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"Flore générale des environs de Paris" by F.F. Chevallier: historical, nomenclatural and bibliophilic aspects

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Abstract – A brief account of the life and work of the French botanist François Fulgis Chevallier (1796-1840) is presented. His classification of the plants, with particular references to cryptogams, proposed in *Flore générale des environs de Paris* of 1826-1828, is revisited and compared with other classifications published in France at the beginning of the 19th century. A list of new names and combinations for hepatics and mosses proposed by F.F. Chevallier in his Flora of the Paris region is presented. Altogether two names for hepatics and twenty-six names of mosses are proposed as new, nine of which were used for newly described varieties of mosses. All these names have fallen into oblivion and are not in current use except for one, *Trichostomum* Bruch sect. *Stenotrichum* Chevall. This taxon is now recognized as section *Stenotrichum* (Chevall.) Bednarek-Ochyra in *Racomitrium* Brid. *Jungermannia ceratophylla* Chevall. is considered to be a new synonym of *Pellia endiviifolia* (Dicks.) Dumort. The color plates illustrating bryophytes of the first edition of *Flore générale* are reproduced and modern names for taxa are given. In Annex, the copies of the Chevallier's *Flore générale* kept in various libraries in Paris are compared and thoroughly described; some data on *Fungorum et Byssorum Illustrationes* (Chevallier, 1837) are given.

Bryophyta / Musci / Hepaticae /Nomenclature / Taxonomy / Paris / France / F.F. Chevallier / bibliophily / history of sciences

Résumé – La vie et l'œuvre botanique de François Fulgis Chevallier (1796-1840) est évoquée. Sa classification des plantes et précisément celle des cryptogames, proposée dans la *Flore générale des environs de Paris* 1826-1828, est revue et comparée à d'autres publiées au début du 19e siècle en France. Une liste des nouveaux noms et combinaisons pour les hépatiques et les mousses proposée par F.F. Chevallier dans sa *Flore générale* est présentée. En tout deux noms d'hépatiques et 26 noms de mousses sont proposés comme nouveaux, dont 9 pour décrire de nouvelles variétés de mousses. Tous sont tombés dans l'oubli et ne sont pas utilisés actuellement, sauf *Trichostomum* Bruch sect. *Stenotrichum* Chevall. Ce taxon est maintenant reconnu comme une section *Stenotrichum* (Chevall.) Bednarek-Ochyra dans le genre *Racomitrium* Brid. *Jungermannia ceratophylla* Chevall. est considéré comme un nouveau synonyme de *Pellia endiviifolia* (Dicks.) Dumort. Les planches en couleur illustrant les bryophytes, contenues dans l'exemplaire de la première édition conservé à PC, sont reproduites et les noms actuels sont donnés pour tous les taxons.

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En Annexe, les exemplaires de la Flore déposées dans différentes bibliothèques parisiennes sont comparés et brièvement décrits ; quelques informations sur *Fungorum et Byssorum illustrationes* (Chevallier, 1837) sont ajoutées.

Bryophyta / Musci / Hepaticae / Nomenclature / Taxonomie / Paris / France / F.F. Chevallier / bibliophilie / histoire des sciences

