distinguished 18th-century Neapolitan botanist, entomologist and physician.

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The current arrangement of the specimens not uniform and it is clear that they underwent extensive handling and rearrangement. Some of the *exsiccata* are preserved in two packets, fixed on sheets bearing a printed label that reads “Herbarium D. Cyrilli”. In an additional label Gaetano Nicodemi’s handwriting and not Cirillo’s as stated by Comes was identified. Other specimens, many of them mounted in a different manner from those in the first group, are arranged in another three packets.

Certain characteristics of the herbarium may be explained by the vicissitudes of its history, including a hasty salvage operation. A study of the collection was conducted, including an analysis of the handwritten labels and notes, leading to conclusions that shed light on the significance of the Cirillo collection within the historical and scientific context of 18th-century Naples.

Keywords

botanical history – Briganti Herbarium – botanical school of Naples

1 Introduction

About 1,000 specimens of dried plants conserved in the “Herbarium Porticense” (PORUN)¹ have been confirmed to belong to the recently rediscovered 18th-century herbarium assembled by the Neapolitan physician and naturalist Domenico Cirillo (1739–1799) (Fig. 1).

This collection is significant and testifies to the dynamism of the scientific milieu in Naples in the late 18th century. Its interest lies not only in the stature of its author but also in the history of the herbarium itself. It was kept by Cirillo in his private home, which was ransacked and set on fire during the Parthenopean Revolution of 1799, of which Cirillo was one of the main exponents and after which he was sentenced to death. Until its rediscovery, the collection was thought to have been definitively lost, together with the rest of Cirillo’s possessions.²

1 For the conventional acronyms identifying herbaria worldwide and the institutions where they are housed, see Barbara M. Thiers [continuously updated], *Index Herbariorum: A global directory of public herbaria and associated staff*. New York Botanical Garden’s Virtual Herbarium. See also the official site <http://sweetgum.nybg.org/ih/> (accessed 7 November 2013). PORUN is the acronym identifying dried plant collections stored in the MUSA Musei delle Scienze Agrarie (Museums of Agricultural Sciences) of the University of Naples Federico II.

2 Cirillo’s herbarium and insect collection were well known in the 18th century. The herbarium includes dried samples of the plants growing in the garden tended by Cirillo next to his



FIGURE 1 Portrait of Domenico Cirillo.

The herbarium is now conserved among the historical collections of the Museo Botanico Orazio Comes (Comes Botanical Museum), part of the Museums of Agricultural Sciences of the University of Naples Federico II (MUSA),

house on Via Fossi a Pontenuovo in Naples. It also contains specimens gathered during his trips all over southern Italy or acquired by exchange with major European botanists and foreign correspondents. The collection is frequently mentioned in 19th-century biographies of Cirillo: see Giuseppe Maria Carusi, *Vita di Domenico Cirillo* (Napoli, Stabilimento Belle Arti, 1861), p. 7; Mariano D'Ayala, "Vita di Domenico Cirillo," *Archivio Storico Italiano*, 1870, Ser. III, t. XI(2):107–145, p. 121; Id., "Vita di Domenico Cirillo," *Archivio Storico Italiano*, 1870, Ser. III, t. XII(1):106–122, pp. 110–111; Vincenzo Fontanarosa, "Domenico Cirillo. Medico, botanico, scrittore e martire politico del Secolo XVIII," *La Rassegna Italiana*, Maggio-Giugno 1899, VII–VIII:3–112, p. 27; Fortunato Pasquale, "Bibliografia botanica riguardante la flora delle piante vascolari delle provincie meridionali d'Italia," *Nuovo Giornale Botanico Italiano*, 1894, I(1):259–270, pp. 260–261.

which are presently housed in the museum centre at the Royal Palace of Portici (10 km SE of Naples), where the Reale Scuola Superiore di Agricoltura (Royal School of Agriculture) was established in 1872.

In 1877 the Chair of Botany and the directorship of the University's Botanical Laboratory were assigned to Orazio Comes.³ Comes deserves credit for having consolidated the institution's considerable scientific heritage and establishing its herbarium which, in honor of its founder, was named after Comes in 1958.⁴ The herbarium originally comprised Comes' private collection, which he augmented with material obtained through exchanges with fellow botanists and from the acquisition of other important collections.⁵ Comes mentioned one of these acquisitions in his address to the International Botanical Congress held in Genoa in 1892.⁶ Some years earlier the Laboratory of the Royal School of Agriculture had come into possession of the Briganti Herbarium, the collection belonging to Vincenzo Briganti and his son Francesco, both of whom were followers of the Cirillo school of botany.⁷

Comes left no account of the number of specimens nor any other details regarding the plants in this herbarium. However, he does state that he found labels of "a foreign nature" among the folders of *exsiccata*. They were

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- 3 For biographical and bibliographical details on Orazio Comes, see Maurizia Alippi Cappelletti, "Comes Orazio," in *Dizionario Biografico degli Italiani*, Vol. 27 (Roma: Istituto della Enciclopedia Italiana, 1981), pp. 551–553. Available also at [http://www.treccani.it/enciclopedia/orazio-comes_\(Dizionario-Biografico\)/](http://www.treccani.it/enciclopedia/orazio-comes_(Dizionario-Biografico)/).
 - 4 See Valeria Mezzetti Bambacioni, "L'Istituto e l'Orto Botanico di Portici a un quarantennio dalla morte di Orazio Comes," *Annali della Facoltà di Agraria dell'Università di Napoli in Portici*, 1959, Ser. 3, XXIV:231–252, p. 243.
 - 5 Sabrina Pignattelli, Stefano Mazzoleni, "Il Museo Botanico Orazio Comes. Storia e descrizione," in *I Musei delle Scienze Agrarie. L'evoluzione delle Wunderkammern*, edited by Sabrina Pignattelli, Stefano Mazzoleni (Napoli: Università degli Studi di Napoli Federico II, 2007), p. 36.
 - 6 Orazio Comes, "Sopra alcuni erbari di botanici italiani del secolo scorso," *Atti del Congresso Botanico Internazionale* (Genova: Tipografia del R. Istituto Sordo-Muti, 1893), pp. 124–126.
 - 7 Vincenzo (1766–1836) and Francesco Briganti (1802–1865) were among the most distinguished physicians, botanists and scientists working in Naples in the late 18th and first half of the 19th centuries. Among his many functions, Vincenzo chaired the *Gabinetto di Materia Medica* of the University of Naples. His son Francesco was his secretary and was later appointed to the post of librarian of the same university. See Francesco Balsamo, "Botanici e Botanofili Napoletani," *Bullettino dell'Orto Botanico Regia Università di Napoli*, 1913, 3:41–74, pp. 46–47 and 50–51. On Vincenzo Briganti's life and work, see also Valerio Giacomini, "Briganti Vincenzo" in *Dizionario Biografico degli Italiani*, Vol. 14 (Roma: Istituto della Enciclopedia Italiana, 1972), p. 260. Available also at [http://www.treccani.it/enciclopedia/vincenzo-briganti_\(Dizionario-Biografico\)/](http://www.treccani.it/enciclopedia/vincenzo-briganti_(Dizionario-Biografico)/).

written in what was clearly an 18th-century hand and provided the binomial of the species, often accompanied by a transcription of the pertinent diagnostic passage from Linnaeus's *Species Plantarum*. Based on comparisons with a manuscript that had been published by Vincenzo Cesati⁸ (1806–1883), a past director of the Botanical Garden of Naples, Comes concluded that the handwriting on the labels (despite some divergences in the formation of the characters) was that of the famous Neapolitan naturalist and physician, Domenico Cirillo.

This news was of considerable importance, because it appeared possible that the plants could constitute the remains of Cirillo's famous herbarium. Comes based his conclusion on two considerations: the accuracy of Cirillo's identification of the plants and the knowledge that he had intended to republish Linnaeus's *Species Plantarum* with the inclusion not only of local species but also exotics that he was cultivating in his botanical garden. Comes found corroboration of Cirillo's intentions and his studies toward this end in the fact that specimens of autochthonous and foreign plants could be found in his herbarium.⁹ Therefore, next to each of the specimens that he had identified in this manner, Comes fixed a label printed with the words "Herbarium D. Cyrilli" (Fig. 2). He used the same method to sort all of the plants in the Briganti Herbarium, marking the provenance of exemplars from other collections.

In subsequent accounts of the history of the School of Agriculture there were very few references to the valuable legacy of scientific collections conserved in the Botanical Laboratory, including the Cirillo Herbarium.¹⁰ A brief mention was made by Loreto Grande of "[...] the remains of the Briganti Herbarium, salvaged lovingly, with those of the Cirillo Herbarium and the Petagna Herbarium, by Prof. Comes."¹¹ Giuseppe Lo Priore, who served as a director of the laboratory, makes a passing reference to "[...] the valuable relics of the Neapolitan botanical herbaria, especially that of Cirillo" in the possession of the Botanical Laboratory of Portici.¹² Subsequently, Valeria Mezzetti Bambacioni, who

8 Vincenzo Cesati, *De' vantaggi che lo studio della botanica può ritrarre da una collezione di autografi aggiunto di un cenno storico sopra il Cirillo* (Napoli: Stamperia della Regia Università, 1869).

9 Comes, "Sopra alcuni erbari" (cit. note 6), p. 124.

10 See Orazio Comes, "Cattedra di Botanica," in *La R. Scuola Superiore di Agricoltura in Portici nel passato e nel presente 1872-1906* (Portici: Dalla Torre, 1906), pp. 59–65, p. 59.

11 Loreto Grande, "Note di Floristica napoletana," *Bollettino della Società Botanica Italiana*, 1911, 5:84–94, p. 93.

12 Giuseppe Lo Priore, "Cattedra di Botanica," in *Il R. Istituto Superiore Agrario in Portici 1872-1928* (Spoleto: Arti Grafiche Passetto e Petrelli, 1928), pp. 61–64, p. 62.

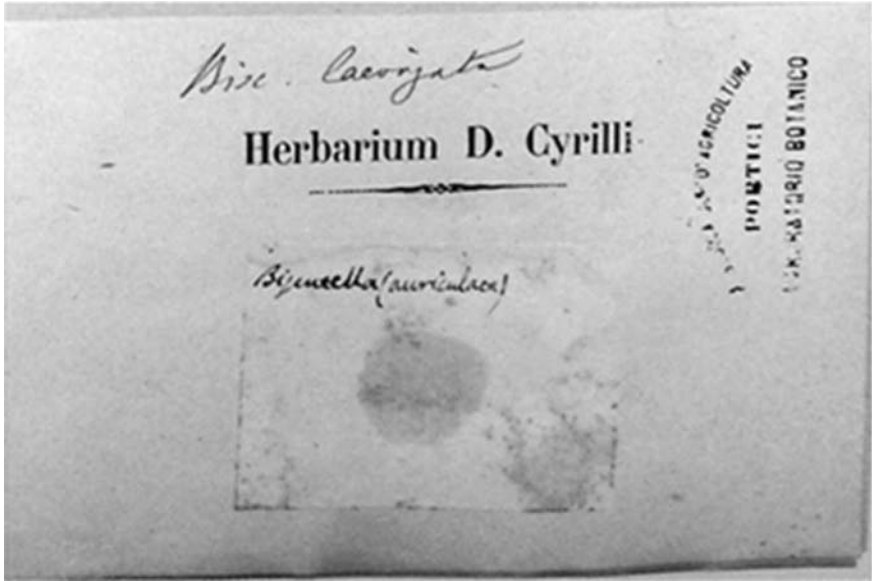


FIGURE 2 Label from Dossier A showing the printed words "Herbarium D. Cyrilli" and the stamp of the Botanical Laboratory.

became director of the Botanical Institute in 1948, spoke of the existence of "two packets of Cirillo's plants"¹³ among its various herbaria, but added that they were not included in the project implemented by her to rearrange the collections, which concentrated on the Comes Herbarium. Her aim was to remedy some of the depredations that befell the Royal Palace of Portici and its collections during the first half of the 20th century. Following the death of Comes, no one was appointed to replace him as director¹⁴ and the agricultural institute underwent various vicissitudes, including two world wars, which led to its archives being transferred and the inevitable dispersion of a part of its botanical collections.¹⁵

13 Valeria Mezzetti Bambacioni, "L'Istituto e l'Orto Botanico" (cit. note 4), p. 243.

14 See Lo Priore, "Cattedra di Botanica" (cit. note 12), p. 62.

15 For a summary of these events, see Alessandro Trotter, "Cattedra di Patologia vegetale," in *Il R. Istituto Superiore Agrario in Portici 1872-1928* (Spoleto: Arti Grafiche Passetto e Petrelli, 1928), p. 62; Id., "La Cattedra e l'Istituto di Patologia vegetale della Facoltà di Agraria in Portici," *Osservazioni e divulgazioni fitopatologiche per la Campania ed il Mezzogiorno*, 1949, 1:29-48, p. 31; Valeria Mezzetti Bambacioni, "L'Istituto e l'Orto Botanico," (cit. note 4), p. 243.

Only recently, as work was undertaken to rearrange and catalogue the institute's collections, has some of the older and long forgotten material been recovered. When the MUSA was established, not only were two packets designated "Remains of the Cirillo Herbarium" found, but also other sheets of *exsiccata* individually labeled "Herbarium D. Cyrilli" interspersed among the specimens of the Comes Herbarium.¹⁶ This material is also mentioned by Antonino De Natale, confirming Comes' identification of the 18th-century handwriting on the labels as that of Domenico Cirillo.¹⁷

Comes was aware of the historical importance of this find of the plants collected by Cirillo conserved in the Briganti Herbarium. As he wrote, the diversity of exotic and native species among the surviving samples gave a hint of what Cirillo's complete collection must have been like in terms of quality and extent. He lamented the damage wrought 'to Botany' by the loss of this herbarium and the scientific testimony that it could have provided.¹⁸

It therefore would be of interest to examine this collection more closely in order to understand its composition and characteristics, and retrace where possible the modifications to which it has been subjected. Our aim is to provide, in the light of the historical sources and comparisons of the handwriting, fresh insights into its scientific and cultural significance.

2 Domenico Cirillo's Contribution to Botanical Studies

The remarks made by Comes shed light on how important Cirillo's contribution to the advancement of botanical studies in Naples was still considered to be one hundred years after his death. And yet this was sometimes overlooked in the earliest biographies of the illustrious Neapolitan, which were written in the 19th century and tended to concentrate on his prestige as a physician or his fate as the martyr to a political cause.¹⁹

16 See Riccardo Motti, "Domenico Cirillo Botanico Napoletano alla fine del '700 ed il suo erbario in Portici," *Informatore Botanico Italiano*, 2003, 35(1):255–258.

17 Antonino De Natale, "Herbarium Porticense," in *I Musei delle Scienze Agrarie. L'evoluzione delle Wunderkammern*, edited by Stefano Mazzoleni, Sabrina Pignattelli (Napoli: Università degli Studi di Napoli Federico II, 2007), pp. 57–59.

18 Comes "Sopra alcuni erbari" (cit. note 6), pp. 124–125.

19 For a detailed bibliographic survey of the vast literature concerning Cirillo's medical activity and political role against the historical and cultural backdrop of 18th-century Naples, see Domenico Martuscelli, "Domenico Cirillo," in *Biografie degli uomini illustri del Regno di*

More recently, historiographic interest in the figure of Cirillo as a naturalist has been revived, following the translation of some of his manuscripts and the re-publication of some of his works.²⁰ This has led to a more attentive reading of his botanical texts and a greater appreciation of the role that he played in the scientific world of 18th-century Naples. In a period and a place where botany still found it difficult to free itself from medicine, which assigned priority to the study of the pharmacological properties of plants, Cirillo was the “first among Neapolitans,” as he himself wrote,²¹ to institute Linnaean reforms²² and give more scope to microscope studies. He introduced improvements to the technique surmising through his own work the role of pollen in the fertilization

Napoli, Vol. 2 (Napoli: Presso Nicola Gervasi, 1814); Benedetto Vulpes, *Per la solenne inaugurazione de' ritratti di sette illustri medici napoletani nella sala di clinica medica della Regia Università degli Studi* (Napoli: Stamperia e Cartiera del Fibreno, 1836); Clodomiro Perrone, *Storia della Repubblica Partenopea del 1799 e vite de' suoi uomini* (Napoli, 1860), pp. 500–512; Benedetto Croce, *La Rivoluzione Napoletana del 1799. Biografie, racconti, ricerche*, 3rd ed. (Bari: Laterza, 1912), pp. 251–261; Vincenzo Cuoco, *Saggio Storico sulla Rivoluzione di Napoli*, edited by Nino Cortese (Firenze: Vallecchi, 1926), p. 322.

- 20 See Pellegrino Fimiani, “Domenico Cirillo e l’Entomologia nel settecento,” in *Domenico Cirillo scienziato e martire della Repubblica Napoletana*, edited by Bruno D’Errico (Frattammaggiore: Tip. Cav. Mattia Cirillo, 2001), pp. 10–32; Umberto Pappalardo, Antonella Ferraro, “Traduzione dal tedesco dell’articolo ‘Domenico Cirillo. La sua biografia, 1739–1799’ di Johann Ulrich Marbach,” *Delpinoa n.s.* 2004, 46:95–105; Domenico Cirillo, *Plantarum Rariorum Regni Neapolitani*, edited by Paolo De Luca (Napoli: Tip. Pironti, 2005); Domenico Cirillo, *Entomologiae Neapolitanae Specimen Primum*, edited by Lorenzo Varano (Napoli: Università degli Studi di Napoli Federico II, 2008); Arturo Armone Caruso, “Su alcune lettere di Domenico Cirillo a Linneo,” *Scrinia*, 2008, v(1–3):5–20; Stefania Paoli (ed.), *Domenico Cirillo a Carlo Linneo, Lettere* (Napoli: Giannini, 2011); Domenico Cirillo, *Discorsi Accademici*, edited by Antonio Borrelli (Napoli: Denaro Libri, 2013).
- 21 Domenico Cirillo, *Entomologiae Neapolitanae Specimen Primum (Praefatio)* (Neapoli: G.V. Scheel, 1787).
- 22 Even if Cirillo was a convinced adherent to Linnaeus’ reforms, what he writes in the Preface to the *Fasciculus Secundus* of his *Plantarum Rariorum* must be taken into account. Worth noting is the interesting consideration of Di Mitri, who writes: “Cirillo used the term ‘metamorphosis’ when describing the vast range of characteristics that a species might assume depending on its environment, in this way betraying a certain wish to dissociate himself from the Linnean notion of fixism in nature.” For more detailed information, see Gino Leonardo Di Mitri “The History of Linnaeism in the Kingdom of Naples,” in *Linnaeus in Italy. The Spread of a Revolution in Science*, edited by Marco Beretta, Alessandro Tosi (Sagamore Beach: Watson Publishing International, 2007), pp. 274–276.