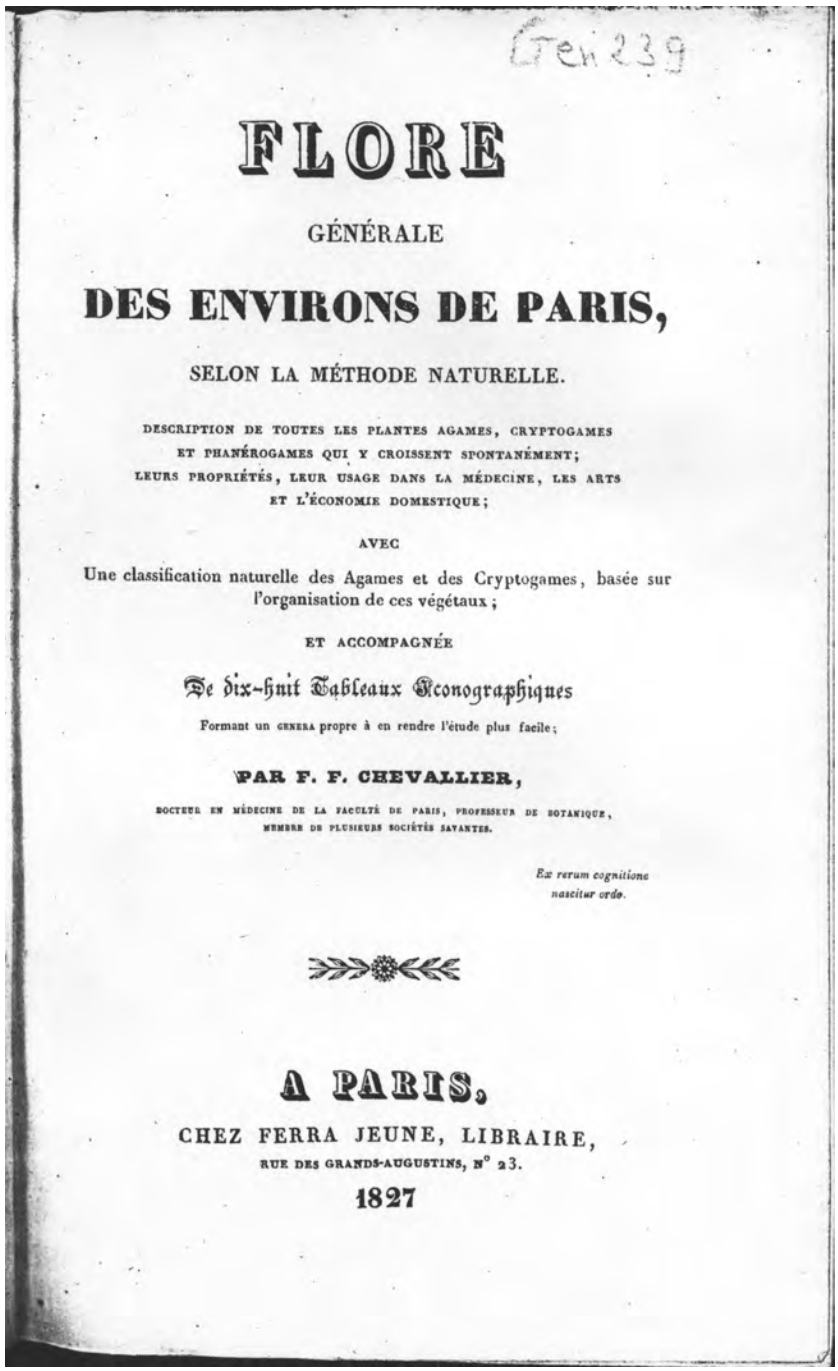
INTRODUCTION

François Fulgis Chevallier (2 July 1796-24 December 1840) was a French botanist who was born in Paris and died in Freiburg [1]. His detailed biography needs elaboration, and here only some important facts from his life are provided. After studies at the Hopitaux civils de Paris, Chevallier obtained a 'Doctorat en Médecine' in 1821, at Faculté de Médecine (Paris), with research on the *Conium maculatum*, poison hemlock (Chevallier, 1821). Later, in 1833, he was candidate to the succession of C.G. Nestler as a professor of botany and natural history at the Faculty of Medicine at Strasbourg. According to his "*Notice des travaux*" (Chevallier s.d., but about 1833) and Margadant (1968: 82), he botanized in the Paris region, as well as in the Alsace in eastern France with C.G. Nestler. Although his Parisian flora [2] comprised all groups of the plants, Chevallier was certainly most interested in cryptogams. He undertook an extensive study of Lichenes (Chevallier, 1822, 1824-1827) and Fungi (Chevallier, 1837). The manuscripts housed at the Bibliothèque centrale du Muséum National d'Histoire naturelle indicate that Chevallier was also interested in the Phyceae. No portrait of Chevallier is available and information in TL-2 (Stafleu & Voss, 1976: 495) that it is present on the frontispiece of the Geneva copy of Vol. I of his *Fungorum et Byssorum illustrationes* (Chevallier, 1837) is apparently erroneous.

The main work of Chevallier, *Flore générale des environs de Paris, selon la méthode naturelle* (Fig. 1), is a regional flora of the Paris area. This is a two-volume book published in three parts and eighteen plates [3] (see Figs 2-5), which first appeared in 1826–1828 (Margadant, 1968; Stafleu & Cowan, 1976). It was subsequently reprinted with minor changes in 1836. The flora covers all groups of plants including bryophytes.

Following his "*Notice des travaux*", even if Chevallier used data from the floras published by J.L. Thuillier (1799) [4] and F.V. Mérat (1821), the *Flore générale* is mainly based on his own collections and observations. The first volume (including agams) of the *Flore générale* was presented at the session of the Académie des Sciences on 7 August 1826 and the second volume (including cryptogams and phanerogams) on 7 January 1828. Two unpublished reports were made: *rapport verbal* by J.J. Houtou de Labillardière on 3 January 1827 for the first volume and

1. Data from Barnhart (1965, 1: 340). Note that Krempelhuber (1867, 1: 609) indicates 20 December 1840 for his death. Notice by Fournier in Baillon (1878, 1: 778) is very succinct.
2. Quérard (1848: 183) noted that Chevallier should publish a *Flore de France*, in which his classification of the plants should be detailed. Unfortunately, we have no data on its effective publication. His effective participation to Orbigny, *Dictionnaire universel d'Histoire naturelle* (Stafleu & Cowan, 1976: 494) remains doubtful.
3. The Library of Botany (Muséum national d'Histoire naturelle, Département Systématique et Evolution, Paris) keeps two copies (cf. Annex 1 for the comparison of various copies kept in Parisian libraries). The PC copy contains the eighteen color plates (not seen by Stafleu & Cowan, 1976).
4. *La Flore des environs de Paris* did not include any cryptogams.



FLORE

GÉNÉRALE

DES ENVIRONS DE PARIS,

SELON LA MÉTHODE NATURELLE.

DESCRIPTION DE TOUTES LES PLANTES AGAMES, CRYPTOGAMES ET PHANÉROGAMES QUI Y CROISSENT SPONTANÉMENT; LEURS PROPRIÉTÉS, LEUR USAGE DANS LA MÉDECINE, LES ARTS ET L'ÉCONOMIE DOMESTIQUE;

AVEC

Une classification naturelle des Agames et des Cryptogames, basée sur l'organisation de ces végétaux;

ET ACCOMPAGNÉE

De dix-huit Tableaux Iconographiques

Formant un genera propre à en rendre l'étude plus facile;

PAR F. F. CHEVALLIER,

DOCTEUR EN MÉDECINE DE LA FACULTÉ DE PARIS, PROFESSEUR DE BOTANIQUE, MEMBRE DE PLUSIEURS SOCIÉTÉS SAVANTES.

Ex rerum cognitione nascitur ordo.

A PARIS,

CHEZ FERRA JEUNE, LIBRAIRE,

RUE DES GRANDS-AUGUSTINS, N° 23.

1827

Fig. 1. Title page of Volume 2 of Chevallier's *Flore générale des environs de Paris* (1827) comprising "Première Classe. Hépatiques. Hepaticae" and "Deuxième classe. Mousses. Musci". Library of Laboratoire de Cryptogamie of Muséum National d'Histoire Naturelle.

rapport verbal by R.L. Desfontaines on 25 February 1828, for the second volume [5]. In the Archives of the Académie des Sciences (Paris), the brief report by Labillardière does not exist, and only Desfontaines' report is present as a manuscript of four pages. Desfontaines gave the general plan of the book including the three divisions in the plant kingdom and the organization of each division. Desfontaines made an impersonal report, and just pointed out the illustrations for agams and cryptogams.

Two reviews were successively published in *Revue encyclopédique* in 1827 and in *Bulletin des sciences naturelles et de géologie* (2nd section of the *Bulletin universel*, directed by Férussac) in 1828. The first review dealing only with the first volume (including Algae, Fungi and Lichenes, i.e. so-called agams) was not formally undersigned, but the last sentences leave no doubt concerning its authorship: J.B. Bory de Saint-Vincent. The second review, written by V.F. Raspail, concerned both volumes. Raspail (1828) criticized the lack of the originality of *Flore générale*, suggesting that Chevallier should have used more data from various books rather than he only observed the nature itself. We agree that in Chevallier's Flora it is not easy to distinguish his personal observations from data adopted from other authors. Nevertheless Raspail pointed out that the presentation of the illustrations of genera in the cryptogamic part is an idea deserving congratulations.

Bory's (1827) review is more detailed. He compared the newly published flora by Chevallier with the *Nouvelle flore des environs de Paris*, published in 1821 by François Victor Mérat de Vaumartoise. His criticism of *Flore générale* focuses at three major points, and, although it appears to be severe, it seems to be quite correct.

1. Chevallier seemed to have worked alone, and only rarely he cited the specimens collected by Persoon and only occasionally were his specimens revised by other botanists. In contrast, Mérat (1821) in the Préface to his Flora acknowledged the assistance of many collectors including S. Léman, Gay, Villermé, Havet, Godefroid, and de Lens.

2. The study area was not clearly delimited by Chevallier, but in his justification it should be said that his adversary Mérat did not much better define the area of his investigations. 'Environs de Paris' have always been freely interpreted, often depending on where Parisian botanists carried out collecting activity.

3. Inclusion of many superfluous nomenclatural changes. When reviewing only the first part of Chevallier's *Flore générale*, Bory referred to the arrogance of Chevallier in consideration of existing names and his tendency to the abusive introduction of many new names with his own authorship. This criticism is obvious because numerous new names were only orthographic variants of other names. Nevertheless the introduction of new names for different ranks of the classfication system should be appreciated as an attempt to find proper names by trial and error. It was quite frequent practice in those days and various French and German publications from this period contained many similar changes. Morever, Chevallier used those names that he considered as more significant:

Toujours attentif sur le choix des caractères génériques, nous adoptons, comme on voit, indistinctement et de préférence les noms des genres les mieux définis, n'ayant d'autre but que la perfection de la science, sans nous laisser guider par une différence qui souvent serait plutôt nuisible qu'utile. [Always attentive to the choice of genera characters, we indifferently use, as one can see, the better delimited

5. Cf. *Procès verbaux des Séances de l'Académie des Sciences*, Tome 8: 412 (séance on 07.08.1826), 478 (séance on 03.01.1827), Hendaye, 1918; Tome 9: 3 (séance on 07.01.1828), 30 (séance on 25.02.1828), Hendaye, 1921.

generic names, having no other aim than the perfection of science, without the guide of a difference which should be more harmful than useful] (*Flore générale*, tome 1, p. 611, note 1).

The above comment indicates that Chevallier frequently used the microscope to find better characters to delimit genera and species. This led him to the choice of more appropriate names for them. Undoubtedly, Chevallier studied the living specimens and compared them with dry herbarium specimens and descriptions in specific floras, and sometimes made drawings of them (cf. his manuscripts). His liaisons with C.G. Nestler, A. Fée, and C.H. Persoon led him to the better identification of specimens. Another indication of the microscopic pratice of Chevallier are illustrations of cryptogamic plants assembled on 18 colour plates.

CHEVALLIER'S CLASSIFICATION OF PLANTS ON THE BACKGROUND OF OTHER SYSTEMS EXISTING IN FRANCE IN THIS EPOQUE

Owing to several daring proposals in the classification, the treatment of cryptogams *sensu lato* in Chevallier's *Flore générale* calls for full attention. For its better comprehension it would be useful to examine the classification of plants adopted by Mérat.

While the first edition of the *Nouvelle flore* (Mérat, 1812) did not include any cryptogams, they are widely studied in the 2nd edition (Mérat, 1821). Mérat did not use the Linnaean sexual system but the natural method taught at the Muséum of Paris. He divided the plants in two great divisions, opposing the cryptogams to the phanerogams. Acotyledon plants or cryptogams were subsequently divided in two groups on the basis of the occurrence of leaves: "Acotylédones non foliées"/"Acotylédones foliées". In consequence of the lack of visible organs of the reproduction, it was necessary to choose another character. Since the beginning of the 19th century, many authors used the occurrence of leaves to separate classes or orders among the cryptogams. Mérat adopted more or less exactly families of cryptogams of the third edition of *Flore française* by Lamarck & de Candolle (1805) in which the cryptogamic part was entirely revisited by A.P. de Candolle (Tab. 1). In addition, Mérat (1821) also used the more recent treatments by E. Acharius or C.H. Persoon for Lichenes and Fungi. Consequently, his classification system was in agreement with the then accepted general concepts on cryptogams.

In despite of the acknowledgments to A.-L. de Jussieu, R.-L. Desfontaines and Persoon for their help in his research on the *Hypoxyla*, it is not easy to state what are the sources for Chevallier for the general assessment. Moreover,

Tab. 1. Classification of plants in Mérat's *Nouvelle Flore* (1821).

1re Division des végétaux : Plantes acotylédones (Cryptogamie de Linné)
1re Classe : Acotylédones non foliées
(6 familles : Algues, Champignons, Lycoperdonées, Tuberculaires, Hypoxilons, Lichénées)
2e Classe: Acotylédones foliées
(7 familles : Hépatiques, Mousses, Lycopodiacées, Fougères, Rhizospermes, Equisetacées, Characées)
2e Division des végétaux : (les Phanérogames)
I. Monocotylédones (classes 1-7)
II. Dicotylédones (classes 8-14)

Chevallier claimed his work to be entirely independent :*'il est vrai de dire que l'étude des agames et celle des cryptogames ont exigé de moi un grand travail qui m'appartient entièrement'*. (*Notice des travaux*, p. 4). But, even if he worked independently, it is quite certain that he had contacted in the Muséum such botanists as A.-L. de Jussieu, R.-L Desfontaines, C.F. Mirbel or Ad. Brongniart.

In the Avant-propos of his *Flore générale*, Chevallier proposed a third kingdom, including organisms interpreted as a natural link between the kingdom of animals and the kingdom of plants. This point is relevant of the debate on the distinction between animals and plants, on which many authors have written (cf. for example Lamy, 1997). Therefore, we prefer to focus our present discussion on the Chevallier's understanding of Cryptogams *sensu* Linnaeus.