process of the phanerogams.²³ Some scholars credit him with providing the most original and innovative impulse to progress in botany in Naples – and elsewhere – of his time.²⁴

No less important were Cirillo's rigorous studies of the flora of southern Italy, on which he became a genuine expert and of which the Portici herbarium constitutes valuable documentation. He distinguished himself by publishing a two-volumes *Plantarum Rariorum Regni Neapolitani*²⁵ (Fig. 3), in which twenty-four plants are described and depicted in colored engravings based on drawings executed by Cirillo himself.²⁶

Given the fact that many of the species described in the *Plantarum Rariorum* are some of the most common elements of the Italian flora, it is not hard to imagine how much greater Cirillo's contribution to knowledge of the flora of southern Italy and beyond would have been if his career had not been diverted toward the medical profession, preventing him from devoting as much time to his botanical studies. He would undoubtedly have anticipated many of the discoveries subsequently ascribed to other botanists of the Neapolitan school during the course of the 19th century. Here it is pertinent to note the failure of the projected third volume of his *Plantarum Rariorum Regni Neapolitani* to see

23 Domenico Cirillo, *Tabulae Botanicae Elementares Quatuor Prioris sive Icones Partium, quae in Fundamentis Botanicis describuntur* (Neapoli, 1790).

24 See Federico Delpino, "Domenico Cirillo e le sue opere botaniche," *Bullettino dell'Orto Botanico Regia Università di Napoli*, 1902, 1(3):292–310, p. 304; Giovanni Battista De Toni, "Appunti dal carteggio inedito di Domenico Cirillo," *Rivista delle Scienze Mediche e Naturali*, 1922, VII:193–195; For more recent bibliographic information on this subject, see Alessandro Ottaviani, "Domenico Cirillo botanico," in *Giornata di studio: Gli scienziati e la Rivoluzione napoletana del 1799* (Napoli: Arti Grafiche Italo Cernia, 2000), pp. 61–72; Roberto Mazzola, "Scienza e filosofia della natura nella Napoli del tardo settecento. Note sul *Plantarum Rariorum Regni Neapolitani* di Domenico Cirillo," *Bollettino del Centro di Studi Vichiani*, 2007, a. XXXVII:159–174, p. 160.

25 Domenico Cirillo, *Plantarum Rariorum Regni Neapolitani Fasciculus Primus cum Tabulis Aeneis* (Neapoli: G.V. Scheel, 1788); Id., *Plantarum Rariorum Regni Neapolitani Fasciculus Secundus cum Tabulis Aeneis* (Neapoli: G.V. Scheel, 1792).

26 Nine of these plants are described for the first time by Cirillo, i.e.: *Allium neapolitanum* Cirillo, *Allium trifoliatum* Cirillo, *Bellis sylvestris* Cirillo, *Brassica fruticulosa* Cirillo, *Lamium bifidum* Cirillo, *Hyacinthus ciliatus* Cirillo, *Scabiosa crenata* Cirillo, *Carduus gnaphaloides* Cirillo, and *Phormium bulbiferum* Cirillo. At present the first five names are still accepted as valid, whereas the last four have been transferred to another genus and are now called *Bellevalia ciliata* (Cirillo) T. Nees, *Lomelosia crenata* (Cirillo) Greuter et Burdet, *Ptilostemon gnaphaloides* (Cirillo) Sojak, and *Lachenalia bulbifera* (Cirillo) Engl. They therefore conserve the specific epithet (basionym) assigned by Cirillo.

DOMINICI CYRILLI

IN NEAP. LYCEO MED. THEOR. PROF.

&c. &c.

PLANTARUM RARIORUM

REGNI NEAPOLITANI

FASCICULUS SECUNDUS

CUM TABULIS ÆNEIS.

Hic ver assiduum, atque alienis mensibus ætas.

Virg. Georg. 2. v. 149.



N E A P O L I

1 7 9 2.

FIGURE 3 Frontispiece to the second volume of Cirillo's *Plantarum Rariorum*.

the light. This would have presented twelve other plants for which Cirillo had already prepared the engravings as is testified to by eleven illustrations found by Delpino²⁷ and only recently published.²⁸

Cirillo inherited his interest in the natural sciences from his family, which boasted generations of illustrious physicians, botanists and scholars, and through whom he came into contact with such major figures as Francesco Serao, Angelo Fasano, Nicola Braucci and Vincenzo Petagna, who contributed to his medical and botanical education.²⁹ His first mentor was his uncle Santolo, a painter and botanist who taught him how to tend plants, observe insects, set up an herbarium, and draw specimens from life, a skill that Cirillo put to good use in illustrating his works.³⁰ However, the figure from whom he drew the most inspiration for his botanical and entomological research was undoubtedly Carl Linnaeus, who he admired to such a degree that he had a statue of the Swedish scientist erected in his garden in Naples³¹ and initiated a fruitful correspondence with him.³²

27 Delpino, "Domenico Cirillo" (cit. note 24), pp. 308–309.

28 See Cirillo, *Plantarum Rariorum* (cit. note 25).

29 See Carusi "Vita di Domenico Cirillo" (cit. note 2), p. 5. For further information on Cirillo's education and various stages in his life, besides the above-mentioned studies see Federico Delpino, Giovanni Paladino, Giuseppe Ria and Francesco Fede, *Domenico Cirillo*, edited by the Comitato napoletano per le onoranze centenarie a Domenico Cirillo (Napoli: A. Morano & Figlio, 1901); Vincenzo Cesati, "Cenni biografici di sei soci. I – Domenico Cirillo," *Memorie di Matematica e di Fisica della Società Italiana delle Scienze*, 1879, *Ser. III, t. III: LXIX–LXXII*; Giuseppe Catalano, "Storia dell'Orto Botanico," *Delpino*, 1958, *n. 37–39*; Ugo Baldini, "Cirillo Domenico," in *Dizionario Biografico degli Italiani*, Vol. 25 (Roma: Istituto della Enciclopedia Italiana, 1972), pp. 789–796. Available at [http://www.treccani.it/enciclopedia/domenico-cirillo_\(Dizionario-Biografico\)](http://www.treccani.it/enciclopedia/domenico-cirillo_(Dizionario-Biografico)), including exhaustive bibliographic information.

30 See Franco Pezzella, "Santolo Cirillo pittore grumese del '700," edited by the Istituto di Studi Atellani (Frattamaggiore: Tip. Cav. Mattia Cirillo, 2009).

31 See D'Ayala, "Vita di Domenico Cirillo", t. XII(1), p. 111 (cit. note 2).

32 In his letters to Linnaeus, Cirillo conveys his passionate interest in the natural world, his painstaking commitment to collecting new species, his doubts regarding some identifications, and his desire to compile a Neapolitan flora. Moreover, he mentions his herbarium and on several occasions, together with his letters, he sent Linnaeus dried specimens or seeds, requesting others in exchange. Several times he asked to be sent a copy of *Species Plantarum*, regretting that he did not possess a copy to add to his library, and he expressed his admiration for *Genera Plantarum*, a copy of which he already owned in 1764 and which he continually consulted and annotated (see, especially, letters no. L3207, 31st January 1763, and no. L3133, 10th October 1762). Cirillo's letters to Linnaeus were recently published by Arnone Caruso ("Su alcune lettere," cit. note 20) and translated with a commentary by

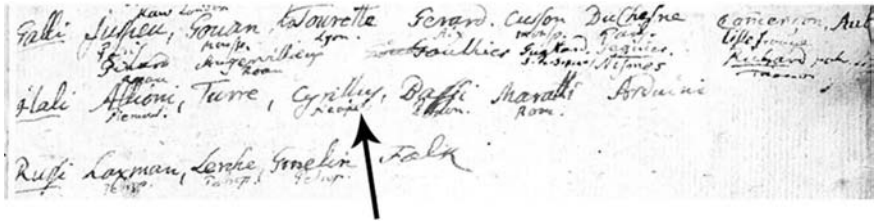


FIGURE 4 Handwriting comparisons: Annotation by Linnaeus referring to Cirillo on the fly-leaf of vol. 1 of *Species Plantarum* (2nd edition). The arrow points to the name of Cirillo (by permission of the Linnean Society of London).

This esteem was reciprocated, as is shown by the note made by the Swedish botanist on the fly-leaf of his personal copy of the second edition of *Species Plantarum*³³ (conserved at the Linnean Society of London, GB 110 BL. 88-1), in which he cites Cirillo among his Italian correspondents (Fig. 4). Moreover, it is worth noting that Linnaeus dedicated the genus *Cyrilla* Garden ex L. – which he had established on the basis of plant material sent to him by Alexander Garden from South Carolina – to his Italian colleague.³⁴

The years between 1760 and 1775, when he was teaching botany at the university in Naples, were for Cirillo a period of intense research, even if he did not publish prolifically. Field trips with his pupils, visits to other parts of Europe, close contacts and frequent correspondence with the foremost physicians and naturalists of his time, and the establishment of ties with foreign academies³⁵ allowed him to collaborate with Italian and European scientists³⁶ and to collect not only a large quantity of scientific data in the areas of botany and medicine, but also to add important material to his herbarium and insect collection.