Chevallier (*Flore générale*, p. xxiii) presents directly the plant kingdom in three divisions (Tab. 2) :

"*Ce que nous entendons par la distribution des plantes en agames et en phanérogames, divisions parmi lesquelles vient s'en ranger une intermédiaire établie depuis longtemps par Linné et nommé cryptogamie" [what we mean by the distribution of the plants in agams and in phanerogams, divisions between which come to rank an intermediary, established since a long time by Linnaeus and named Cryptogamie].*

Therefore *1*. Byssi, Fungi and Lichenes without sexual organs and with reproduction by sporules, are clearly separated from other plants; *2*. the cryptogams *sensu* Linnaeus are limited to the plants with not easily visible sexual organs (Musci and Filices). The same idea, i.e. the separation of Algae and Fungi from other plant families, one can find in other contemporary classifications. Algae and Fungi having no leaves or no sexual organs were grouped in 'Agames' by Mirbel (1803), and Ad. Brongniart (1822)[6], or in 'Acotylédones non foliées' by Mérat (1821). However, Mirbel and Mérat made this distinction within the class Cryptogams as delimited by Linnaeus (quite comparable to Acotylédones of de Candolle). Thus, they retained the opposition crypto/phanero in the plants. For his part, Chevallier applied entirely the concept of Mirbel (*in* Lamarck & Mirbel,

Tab. 2. Classification of plants in Chevallier's *Flore générale* (1826-1828).

1re Division : Agamie
Algues
Champignons
Lichens
2e Division : Cryptogamie
Classe 1 : Hepaticae (three orders : Targionieae, Marchantieae, Jungarmannieae)
Classe 2 : Musci (four orders: Apogoneae, Monopogoneae, Hymenopogoneae, Diplopogoneae)
Classe 3 : Diastrophytae (three orders: Lycopodiaceae, Filices, Rhizospermeae)
Classe 4 : Synarthrophytae (two orders: Equisetaceae, Characeae)
3e Division : Phanérogamie

6. "Les seules plantes dans lesquelles l'absence des sexes nous parait probables sont les Conferves, les Algues, les Hypoxylées, les Mucédinées, les Lycoperdacées, les Champignons et les Lichens" (entry *'Agames' in: Dictionnaire* t. 1: 135). We should note that Brongniart in 1824 (entry *'Cryptogames' in: Dictionnaire* t. 5: 155-159) based his classification of the cryptogams on the occurrence of vessels and leaves. Consequently, in gathering Filices to Phanerogams, he considered as true cryptogams: Algae, Fungi, Musci, Lichenes.

1803, vol. 4: 12) [7], and recognized three divisions at the same hierarchic level. Making no reference to Chevallier, Bory (1828: 1-2) used the same division of the plants in three groups: (*1*) phanerogams — plants with seeds and fruits being a result of the fecundation; (*2*) cryptogams — plants with seeds but the fecundation being a mystery and (*3*) agams — the "eunuchs of the botany".

Because the present paper is focused on bryophytes, only the section devoted to cryptogams is reviewed. Chevallier (1826-1828) divided his cryptogams into four classes: Hepaticae, Musci, Diastrophyta, Synarthrophyta. He noted (Chevallier, 1827, t. 2: 3), that he intended to unite the Hepaticae and the Musci in a single group, "Dictyophylles", because they had the same structure of the leaf tissue. This is reminiscence of the classification proposed by Hedwig (1782), who defined the Musci as *'planta, petalo calyptrato styligero instructa'* and divided this group in two orders : *Musci frondosi* and *Musci hepatici* [8]. Chevallier mostly cited the observations made by Hedwig.

Chevallier divided te Hepaticae in three orders: Targionieae, Marchantieae and Jungermannieae. This classification corresponds to the three groups of Mérat (1821) [9]: *lichenoid hepatics* without elaters (*Homallophyllae* of Willdenow), *lichenoid hepatics* with elaters, *muscoid hepatics* with elaters.

In the classification of the Musci, Chevallier (1827) used the terms of Palisot de Beauvois for the subdivisions of this group and only changed their terminations "-goni" for "-goneae". Nonetheless, the two systems differ markedly from one another. Palisot (1805) divided Musci into five sections: Apogoni, Entopogoni, Ectopogoni, Diplopogoni and Hymenodes, while Chevallier (1827) merged the Ecto- and Entopogoni in one section which was quite similar to the Aploperistomati of Bridel (1797). Therefore in this detail he agreed with Lamarck and de Candolle (1805). In addition, Chevallier preferred to the "pedunculatae or tubulatae capsulae" of Palisot, the indehiscence cupule as a character for subdividing the Apogoneae, leading to the Aperistomati and Gymnoperistomati of Bridel (1806). Likewise, the subdivision of the Diplopogoni is quite different in Palisot and in Chevallier. Nonetheless, one should remember that the 'method' of Palisot was in progress as Lamy (1990) has demonstrated, and converged towards the 'method' of Bridel (1806).

Consequently we should consider that Chevallier, as other botanists, has tried to propose an acceptable and natural arrangement of the cryptogams *sensu* Linnaeus and mainly that of the bryophytes.

The bryophytes are placed at the beginning of the second volume at pages 1–99 (Hepaticae on pp. 1–26 and Musci on pp. 26–99). For larger genera Chevallier proposed several infrageneric taxa which evidently must be interpreted as sections. In total he recorded from the study area 54 species and one variety of hepatics disposed in 6 genera, 182 species and many varieties of mosses disposed in 31 genera. Some of these were recognized as new taxa, and for some species Chevallier proposed new names. They generally escaped the notice of the bryologists and in fact this treatment was "discovered" for bryology quite late, just during completing the fifth volume of the *Index Muscorum* (Wijk *et al*., 1969). Many of these new names have been included in the *Appendix* to this opus, but the perusal of Chevallier's Flora revealed that some names have been omitted and/or misinterpreted.

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7. "Le caractère tiré de la présence ou de l'absence des cotylédons, nous obligerait à séparer les champignons et les algues des autres familles [de cryptogames]".
8. Note that for Hedwig *Riccia, Blasia* and *Anthoceros* belong to Algae. But Hedwig (1784) remarked that *Anthoceros* is quite near the *Musci hepatici*. Hedwig took into consideration the works of A.V. Haller and S. Vaillant.
9. In 1836, Mérat retained the two groups of de Candolle (1805): *Lichenoid hepatics* (Homallophyllae Willd.), *Muscoid hepatics* (Jungermanniae).