Paoli (“Domenico Cirillo,” cit. note 20). They are preserved in the Linnean Collections of the Linnean Society of London and may be consulted at: http://linnean-online.org/view/correspondence/Cirillo=3ADomenico_Maria_Leone=3A=3A/Linnaeus=3ACarl=3A=3A.html.

33 Carolus Linnaeus, *Species Plantarum, Editio Secunda*, 2 vols. (Stockholm: Laurentius Salvius, 1762–1763).

34 Carolus Linnaeus, *Mantissa plantarum Generum editionis VI et Specierum editionis II* (Stockholm: Laurentius Salvius, 1767), p. 5.

35 Cirillo was member of the Florentine Botanical Society from 1763 and correspondent of the Royal Society of London from 1769.

36 See Italo Giglioli, *Domenico Cirillo and the Chemical Action of Light in Connection with Vegetable Irritability* (Portici: Stabilimento Tipografico Vesuviano, 1901), reprint from *Nature*, 1900, 63; Balsamo, “Botanici e Botanofili” (cit. note 7), pp. 45–46; Pappalardo and Ferraro, “Traduzione dal tedesco,” (cit. note 20), pp. 96–97.

He participated in the scientific debates of the period in Naples, became a member of the Royal Academy of Science and Letters and then, in 1784 by royal appointment, the director of its Natural History Museum.³⁷ He also established several private and public gardens devoted to the cultivation of medicinal plants and the acclimatization of rare and exotic plants.³⁸

Domenico Cirillo was an enthusiastic and charismatic teacher, who succeeded in establishing close ties with his friends and pupils. Gaetano Nicodemi, Saverio Macrì, Matteo Tondi, Nicola Pacifico, Vincenzo Briganti, Francesco Ricca, Pasquale Carusi and Giosuè Sangiovanni, to name just a few, studied under him and went on to become professors or the directors of university laboratories and science museums, thereby forming the backbone of scientific endeavor in Naples at the turn of the century.³⁹ His students returned his affection, commissioning portraits and dedicating publications to him, and managing to save from destruction at least a small part of his library and collections.⁴⁰

One of Cirillo's pupils, Gaetano Nicodemi (1756–1804), was particularly close to him. Cirillo mentions him in the preface to his *Entomologiae neapolitanae specimen primum*,⁴¹ where he cites the merits of “the most amiable and diligent Nicodemi, second to no one in collecting, identifying and illustrating natural species.” He singles out Nicodemi as the one whom he wished to continue his natural history collections when he was forced to abandon his botanical research due to multiplying commitments as a professor of medicine. In singing Nicodemi's praises, he was “delighted to recognize that – thanks to the indefatigable work of the most talented young man – his collection of insects had grown.”⁴²

37 See Antonio Borrelli, “Istituzioni e attrezzature scientifiche a Napoli nell'età dei Lumi,” *Archivio Storico delle Province Napoletane*, 1996, *CXIV*:131–183, p. 159.

38 See D'Ayala “Vita di Domenico Cirillo”, t. XI(2), pp. 115–116 (cit. note 2).

39 See Baldini, “Cirillo Domenico” (cit. note 29), p. 750.

40 See Carusi, “Vita di Domenico Cirillo” (cit. note 2), p. 4; D'Ayala, “Vita di Domenico Cirillo”, t. XI(2), pp. 117–118 (cit. note 1), and p. 141 (cit. note 2); Id., “Vita di Domenico Cirillo”, t. XI(1), p. 118 (cit. note 2).

41 Domenico Cirillo, *Entomologiae Neapolitanae* (cit. note 21).

42 “[...] susceptos in ipso juventutis flore labores, a quibus me Clinicae gravissimae occupationes avocaverant continuavit amicissimus et diligentissimus Nicodemus, in colligendis, distinguendis, atque illustrandis rebus naturalibus, nemini secundus. Doctissimi juvenis indefessis laboribus nostram insectorum suppellectilem locupletatam fuisse, laetus fateor [...]”.

His predilection for Nicodemi was such that, besides entrusting him with responsibility for his garden and collections,⁴³ Cirillo intended to name after him the species *Orchis nicodemi*, a drawing of which was envisaged for publication in the projected third volume of his *Plantarum Rariorum Regni Neapolitani*. Eventually Michele Tenore, who considered himself to be a disciple of Nicodemi, would publish the description of this new species as *Orchis nicodemi* Cirillo ex Tenore.⁴⁴

Tenore also dedicated a long testimonial to Gaetano Nicodemi, who was born in 1756 and whose life came to an early and tragic end.⁴⁵ Following the political events of 1799, Nicodemi fled to Lyon, where in 1802 he was appointed director of the Jardin des Plantes. In 1803 he returned to see his family in Naples, and went on some herborizing expeditions with the young Tenore, who was just beginning his botanical studies. After this sojourn he returned to Lyon and applied himself to rearranging the Boccone Herbarium and compiling a catalogue of the city's botanical garden. In 1804 he was found dead in the River Rhone under mysterious circumstances.⁴⁶

In 1775 Cirillo was appointed to the Chair of Medicine at the university in Naples, and became completely absorbed by his new responsibilities, which he fulfilled until the end of his life with almost missionary devotion and the same rigor that he had previously applied to botany, and which was typical of his rational, enlightened ethics. Indeed, as observed by Delpino, very few at the time were able – like him – to be both physician and botanist and outstandingly “excellent in both branches.”⁴⁷

43 See Agostino Ronconi, *Osservazioni del Dottor Agostino Ronconi su la Flora Napolitana. Lettera prima* (Napoli: Stamperia Flautina, 1811), pp. 5–6, p. 9.

44 Michele Tenore, *Prodromo*, in Id., *Flora Napolitana*, 5 vols., Vol. 1, 1811–1815 (Napoli: Stamperia Reale, 1811–1815), p. LIII.

45 Michele Tenore, “Saggio sullo stato della botanica in Italia al cadere dell’anno 1831,” *Il Progresso delle Scienze, delle Lettere e delle Arti*, 1832, 1:29–69, pp. 60–62.

46 Ibid., pp. 61–62; see also Vincenzo De Ritis, “Il Reale Orto Botanico. Articolo Secondo,” *Annali Civili del Regno delle Due Sicilie*, 1836, 17:153–165, p. 155; Fontanarosa, “Domenico Cirillo” (cit. note 2), p. 61. Tenore dedicated to Gaetano Nicodemi the genus *Nicodemia* Ten., recalling that the existence of most of the “immortal works of Cirillo” was due to him. Michele Tenore, “Della Nicodemia. Nuovo genere di piante fondato nella tetrandria monogynia, e tipo di una nuova famiglia naturale,” *Il Progresso delle Scienze, delle Lettere e delle Arti*, 1833, 4(1):36–43, p. 41.

47 Delpino, “Domenico Cirillo” (cit. note 24), p. 294. Cirillo nourished a lifelong passion for the natural sciences, botany and entomology and regretted having so little time at his disposition, so totally devoted as he was to his work as a physician. Nevertheless, at odd moments he turned to his passion and often in his writings we find musings such as

3 The Specimens in Portici Herbarium and Their Arrangement

The material pertaining to Cirillo's herbarium in Portici consists of two collections. In one, the samples are gathered in the two packets mentioned by Mezzetti Bambacioni and De Natale,⁴⁸ which carry a mounted label stamped with the name of the institute "R. Scuola Sup. d'Agricoltura – Portici – Laboratorio Botanico" (Royal Higher School of Agriculture – Portici – Botanical Laboratory) and a further handwritten note that reads "Reliquie dell'Erbario di Cirillo" (Remains of Cirillo's Herbarium). In the other collection, specimens drawn from the Comes Herbarium⁴⁹ are conserved in three cardboard folders. The considerable differences encountered between the two collections suggest they should be analyzed separately. For the sake of clarity and simplicity, in the following discussion the two packets containing the "Remains of the Cirillo Herbarium" will be referred to as Dossier A, and the three folders containing specimens from the Comes Herbarium will be called Dossier B.

3.1 *Dossier A*

Dossier A comprises 585 sheets (32×45 cm), on each of which one or more *exsiccata* have been mounted with strips of glued paper. Most of the exemplars are in a good state of conservation.

The sheets are arranged by plant family, and those for each family are gathered together in a heavier paper folder (32×48 cm) that bears a number written in ink in the top left corner, with the name of the family, also written in ink, on a label pinned to the lower margin of the folder. These labels, which are in very poor condition, were repaired at some point with strips of tissue paper.

Two different labels have been attached to each sheet. A smaller label of varying dimensions dates to the 18th century, judging from its material – cot-

this: "[...] After lengthy spells of medical practice, to relax the mind, when I renewed my enthusiastic study of plants, which was for me most pleasurable in the bloom of youth, I once again reviewed the many observations which I had once started and the illustrations painstakingly drawn by my hand, shaking off the dust that covered them" ("[...] Quum relaxandi animi causa, post clinicas magni momenti occupationes, gratissimam in ipso juventutis flore plantarum contemplationem resumerem, multas a me quondam institutas observationes, atque figuras propria manu et infinita diligentia delineatas, excusso quo scatebant pulvere, denuo pervolutare coepi [...]"), in Domenico Cirillo, *De essentialibus nonnullarum plantarum characteribus commentarius* (Neapoli: s.n., 1784), p. v.

48 Mezzetti Bambacioni, "L'Istituto e l'Orto Botanico" (cit. note 4), p. 243; De Natale, "Herbarium Porticense" (cit. note 17), p. 59.

49 See above, note 16.

ton paper – and the characteristics of the handwriting. On it the binomial is transcribed together, in many cases, with the pertinent diagnostic passage drawn from the second edition of the *Species Plantarum* of Linnaeus⁵⁰ (Fig. 5). The handwriting is consistently the same, and was attributed by Comes to Cirillo.⁵¹ On eleven occasions the genus was written in one hand while the specific epithet was added by another hand, identified by Comes as that of Vincenzo Briganti.

The second is a larger label (10×15 cm) dating to a later period, and bears the printed words “Herbarium D. Cyrilli” mentioned above. It is quite plausible that this label was added by Comes after he had identified the material from the Cirillo Herbarium. On some of them Comes added annotations or corrections of the names that appear on the 18th-century labels.

At the beginning of the first packet we find – stored between two sheets of paper folded in four – twenty-nine labels bearing the names of plants, all written in the same 18th-century hand, and numbering in pencil from what was definitely a later period. In the same packet are twenty-nine sheets of *exsiccata* similarly numbered in pencil and bearing the 19th-century label printed with the words “Herbarium D. Cyrilli”, but no 18th-century label. The correspondence between the numbers allows us to establish a match between the plant names transcribed on the loose labels and the dried specimens mounted on the sheets. Another fragment of 18th-century paper found among the contents of the folded sheets bears the handwritten words “Piante di Cirillo” (Cirillo’s plants).

Many autograph documents dating to various moments in Cirillo’s life, which have providentially been conserved, allow an in-depth study of his handwriting and its variants. We analyzed six letters that he wrote to Linnaeus, as well as correspondence sent by him in 1766 to the philosopher and naturalist Charles Bonnet in Geneva, in 1767 to the Swiss naturalist Horace-Bénédict de Saussure,⁵² and in 1791 to the botanist Lodovico Bellardi of Turin (the letter to Bellardi was published by Cesati in 1869).⁵³ We also examined the notes written by Cirillo in the margin of his own copy⁵⁴ of the sixth edition of Linnaeus’ *Genera Plantarum*⁵⁵ and the two manuscript volumes entitled *Malattie 1775* and

50 Carolus Linnaeus, *Species Plantarum* (cit. note 33).

51 Comes, “Sopra alcuni erbari” (cit. note 6), p. 124.

52 See Nello Ronga, “Domenico Cirillo e i filosofi naturalisti in due lettere inedite,” in *Domenico Cirillo scienziato e martire della Repubblica Napoletana*, edited by Bruno D’Errico (Frattamaggiore: Tip. Cav. Mattia Cirillo, 2001), pp. 81–95.

53 Cesati, *De’ vantaggi* (cit. note 8).

54 Biblioteca Nazionale “Vittorio Emanuele III,” Napoli (hereafter BNN), Domenico Cirillo, *Annotations to the Genera Plantarum of Linnaeus*, ms. XIX 35/1.

55 Carolus Linnaeus, *Genera Plantarum, Editio sexta* (Stockholm: Laurentius Salvius, 1764).



FIGURE 5 Sheet from Dossier A mounted with four specimens of *Trifolium stellatum* L. The arrow points to the enlarged label.

Malattie 1777–1779, comprising clinical observations made by Cirillo during his tenure as professor of medicine.⁵⁶

⁵⁶ BNN, Domenico Cirillo, *Malattie (1777–1779)*, ms. Manoscritti S. Martino nos. 36 and 37. On



FIGURE 6 Handwriting comparisons: Comparison of the same plant names written by Nicodemi and Cirillo, respectively (the latter enlarged at the top of each label).

Comparison (Fig. 6) shows that there is a clear difference between the handwriting in the letters and clinical notes penned by Cirillo and that of the 18th-century labels in Dossier A, thereby suggesting the error of attributing the authorship of the labels to the scientist from Naples. Upon further investigation it has been determined that the labels were written by his pupil, Gaetano Nicodemi. This conclusion was reached with the courteous assistance of Prof. Frédéric Pautz, director of the Jardin des Plantes in Lyon, and M. Frédéric Danet, who is in charge of the herbarium at the Jardin where the Boccone Herbarium is conserved. Nicodemi had undertaken the revision of the herbarium, replacing the names of the species given by Boccone with their Linnean binomials. When compared, the handwriting in the Boccone Herbarium and that of the labels in Dossier A were found to match (Fig. 7).⁵⁷

Two further pieces of evidence corroborate the hypothesis that someone other than Cirillo wrote these labels. One which is fairly conclusive is the certain identification of Cirillo's handwriting on other sheets from the herbarium,

this manuscript see Francesco Fedè, *Su due manoscritti di Domenico Cirillo*, in Delpino, Paladino, Ria e Fedè, *Domenico Cirillo* (cit. note 29), pp. 57–92.

57 We are grateful to Prof. Frédéric Pautz, director of the Jardin des Plantes de Lyon and to Mr. Frédéric Danet, in charge of the herbarium of the same institute, for supplying us with copies of some of the sheets annotated by Nicodemi conserved there. On Boccone's herbarium, see Renato Pampanini, "L'Erbario di Paolo Boccone conservato a Lione," *Nuovo Giornale Botanico Italiano*, 1919, 26:1–20.

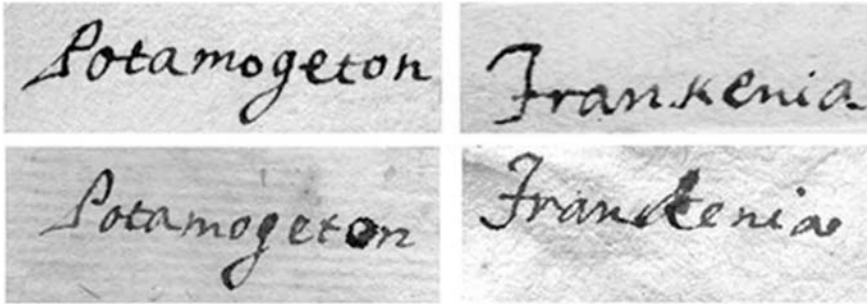


FIGURE 7 Handwriting comparisons: The terms *Potamogeton* and *Frankenia* from Cirillo's herbarium (top) and Boccone's collection in Lyon (bottom), both clearly written by Nicodemi.

i.e. on the label for *Salvia africana* L. in Dossier B, and on the labels of two *exsiccata* identified as *Rhamnus scandens* Hill. and *Cineraria maritima* (L.) L. in the Comes Herbarium, none of which resemble the handwriting in Dossier A (Fig. 8). The other is an inference drawn from one of the annotations made by Cirillo in his copy of *Genera Plantarum*, where he added the term *nostra* (ours) to the binomial *Campanula fragilis* Cirillo to indicate that this was a species established by him,⁵⁸ while on the labels of Dossier A, after the species name attributed to Cirillo, the term *Cyrilli* or *Cyrill* has been added by Nicodemi.

One hundred and ten sheets in Dossier A bear, in addition to the 18th-century handwritten label and the 19th-century printed label, a third label attached with glue, which clearly dates to the 19th century and reports with scrupulous precision the name of the species and its family. The handwriting on these was attributed by Comes to Nicola Tiberi (1820?-1885), a talented naturalist born in Vasto on the Adriatic coast (province of Chieti) and active in the town of Ercolano near Portici, where he lived during the latter half of the 19th century. At times Tiberi corrected the binomial and added details concerning the site where the plant could be found, following Tenore's *Sylloge*.⁵⁹ Such details are of little use, however, in establishing the site where the specimen was collected.

Regarding the other annotations, we identified the handwriting of Vincenzo Briganti based on comparisons with the signatures that appear on the expense

58 Cirillo, *Plantarum Rariorum* (cit. note 25), p. XXII.

59 Michele Tenore, *Sylloge Plantarium Vascularium Florae Neapolitanae hucusque detectarum* (Napoli: Tipografia del Fibreno, 1831).

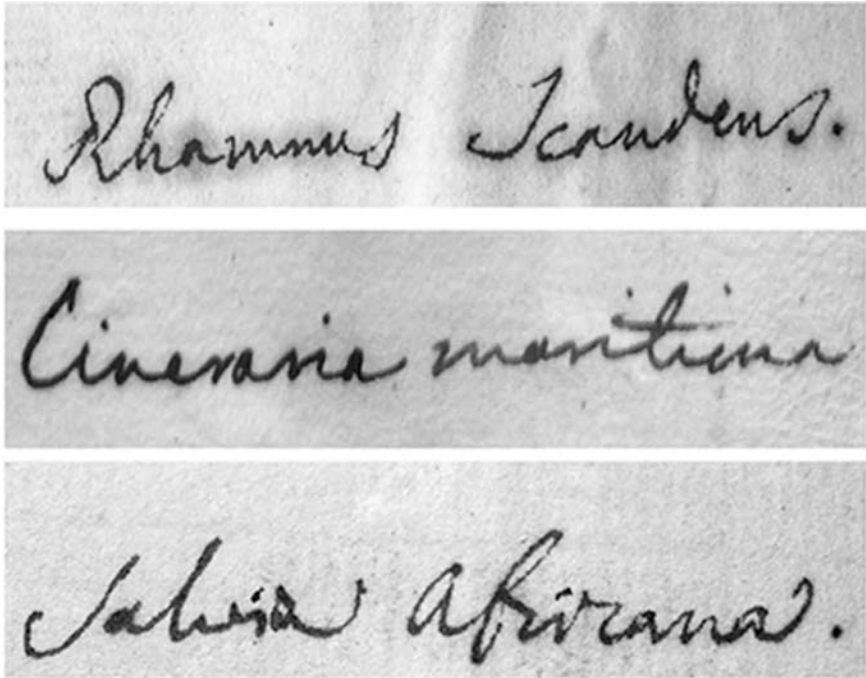


FIGURE 8 Handwriting comparisons: Samples of Cirillo's handwriting.

notes of the Medical Cabinet of the University of Naples, of which he served as director from 1812 to 1835.⁶⁰ For Tiberi's handwriting we have the affirmations of Comes regarding some of the labels, and for the handwriting of Comes himself we have the many labels written by him for his own herbaria.