LIST OF NEW NAMES AND COMBINATIONS FOR BRYOPHYTES

The following list presents all new names for hepatics and mosses published by Chevallier (1827) in his *Flore générale*. Moss names printed in bold type are not recorded in the *Index muscorum* (Wijk *et al.*, 1969). In addition, some annotations are added, if necessary. Unfortunately, the true identities of new species and infraspecific taxa described by this author must remain unknown because the relevant type materials have not been located. Only one of his varieties, *Grimmia apocarpa* Hedw. var. *saxatilis* Chevall., may be lectotypified by the specimen of Dillenius, which is preserved in his herbarium in Oxford (OXF) because Chevallier (1827) referred to figure 4 on plate 32 in *Historia muscorum* (Dillenius, 1741). This material, corresponding to this illustration, was determined as *Schistidium apocarpum* (Hedw.) Bruch & Schimp. (Lindberg, 1883; De Sloover, 1996), but considering revolutionary changes proposed in the *S. apocarpum* complex by Blom (1996) this material certainly needs reconsideration. Also, *Jungermannia ceratophylla* is here synonymized with *Pellia endiviifolia* (Dicks.) Dumort., on the basis of the illustration (Váňa, personal communication).

Hepaticae

Jungermannia ceratophylla Chevall., *Fl. Gén. Env. Paris* **2**: 12. *t. 15. f. 1*. 1827 — **Type**: [France, environs de Paris]. (Fig. 2. 1). **[1]**

Jungermannia polyanthos L. var. *aquatica* 'Hook.' *in* Chevall., *Fl. Gén. Env. Paris* **2**: 20. 1827. **[2].**

Mosses

Bryum bulbiferum Chevall., *Fl. Gén. Env. Paris* **2**: 75. *t. 18 f. 9*. 1827, *nom. illeg. incl. spec. prior.* (*B. annotinum* Hedw., 1801). (Fig. 5. 9).

Dicranum pulvinatum (Hedw.) Lag., D. García & Clemente var. *muticum* Chevall., *Fl. Gén. Env. Paris* **2**: 41. 1827. – **Type**: [France, environs of Paris].

Grimmia apocarpa Hedw. var. *saxatilis* Chevall., *Fl. Gén. Env. Paris* **2**: 47. 1827. – **Type**: Dillenius *t.* 32, *fig. 4* and [France] ... aux buttes de Sèvres.

Gymnostomum ovatum Hedw. var. *longicapsulum* Chevall., *Fl. Gén. Env. Paris* **2**: 34. *t. 16. f. 3*. 1827. ['longicapsula'] – **Type**: [France, environs of Paris] On la trouve sur le fin terreau, dans les mêmes localités. (Fig. 3. 3).

Hedwigia P. Beauv. sect. ***Anictangium*** (Hedw.) Chevall., *Fl. Gén. Env. Paris* **2**: 36. 1827 ['Anyct-']. **[3]**

Hedwigia ciliata (Hedw.) P. Beauv. var. ***secunda*** Lam. & DC. *ex* Chevall., *Fl. Gén. Env. Paris* **2**: 36. 1827. – **Type**: [France] ... la variété γ, que M. Chaillet m'a envoyée du Jura... and [France, environs of Paris] La variété se trouve dans les mêmes lieux. **[4]**

Hypnum crista-castrensis Hedw. var. *elongatum* Chevall., *Fl. Gén. Env. Paris* **2**: 84. 1827. – **Type**: [France] Nous l'avons trouvée à Meudon.

Hypnum cupressiforme Hedw. var. *albescens* Chevall., *Fl. Gén. Env. Paris* **2**: 86. 1827. – **Type**: [France] ... on la trouve à Bondy.

Hypnum cupressiforme Hedw. var. *extenuatum* Hoffm. *ex* Chevall., *Fl. Gén. Env. Paris* **2**: 86. 1827. (*H. extenuatum* Hoffm., 1796, *nom. illeg.*).

Hypnum cuspidatum Hedw. var. ***flexile*** Chevall., *Fl. Gén. Env. Paris* **2**: 81. 1827. (*H. flexile* Brid., 1812, *hom. illeg.*). **[5]**

Hypnum piliferum Chevall., *Fl. Gén. Env. Paris* **2**: 81. 1827, *nom. illeg.* and *nom. incl. spec. prior.* (*H. lamarckii* Lam. & DC., 1805).

Hypnum stramineum Brid var. ***trifarium*** (F. Weber & D. Mohr) Chevall., *Fl. Gén. Env. Paris* **2**: 82. 1827. (*H. trifarium* F. Weber & D. Mohr, 1804). **[6]**

Neckera Hedw. sect. ***Pilotrichum*** (P. Beauv.) Chevall., *Fl. Gén. Env. Paris* **2**: 71 (*Pilotrichum* P. Beauv., *gen. prop*., 1804) **[3]**

Phascum axillare Dicks. *ex* Sm. var. *erectum* Chevall., *Fl. Gén. Env. Paris* **2**: 30. 1827, *nom. illeg. incl. var. prior*. (*Ph. axillare* var. *nitidum* (Hedw.) DC., 1815).

Phascum patulum Chevall., *Fl. Gén. Env. Paris* **2**: 28. 1827, *nom. illeg. incl. spec. prior.* (*Ph. dubium* Bach. Pyl., 1813).

Phascum serratum Hedw. var. ***confervoides*** (Brid.) Chevall., *Fl. Gén. Env. Paris* **2**: 30. 1827. (*Ph. confervoides* Brid., 1802).

Polytrichum urnigerum Hedw. var. *fasciculatum* (Michx.) Chevall., *Fl. Gén. Env. Paris* **2**: 58. 1827. (*P. fasciculatum* Michx., 1803).

Sphagnum obtusifolium Chevall., *Fl. Gén. Env. Paris* **2**: 32. *t. 16 f. 2*. 1827, *hom. illeg.* and *nom. illeg. incl. spec. prior.* (*S. compactum* DC., 1805).