The sheets in Dossier A consistently show the following characteristics:

1. Labels in Nicodemi's handwriting
2. *Exsiccata* mounted with glued paper strips
3. Labels bearing the printed words "Herbarium D. Cyrilli" and mounted with glue
4. A stamp bearing the official name "R. Scuola Sup. d'Agricoltura Portici Laboratorio Botanico"

60 Archivio di Stato Napoli (ASNA), Ministero Pubblica Istruzione, Vincenzo Briganti (1830) *signature*, fasc. 339. For more biographical and bibliographical details on Vincenzo Briganti, see note 7.

The nomenclature and taxonomy used for the species were those current at the time of Comes, i.e. at the end of the 19th century. For reasons of historical consistency, changes or updates were not made by us to these.

The contents of Dossier A have been inventoried and their size and composition determined on the basis of the names as they appear on the labels: not counting the 22 duplicates, there are a total of 558 species belonging to 227 genera grouped into 72 families. For 14 exemplars only the genus is specified, while for 3 exemplars there are doubts regarding the identification of the plant.

The labels do not indicate the plant's habitat. Instead, the site where the specimen was collected or the source of the sample is given in the following few cases:

<i>Dianthus deltoides</i> L.	found above Matese at a site called <i>Campo rotondo</i> in the middle of the plain, together with the specimen of <i>Pilosella</i> .
<i>Convolvulus arvensis</i> L.	grows everywhere.
<i>Cheiranthus annuus</i> L.	grown from seeds sent to me from Capaccio.
<i>Hesperis verna</i> L.	found on the island of Capri immediately after the climb to Anacapri on the left-hand side.
<i>Frankenia pulverulenta</i> L.	Puglia
<i>Gentiana cruciata</i> L.	found in Matese at the site known as <i>Campo rotondo</i> , and at other sites
<i>Hypericum montanum</i> L.	grows in the mountains a little rare
<i>Lupinus angustifolius</i> L.	found in the wood of S. Efreem and at other sites
<i>Lavatera micans</i> L.	Sic. (for Sicily)
<i>Malva moschata</i> L.	found in the mountains

Apart from Linnaeus, who is cited on 300 labels containing references to *Species Plantarum*, the names of authors are only sporadically reported. Among these, the name of Cirillo appears the most frequently.

Clearly, the current arrangement of the Briganti Herbarium differs from what it was when it came into Comes' possession, but he has left no information regarding this or its state of conservation at the time. When they were rediscovered, however, the two packets were in a state of bewildering disorder, following no systematic arrangement either alphabetic or by taxa. Indeed, folder 1 begins with the collection of Caryophyllaceae; the sequence then continues, with frequent shifts in the order of the letters, and the insertion at the end of families whose names begin with A or B, but again in a disorderly fashion, finishing with folder 70 and the collection of Boraginaceae.

In Dossier A the following genera are represented by the largest number of species:

<i>Silene</i> L.	20 species (sub <i>Cucubalus</i> p. p. and sub <i>Gypsophyla</i> p. p.)
<i>Geranium</i> L.	12 species (sub <i>Erodium</i> p. p. and sub <i>Pelargonium</i> p. p.)
<i>Trifolium</i> L., <i>Scabiosa</i> L.	11 species each
<i>Veronica</i> L., <i>Allium</i> L., <i>Campanula</i> L.	9 species each

The following families are represented by the largest number of exemplars:

Fabaceae (sub Leguminosae)	58
Caryophyllaceae	56
Brassicaceae (sub Cruciferae)	34
Amaryllidaceae (sub Amaryllideae et sub Liliaceae)	26
Boraginaceae (sub Boragineae)	26
Solanaceae	22
Apiaceae (sub Umbelliferae)	20
Convolvulaceae	17
Rubiaceae	15
Polygonaceae (sub Polygoneae)	13
Scrophulariaceae (sub Scrophularineae)	13
Campanulaceae	12
Chenopodiaceae (sub Chenopodieae)	12
Dipsacaceae (sub Dipsaceae)	12
Geraniaceae	12
Lamiaceae (sub Labiatae)	11

3.2 Dossier B

Dossier B consists of 377 sheets (29×41 cm) conserved in folders of heavier paper. The specimens have been subdivided into families, arranged in alphabetical order, and then by genera within the family to which they belong. The taxonomy and nomenclature of the families follow the system proposed by Stevens.⁶¹

61 A useful resource is Peter F. Stevens (2001 onwards), *Angiosperm Phylogeny Website*, version 12, July 2012 and more or less continuously updated ever since, <http://www.mobot.org/MOBOT/research/APweb/> (accessed 15 November 2013).

These sheets differ substantially from the contents of the two packets that comprise Dossier A. They do not bear the stamp "R. Scuola Sup. d'Agricoltura Portici Laboratorio Botanico" and often both the label "Herbarium Dominici Cyrilli" and the *exsiccata* have been mounted with pins rather than glued (Fig. 9).

Moreover, apart from thirteen occasions in which the handwriting of Nicodemi can be identified, the notations are in different hands. We therefore never encounter the combination of the stamp "R. Scuola ...", the label and botanical specimen glued to the page, and the handwriting of Nicodemi that characterizes the sheets in Dossier A.

The way in which the specimens have been mounted suggests that it was the work of Mezzetti Bambacioni who, in rearranging the Comes Herbarium, used pins (Pizzolongo, personal communication) to fix the *exsiccata* and the labels. Recognizing the uniformity and the separate nature of the "Remains of Cirillo's Herbarium", Mezzetti Bambacioni decided to leave them as she had found them, in a separate collection, while reinserting the other material into Comes' herbarium as he had originally organized it. Interestingly, the type of paper on which the *exsiccata* of the second collection are mounted is the same as that used for the other specimens in the Comes Herbarium.

Therefore, these specimens have undergone considerable handling, as is confirmed by the fact that some of the sheets carry specimens in addition to Cirillo's exemplars, accompanied by labels attesting to their provenance from other herbaria, with the names of other collectors and often collection dates successive to Cirillo's death and the dispersion of his collections (Fig. 10). Based on the names as they appear on the labels, we have identified 363 species in Dossier B belonging to 204 genera subdivided into 53 families. In all, there are 69 sheets featuring *exsiccata* from sources other than Cirillo's herbarium.

The three packets of sheets comprising Dossier B contain annotations in the handwriting of Nicodemi, Petagna, Vincenzo Briganti, Comes, Tiberi and Cesati. In a few other cases it has not been possible to identify the handwriting with any certainty. Often a second and at times a third label has been glued or pinned to the "Herbarium D. Cyrilli" label. The paper and handwriting of some of the *exsiccata* can be dated to the 18th century, and others to the end of the 19th century. The notes on most of the sheets date to the 19th century, and names of the plants have been written directly on the "Herbarium D. Cyrilli" label or on a supplementary label that has been glued or pinned to the printed label. In these cases, the handwriting – while exhibiting some variation (perhaps reflecting that fact that he undertook the revision of this part of the herbarium at different times) – is that of Comes (Fig. 11). The few labels for which we have been unable to identify the compiler were presumably