Tortula Hedw. sect. *Streblotrichum* (P. Beauv.) Chevall., *Fl. Gén. Env. Paris* **2**: 51. (*Streblotrichum* P. Beauv., *gen. prop.,* 1804). **[3]**

Tortula cuspidata (Schultz) Chevall., *Fl. Gén. Env. Paris* **2**: 54. *t. 17. f. 6*. 1827. (*Barbula cuspidata* Schultz, 1819). (Fig. 4. 6). **[5]**.

Tortula cuspidata (Schultz) Chevall. var. *elongata* Chevall., *Fl. Gén. Env. Paris* **2**: 54. 1827. – **Type**: [France, environs of Paris].

Tortula fallax (Hedw.) Schrad. *ex* Turner var. *brevifolia* Chevall., *Fl. Gén. Env. Paris* **2**: 53. 1827. – **Type**: [France, environs of Paris].

Tortula fallax (Hedw.) Schrad. *ex* Turner var. *stricta* (Schultz) Chevall., *Fl. Gén. Env. Paris* **2**: 53. 1827. (*Barbula fallax*, 1823).

Tortula hornschuchiana (Schultz) Chevall., *Fl. Gén. Env. Paris* **2**: 51. 1827. (*Barbula hornschuchiana* Schultz, 1822). **[8]**

Tortula muralis Hedw. var. *rupestris* Chevall., *Fl. Gén. Env. Paris* **2**: 55. 1827. – **Type**: [France, environs of Paris].

Trichostomum sect. ***Stenotrichum*** Chevall., *Fl. Gén. Env. Paris* **2**: 44. 1827. – **Lectotype** (*fide* Bednarek-Ochyra, 1995): *Trichostomum aciculare* (Hedw.) P. Beauv. **[9]**

ANNOTATIONS

[1] This species is very obscure and it has not been treated in any European hepatic Flora. On the basis of the illustration (see Fig. 2.1) which is here selected as a lectotype, *Jungermannia ceratophylla* is considered to be conspecific with *Pellia endiviifolia* (Dicks.) Dumort.

Pellia endiviifolia (Dicks.) Dumort., *Recueil Observ. Jungerm*.: 27. 1835.

Jungermannia ceratophylla Chevall., *Fl. Gén. Env. Paris* **2**: 12. *t. 15*, *f. 1*. 1827. — **Type**: France, environs de Paris [**Lectotype** (selected here): fig. 1 on pl. 15 *in* Chevallier (1827)], ***syn. nov.***

[2] R. Grolle (personal communications) has drawn our attention to the fact that according to the *Index Hepaticarum* (Geissler & Bischler, 1987: p.135) the valid, but illegitimate, older *Jungermannia polyanthos* var. *aquatica* Hook. *ex* Mougeot & Nestler 1815 exists which is based on the same type. Hence, the name published by Chevallier (1827) is not new but is a typical isonym, i.e. a name based on the same type which has been published independently at different times by different authors (cf. Greuter *et al*., 2000: p. 6 – Art. 6, Note 1 and associated examples). The same is also true for *Weissia lanceolata* and *Polytrichum pumilum* to which Chevallier (1827) added his authorship. Actually both names are isonyms and their correct authorships are '(Hedw.) D. Mohr' and 'Sw. *ex* Hedw.', respectively. Chevallier proposed many infraspecific taxa but he did not clearly desig-

nated their rank. They are all interpreted here as varieties because in a note accompanying *Grimmia apocarpa* α *G. saxatilis* Chevallier (1827: 47) clearly stated that this taxon is a variety ['La variété se distingue par ...'].

[3] Chevallier (1827) proposed several infrageneric taxa in some genera, for instance *Neckera* and *Tortula*. Wijk *et al.* (1969) adopted for them subgeneric rank, although they noted that the rank of the subdivision is not clearly stated in the original publication and the subgeneric rank seemed for them to be the most probable. However, in a note accompanying the subdivision *Stenotrichum* within *Trichostomum,* Chevallier (1827: 43) clearly indicated this taxon to be a section ["... surtout ceux de la première *section* (our italics), auxquels nous donnons, pour la distinguer, le nom de *Stenotrichum*"]. Therefore in all cases we interpret these subdivisions as sections.

[4] Chevallier provided the name of the taxon recognized by Lamarck and de Candolle (1805) as var. [α] within *Gymnostomum ciliatum* (Hedw.) Lag., D. García & Clemente. The discovery of this combination has some nomenclatural consequences. Bruch *et al.* (1846) also recognized var. *secunda* Bruch & Schimp. and this name now must be considered as a later homonym.

[5] This combination has so far been ascribed to Dozy and Molkenboer (1851) and Chevallier's name evidently has priority.

[6] This combination has hitherto been attributed to Dalla Torre (1891).

[7] This new combination automatically makes *Tortula cuspidata* Hook. f. & Wilson from Australia and Tasmania a later homonym.

[8] So far, this combination was ascribed to De Notaris (1838), but Chevallier's name clearly antedates it.

[9] Three species have definitely been included in this section by Chevallier (1827), namely *Trichostomum aciculare* (Hedw.) P. Beauv., *T. patens* (Hedw.) D. Mohr and *T. funale* Schwägr., but none was indicated as its type. Bednarek-Ochyra (1995) selected *T. aciculare* as the lectotype of *Racomitrium* Brid. sect. *Stenotrichum* (Chevall.) Bedn.-Ochyra which is a very distinct and easily recognized species, *R. aciculare* (Hedw.) Brid. It is worth noting this the only taxon proposed by Chevallier (1827) which is accepted in modern bryology.

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l'économie domestique; avec une classification naturelle des Agames et des Cryptogames, basée sur l'organisation de ces végétaux; et accompagnée de dix-huit tableaux iconographiques formant un genera propre à en rendre l'étude plus facile. Paris, Ferra Jeune. Vol. 1: xxiv + 680 p., pls 1-14.; Vol. 2(1): iii + 416 p, pls 15-20; vol. 2(2): iii + 416-980 pp. (cf. Annex for the description of different copies).

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Alphabetical list of species illustrated in the pls 15-18 (here respectively Figs 2-5) of the *Flore générale des environs de Paris* by F.F. Chevallier, with page of reference. Names printed in bold type are currently accepted.

***Andreaea rupestris* Hedw.** — **16** (6), p. 37
***Anthoceros laevis* (L.) Prosk.** — **15** (7), p. 11
Barthramia pomiformis Hedw. = ***Bartramia pomiformis* Hedw.** — **17** (10), p. 65
Bryum bulbiferum Chevall. = ***Pohlia annotina* (Hedw.) Lindb.** — **18** (9), p. 75
***Bryum capillare* Hedw**. — **18** (3), p. 76
***Buxbaumia aphylla* Hedw.** — **16** (15), p. 61
Chara hispida — **15** (15), p. 126
Chara radians — **15** (13), p. 127
Chara scoparia — **15** (14), p. 125
***Climacium dendroides* (Hedw.) F. Weber & D. Mohr** — **18** (6), p. 70
Dicranum pellucidum Hedw. = ***Dichodontium pellucidum* (Hedw.) Schimp. — 18** (5), p. 39-40
***Encalypta vulgaris* Hedw.** — **16** (1), p. 46
***Fontinalis squamosa* Hedw**. — **16** (16), p. 62
***Funaria hygrometrica* Hedw**. – **17** (12), p. 67
Grimmia rivularis Brid. = ***Schistidium rivulare* (Brid.) Podp. — 16** (10), p. 48
Gymnocephalus androgynus (Hedw.) Rich. = ***Aulacomnium androgynum* (Hedw.) Schwägr. — 18** (10), p. 74
Gymnostomum ovatum Hedw. var. *longicapsulum* Chevall. (identity uncertain) — **16** (3), p. 34
Hedwigia aquatica (Hedw.) Brid. = ***Cinclidotus aquaticus* (Hedw.) Bruch & Schimp. — 16** (4), p. 36
Hypnum riparium L. *ex* Hedw. var. *longifolium* (Schultz) Roehl. = ***Leptodictyum riparium* (Hedw.) Warnst. — 16** (17), p. 97
Hypnum myosuroides L. *ex* Brid. = ***Isothecium myosuroides* Brid. — 18** (12), p. 92-93
Jungermannia albicans L. = ***Diplophyllum albicans* (L.) Dumort. — 15** (11), p. 19
Jungermannia blasia DC. = ***Blasia pusilla* L.** — **15** (4), p. 12
Jungermannia ceratophylla Chevall. = ***Pellia endiviifolia* (Dicks.) Dumort. — 15** (1), p. 12
Jungermannia pinguis L. = ***Aneura pinguis* (L.) Dumort. — 15** (10), p. 11
Jungermannia scalaris Schmid. *ex* Schreb. = ***Nardia scalaris* Gray — 15** (12), p. 20
***Leskea polycarpa* Hedw.** — **17** (14), p. 68-69
***Leucodon sciuroides* (Hedw.) Schwägr.** — **16** (7), p. 43
Marchantia hemisphaerica L. = ***Reboulia hemisphaerica* (L.) Raddi — 15** (9), p. 8
Marchantia stellata Scop. = ***Marchantia polymorpha* L. — 15** (8), p. 7
***Meesia longiseta* Hedw.** — **17** (13), p. 67
Mnium rostratum Schrad. = ***Plagiomnium rostratum* (Schrad.) T. J. Kop. — 18** (11), p. 78
Neckera heteromalla Hedw. = ***Cryphaea heteromalla* (Hedw.) D. Mohr — 18** (7), p. 72
Oligotrichum undulatum (Hedw.) Lam. & DC. = ***Atrichum undulatum* (Hedw.) P. Beauv.** — **16** (13), p. 56
***Orthotrichum cupulatum* Hoffm. *ex* Brid.** — **18** (1), p. 64
***Orthotrichum pumilum* Sw.** — **18** (2), p. 63
Phascum pachycarpon Schwägr = ***Ephemerum recurvifolium* (Dicks.) Boulay — 18** (4), p. 31
***Pohlia elongata* Hedw.** — **17** (11), p. 66
Polytrichum pumilum Sw. *ex* Hedw. = ***Pogonatum nanum* (Hedw.) P. Beauv. — 16** (14), p. 57
***Riccia glauca* L.** — **15** (2), p. 4
Riccia natans L. = ***Ricciocarpos natans* (L.) Corda 15** (3), p. 5
***Sphaerocarpos michelii* Bellardi** — **15** (6), p. 6
Sphagnum obtusifolium Chevall. = ***Sphagnum compactum* DC.** — **16** (2), p. 32
***Splachnum ampullaceum* Hedw.** — **16** (9), p. 45
***Targionia hypophylla* L.** —**15** (5), p. 5
***Tetraphis pellucida* Hedw**. — **16** (5), p. 37
Tortula acuminata Brid. = ***Tortula cuneifolia* (Dicks.) Turner — 17** (5), p. 54
Tortula aestiva (Hedw.) P. Beauv. = ***Tortula muralis* Hedw. var. *aestiva* Hedw.** — **17** (2), p. 55
Tortula chloronotos Brid. = ***Crossidium chloronotos* (Brid.) Limpr. — 17** (1), p. 55
Tortula convoluta (Hedw.) P. Gaertn., B. Mey & Scherb. = ***Barbula convoluta* Hedw. — 17** (4), p. 51

Tortula cuspidata (Schultz) Chevall. = ***Barbula unguiculata*** **Hedw. — 17** (6), p. 54

Tortula fallax (Hedw.) Schrad. *ex* Turner = ***Didymodon fallax*** **(Hedw.) R. H. Zander — 17** (3), p. 53

Tortula inclinata (Hedw. f.) F. Weber & D. Mohr = ***Tortella inclinata*** **(Hedw. f.) Limpr.** — **17** (7), p. 53-54

Tortula revoluta (Brid.) Schrad. = ***Pseudocrossidium revolutum*** **(Brid.) R. H. Zander** — **17** (9), p. 51

Tortula unguiculata (Hedw.) A. Roth *ex* P. Beauv. = ***Barbula unguiculata*** **Hedw.** — **17** (8), p. 53

Trichostomum canescens Hedw. = ***Racomitrium canescens*** **(Hedw.) Brid. — 16** (8), p. 44