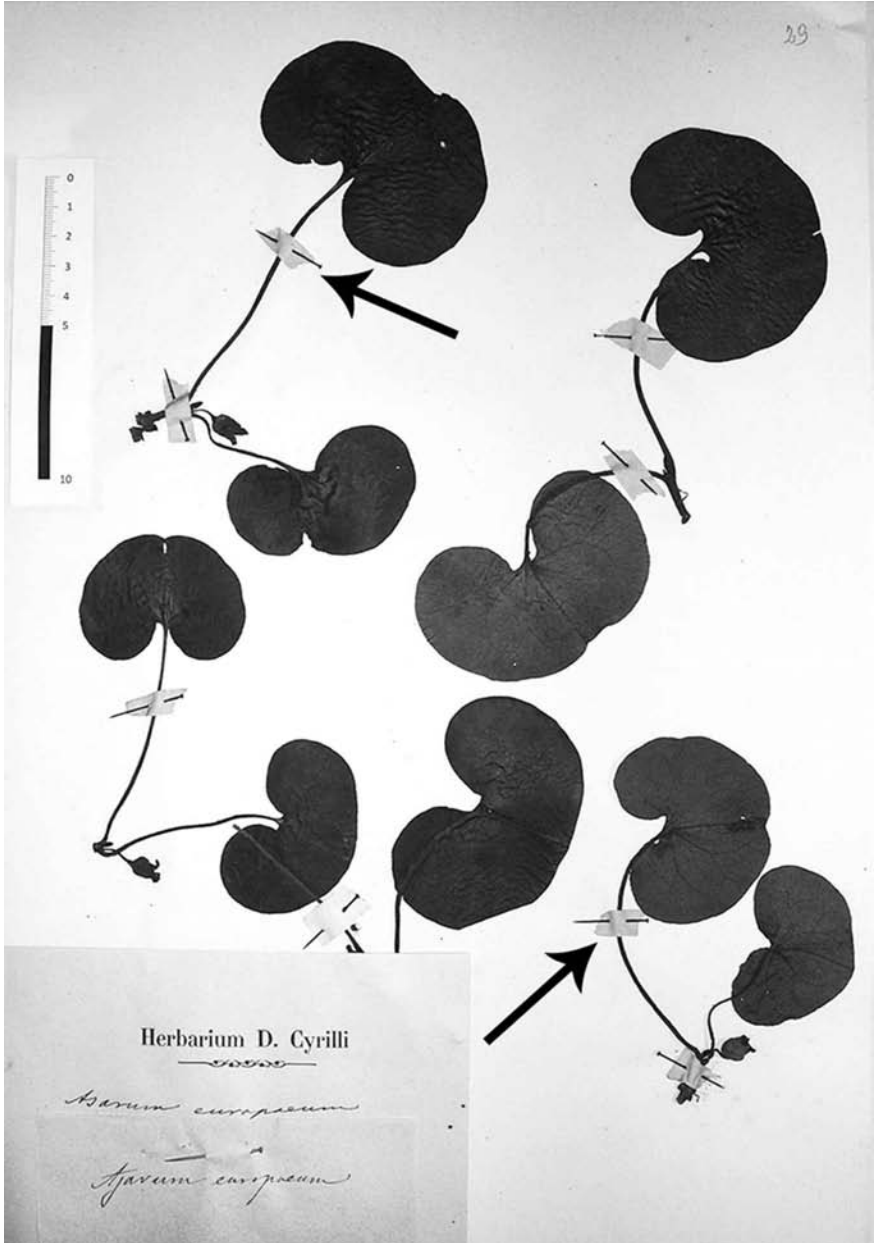


FIGURE 9 Sheet from Dossier B: Exemplars of *Asarum europaeum* L. mounted with pins and labeled in the handwriting of Comes. Arrows points to the pins fixing the specimens.

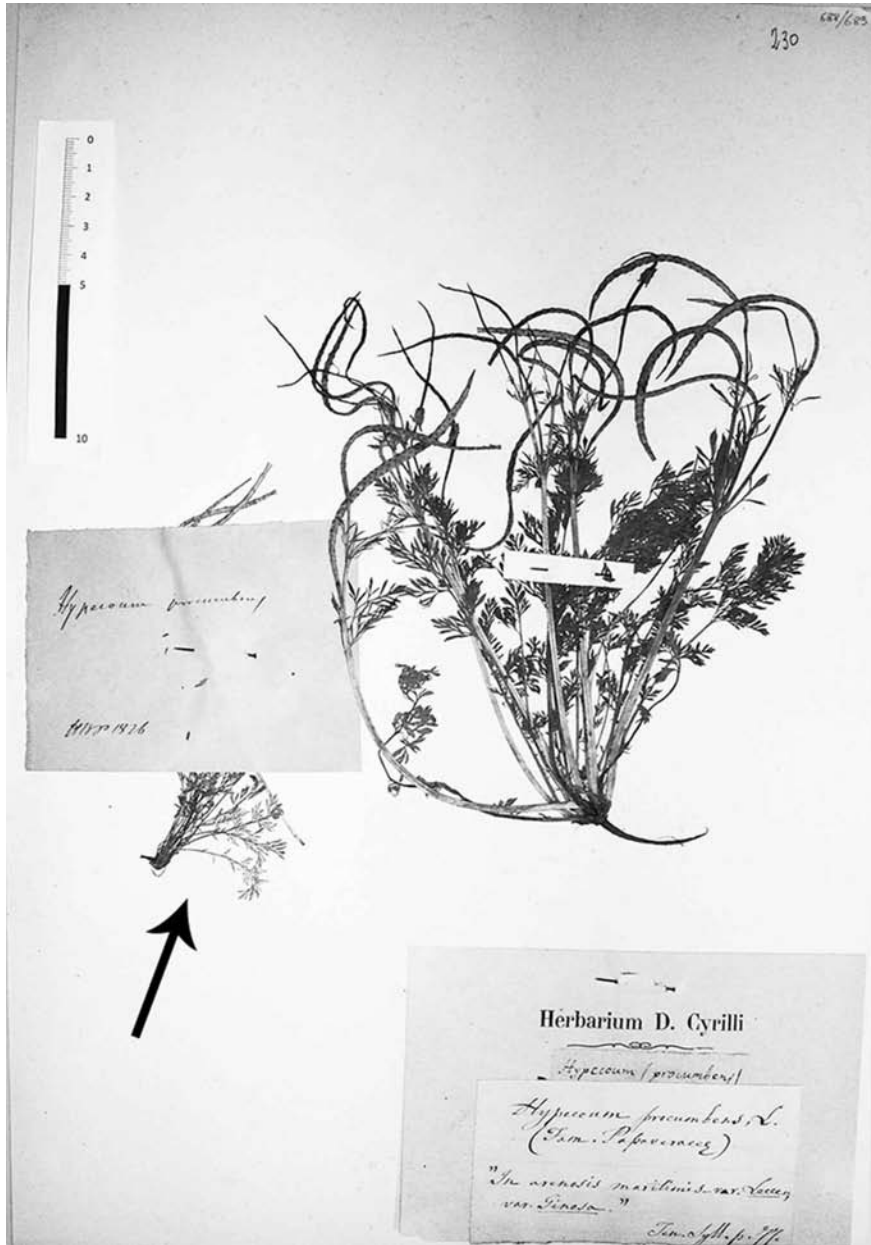


FIGURE 10 Sheet from Dossier B: Specimens of *Hypocoum procumbens* L. with labels written by Nicodemi and Tiberi. The arrow points to a plant collected in 1876 that does not belong to the Cirillo Herbarium.



FIGURE 11 The many variants of Comes' handwriting found on the labels in Dossier B.

drawn up by assistants or collaborators of Comes who were entrusted with the task of re-arranging the collection.

We identified Cesati's handwriting by comparing it with his handwritten correspondence. The latter includes a signed statement of great interest certifying that the annotations contained in Cirillo's copy of Linnaeus' *Genera Plantarum* were authentically written by him.⁶²

Dossier B also contains evidence of cataloguing work by Tiberi; 114 sheets bear a label similar to those added by him to the "Remains of the Cirillo Herbarium". Botanists' names are cited for only 84 of the 377 specimens.

There is very little information on the habitats of the plants represented, but the sites where they were collected are reported in the following cases:

<i>Hyoseris rhagadioloides</i> L.	Pozzuoli
<i>Hyoseris rhagadioloides</i> L.	Puglia
<i>Lotus arabicus</i> L.	Puglia
<i>Poa pratensis</i> L.	Naples
<i>Saccharum ravennae</i> (L.) L.	Calab. (Calabria)

The genera represented by the largest number of species are:

<i>Saxifraga</i> L.	9 species
<i>Allium</i> L., <i>Veronica</i> L.	8 species each
<i>Acer</i> L., <i>Bromus</i> L., <i>Plantago</i> L., <i>Potamogeton</i> Walter	7 species each
<i>Fraxinus</i> Tourn. ex L., <i>Lotus</i> L., <i>Medicago</i> L., <i>Poa</i> L., <i>Teucrium</i> L.	6 species each

The families with the largest number of exemplars are as follows:

62 BNN, Vincenzo Cesati, Letter of 8 April [1870], ms. XIX 35/2.

Poaceae	53
Lamiaceae	43
Fabaceae	34
Malvaceae	18
Scrophulariaceae	14
Oleaceae	13
Saxifragaceae	10
Orchidaceae	10

Compared with Dossier A, the state of conservation of Dossier B is somewhat poorer and, in some cases, only a few fragments of the original sample remain.

4 Some Considerations Regarding Cirillo's Herbarium

Following our examination of all the samples carrying a 19th-century label printed with the words "Herbarium D. Cyrilli", it appears clear that this label was attached by Comes to all of those *exsiccata* which, in his opinion, definitely came from the Cirillo Herbarium. This certainty may have stemmed from his finding Cirillo's plant material already gathered together and included in the Briganti Herbarium. However, Comes himself had planned to divide his collection into two sections. In all likelihood, it was the uniformity of the sheets exhibiting the handwriting that he believed to be Cirillo's (now proven to be Nicodemi's) and the lack of uniformity in many of the other sheets which suggested that the collection could be divided into two parts. He therefore collected the former together under the heading "Remains of the Cirillo Herbarium" and inserted the others into his own collection.

The two collections therefore had different histories, as shown by the differing ways in which they are currently mounted and by the signs of repeated handling and re-arrangement, which indicated to us that they should be analyzed separately. Dossiers A and B contain a total of 962 sheets. Studying them in their original state and therefore without making any changes to the nomenclature or taxonomy, the herbarium as a whole comprises 106 families, 346 genera and 781 species. It is dominated by European species (75%), almost all of them Italian, while the remaining 25% consist of exotic plants.⁶³

63 Of these non-European plants, 53.6% come from the Americas, 21.1% from Asia and 13.9% from Africa; exemplars of palaeo- and pan-tropical species are few (6.8%), while 2.5% and 1.7% come from Macaronesia and Oceania, respectively.

First of all, we conducted a series of analyses to reconstruct, at least in part, the measures that had been taken to rearrange the samples, attempting to hypothesize with a modicum of reliability who might have been responsible for these interventions. On their arrival in Portici, the sheets on which the *exsiccata* were mounted may well have been in an extremely dilapidated state. This is why Comes would have been forced to replace the original sheets with fresh ones and to mount the samples with glued strips. The original 18th-century label and the printed label were also attached with glue at this point.⁶⁴

The reordering by family was necessary given the fact that the collection had been acquired by the Royal School of Agriculture of Portici between 1872 and 1892 and the original arrangement of the collection by Cirillo and Nicodemi in accordance with the Linnean system was outdated.

The sheets in Dossier A are quite uniform, reflecting their origins and suggesting that they did not undergo any rearrangement after Comes, not even during the reorganization of the institute's collections by Mezzetti Bambacioni. Instead, the material in Dossier B is arranged and presented quite differently and shows clear signs of her work. The stamp "R. Scuola Sup. d'Agricoltura – Portici – Laboratorio Botanico" is never present and many of the *exsiccata* and the labels have been mounted with pins rather than glued as they always were in Dossier A. In these cases, the paper is of a different type, similar to the paper used by Mezzetti Bambacioni to rearrange the Comes Herbarium. The various ways in which samples were reordered reflects that fact that they originally came from different collections; there are 69 specimens from 19th-century collections alongside the specimens from the Cirillo Herbarium.

With regard to the evidence of the handwriting, all the specimens in Dossier A, as stated above, carry 18th-century labels with the handwriting of Gaetano Nicodemi. Only rarely does the hand of Vincenzo Briganti appear, in which he simply added the species epithet or some brief annotation.

The erroneous attribution by Comes⁶⁵ of Nicodemi's handwriting to Cirillo is somewhat baffling. While he may not have been familiar with the handwriting of Cirillo's pupil, he must have known that of Cirillo quite well, having stated that he recognized it in a letter written in 1791 by Cirillo to Ludovico Bellardi.

64 Comes' work can be recognised from the type of paper used, which clearly dates to later than the 18th century, and from comparisons with contemporary documents, from the fact that a certain number of 19th-century labels have been laid over their 18th-century counterparts, but especially from the stamp bearing the official title "Royal School of Agriculture Portici Botanical Laboratory" and from the reordering of the samples by family.

65 Comes, "Sopra alcuni erbari" (cit. note 6), p. 124.

This letter was authenticated and published by Cesati⁶⁶ and mentioned by Comes in his talk at the International Botanical Congress in Genoa in 1892. What really defies logic, however, is his attribution to Cirillo of the handwriting of Vincenzo Briganti, as can be corroborated by a comparison of available documents. We cannot therefore accept what is stated by Comes in his notes on the specimens of *Panicum flexuosum* Retz. and *Panicum italicum* L. in Dossier B.

The definitive attribution of certain labels to Gaetano Nicodemi, thanks to a comparison with material sent by the Jardin des Plantes of Lyon, and others to Briganti on the basis of documents in his handwriting, has no bearing on the paternity of the collection. As is known from contemporary biographies and from Cirillo himself,⁶⁷ the responsibility for maintaining and expanding his garden and herbarium was primarily entrusted to his closest pupils. During his sojourns abroad and his tenure as professor of medicine, they undertook many botanical expeditions in the Kingdom of Naples which were financed by him.

Alongside the notes of Vincenzo Briganti and Vincenzo Cesati, the annotations in Dossier B were primarily written by Orazio Comes and Nicola Tiberi. Only in one case – the label to *Salvia africana* – can the handwriting of Cirillo be identified with certainty. This fact shows that various botanists studied and may have had a hand in rearranging the original *exsiccata*, shedding useful light not only on the history of the herbarium but also on the relationships, collaborations, and cultural exchanges among the exponents of the scientific world in Naples over the last two centuries.

The surviving 982 samples of the Cirillo Herbarium undoubtedly represent only a small part of the original collection, although judging from the considerable number of taxa represented and the almost total absence of duplicates we may imagine how rich and diverse the collection must have been.

Among the Italian and European species represented, the collection site is specified only for 15 plants, making his herbarium of little use in studies of the distribution and frequency of species and the variations in their range in these regions over the last 200 years. On the other hand, the herbarium is illuminating from a cultural and historical perspective. The exotic species, which make up about 25% of the collection, provide evidence of the international reach of Cirillo's contacts and scientific exchanges. As can be deduced from his letters to Linnaeus, Cirillo dispatched many *exsiccata* and seeds to the Swedish

66 Cesati, *De'vantaggi* (cit. note 8).

67 Cirillo, *Entomologiae Neapolitanae* (cit. note 21).

naturalist. More than half (54%) of his exotic specimens came from the New World, especially North America, showing that in the 18th century interest in the natural history of the Americas had become intense. This fascination with the New World can perhaps be explained by the fact that the flora of Asia and Africa (representing 21% and 14% of the specimens in Cirillo's herbarium) was by now relatively familiar to Europeans.

We do not know exactly how Cirillo came by his foreign specimens. Some of them may have been acquired through the exchange of *exsiccata* with other naturalists, while others may have been cultivated in his own garden or in the gardens that he had established in and around Naples.

5 Conclusions

The information that we have been able to glean from the surviving material of the Cirillo Herbarium bears witness to the impressive heights reached by the botanical sciences in Naples and the contribution made by Neapolitan scientists to progress in the sciences generally during the 18th century. Despite its undoubted importance, it must be admitted that only a small portion of the collection has come down to us and therefore our data is incomplete and must be considered provisional.

Taken together, the collection and the – albeit sporadic – indications of the provenance of the samples (from Matese to Sicily, and from Puglia to Capri and Calabria) provide evidence that the Neapolitan botanists of the period were conducting herborizing expeditions throughout the Kingdom of Naples.

Further studies are planned to obtain more details regarding this herbarium. To this end a review of the taxonomy and nomenclature of the specimens in the herbarium (taking into consideration the fact that it was assembled during the latter half of the 18th century) is currently underway, together with the digitization of the entire collection. At the same time, a revision of errors in the plant identifications detected during an initial, necessarily superficial examination of the 18th- and 19th-century labels has been undertaken. These studies have proven to be far from straightforward due to the poor state of preservation of this rare and fragile material.

It appears anomalous, as indeed was noted by Comes,⁶⁸ that so few plants from the largest families in terms of genera and species are included. For example, the Asteraceae are represented by only six samples and are entirely absent

68 Comes "Sopra alcuni erbari" (cit. note 6), p. 125.

from the folders of Dossier B. Considering their size in terms of number of species, the two families Rosaceae and Ranunculaceae are also poorly represented, with only 3 and 2 specimens, respectively. Exemplars of Cyperaceae are completely absent from the collection. Differences between the contents of Dossier A and Dossier B can also be cited: the Caryophyllaceae are extensively represented in one collection (56 specimens in Dossier A) and absent in the other, as are Brassicaceae (34 in A, 1 in B) and Boraginaceae (26 in A, none in B), while the Poaceae are represented by just one exemplar – *Imperata arundinacea* – in Dossier A, and 53 plants in Dossier B. Only 13 specimens of tree species are to be found, while entire categories of plants such as the conifers and ferns and major tree families such as Fagaceae and Betulaceae are absent.

This data has emerged from an analysis of Comes' arrangement of his plant collection by family. Taking into account the fact that Cirillo followed the Linnaean classification system, it may be noted that in the collection as presently arranged the number of specimens in each family corresponds in large measure to the number that would have been arrived at if one applied the Linnaean system. This pertains to both the families containing numerous exemplars and those with only a small number of species.

It therefore appears quite logical to find in many cases a correspondence between the plant families in the herbal and the Linnaean system. One must thus not be surprised if a small number of Asteraceae (almost all falling in the Linnean Class Syngenesia) and only two Ranunculaceae (mainly belonging to the Class Polyandria) occur in the herbarium. This might be explained by the measures that were taken to safeguard the herbal and what happened to the collection afterwards.

As was mentioned above, we cannot exclude the possibility that the provenance of the two dossiers may have been different. This would explain other incongruences between them, such as the number of Caryophyllaceae (mainly Decandria) and Brassicaceae (Tetradinamia) present. These two families are abundantly represented in the Italian flora and there are many exemplars of both in Dossier A (56 Caryophyllaceae and 34 Brassicaceae), whereas they are almost completely absent from Dossier B (0 and 1, respectively). Equally incongruent is the presence of many specimens from families represented in the Italian flora by a small number of taxa, such as the Malvaceae (all belonging to the Monadelphia Polyandria) and the Oleaceae (all members of Diandria Monogynia), due in part to the inclusion of many exotic ornamental plants. In fact, Dossier A contains 30 species of Malvaceae and 18 species of Oleaceae, while Dossier B contains 7 and 13 respectively.

On the basis of these data it can be postulated that what has been preserved of the Cirillo Herbarium is the result of a hasty and somewhat random salvage

operation. We may presume that, given the danger of the moment and the risks being run, it was necessary to be satisfied with whatever could be hurriedly taken away, and that some families could be saved whereas others had to be left behind. Hence we may also wonder whether it was not actually Vincenzo Briganti who performed this meritorious deed.