Webera nutans Hedw. = ***Pohlia nutans*** **(Hedw.) Lindb.** — **18** (8), p. 73

Weissia controversa **Hedw.** — **16** (12), p. 50

Weissia lanceolata (Hedw.) D. Mohr = ***Tortula lanceola*** **R. H. Zander** — **16** (11), p. 49

Fig. 2. Tabl. 15 of Chevallier's *Flore générale des environs de Paris* (1827) — **1.** *Jungermannia ceratophylla* Chevall.: magnitudine naturali; **2.** *Riccia glauca*: magnitudine naturali; a, pars cum receptaculis auctis; b, semina aut sporangia? ad dextrum sporis e substantia emissis; **3.** *Riccia natans*: magnitudine naturali; **4.** *Jungermannia blasia*: magnitudine naturali absque capsules; c, frons cum organo masculo paululum aucta; **5.** *Targionia hypophylla*: magnitudine naturali; d, aucta; **6.** *Sphaerocarpus michelii*: magnitudine naturali; e, acervus ejusdem auctus; f, receptaculum exterius rectum cum interiore effigurato, utrumque valde auctum; **7.** *Anthoceros laevis*: magnitudine naturali; **8.** *Marchantia stellata*: magnitudine naturali; **9.** *Marchantia hemisphaerica*: magnitudine naturali; **10.** *Jungermannia pinguis*: magnitudine naturali; **11.** *Jungermannia albicans*: magnitudine naturali; **12.** *Jungermannia scalaris*: aucta, sed pessima; **13.** *Chara radians* Chevall.: stipes naturalis; g, verticellus nodosus valde auctus; **14.** *Chara scoparia* Chevall.: magnitudine naturali; h, stipes cum striis auctus; **15.** *Chara hispida*: fructus et pulpa sub lente observata.

Fig. 3. Tabl. 16 of Chevallier's *Flore générale des environs de Paris* (1827) — **1.** *Encalypta vulgaris*: magnitudine naturali; a, folium auctum; b, theca amplificata; c, peristomii dentes sub lente, n° 1; **2.** *Sphagnum obtusifolium*: magnitudine naturali; d, folium; et e, theca cum operculo sub lente amplificata; **3.** *Gymnostomum ovatum* α *G. longicapsula*: magnitudine fere naturali; f, folium valde auctum; **4.** *Hedwigia aquatica*: magnitudine naturali; h, theca cum operculi valde aucta; g, folium amplificatum; **5.** *Tetraphis pellucida*: j, theca peristomio amplificata; i, folium valde auctum; **6.** *Andreaea rupestris*: magnitudine naturali; l, theca cum peristomio valde aucta, operculo adhic superimposito; k, folium amplificatum; **7.** *Leucodon sciuroides*: magnitudine naturali; m, folium amplificatum; n, pars peristomii valde aucta; **8.** *Trichostomum canescens*: magnitudine naturali; o, folium auctum; p, peristomii dentes valde amplificati; **9.** *Splachnum ampullaceum*: magnitudine naturali; q, folium auctum; r, peristomii dentes valde amplificati; **10.** *'Grimnia' rivularis*: magnitudine naturali; s, folium amplificatum; t, peristomii dente valde aucti; **11.** *Weissia lanceolata* Chevall.: magnitudine naturali; u, folium auctum; **12.** *Weissia controversa*: magnitudine naturali; v, folium amplificatum; x, peristomii dentes valde aucti; **13.** *Oligotrichum undulatum*: magnitudine naturali; y, folium amplificatum; z, persitomium cum membrane effiguratum, a., calyptra aucta; **14.** *Polytrichum pumilum* Chevall.: b., folium amplificatum; c., theca cum peristomio simulque cum membrana aucta; **15.** *Buxbaumia aphylla*: magnitudine naturali; d., theca peristomio valde aucta; **16.** *Fontinalis squamosa*: magnitudine naturali; e., folium, amplificatum; f., utrumque peristomium valde auctum; **17.** *Hypnum riparium* β *H. longifolium*: magnitudine naturali; g., folium amplificatum.

Fig. 4. Tabl. 17 of Chevallier's *Flore générale des environs de Paris* (1827) — **1**. *Tortula chloronotos*: magnitudine naturali; a, aucta; b, folium valde amplificatum; c, operculum auctum; **2**. *Tortula aestiva*: magnitudine naturali; d, valde aucta; c, folium amplificatum; f, theca, et g, operculum auctum; **3.** *Tortula fallax*: magnitudine naturali; h, caulis valde auctus; i, folium amplificatum; j et k, theca cum operculo valde aucta; **4.** *Tortula convoluta*: magnitudine naturali; l, valde amplificata; m, folium auctum; **5**. *Tortula acuminata*: magnitudine naturali; n, aucta; o, folium valde amplificatum; p, theca pariter aucta; **6.** *Tortula cuspidata*: caulis auctus; q, folium auctum (errore p.); r, theca cum operculo amplificata; **7.** *Tortula inclinata*: caulis valde auctus; s, folium amplificatum; t, theca cum operculo u (error n° 2) aucta; **8.** *Tortula unguiculata*: caulis magnitudine fere naturali; v, folium amplificatum; **9**. *Tortula revoluta*: magnitudine fere naturali; x, folium valde amplificatum; **10**. *Barthramia pomiformis*: magnitudine naturali; y, folium amplificatum; z, dentes utriusque peristomii aucti; **11**. *Pohlia elongata*: magnitudine naturali; a., folium amplificatum; b., annulus cum fimbriis; c., dentes utriusque peristomii valde aucti; **12**. *Funaria hygrometrica*: magnitudine naturali; d., folium amplificatum; e., dentes utriusque peristomii valde aucti; **13.** *Meesia longiseta*: magnitudine naturali; f., folium amplificatum; g., dentes utriusque peristomii, valde aucti; **14.** *Leskea polycarpa*: magnitudine naturali; h., folium amplificatum; i., dentes utriusque peristomii valde amplificati.

Fig. 5. Tabl. 18 of Chevallier's *Flore générale des environs de Paris* (1827) —**1.** *Orthotrichum cupulatum*: magnitudine naturali; a, folium amplificatum; b, theca aucta; c, peristomii dentes valde aucti; d, dens unicus; e, calyptra amplificata; **2.** *Orthotrichum pumilum*: magnitudine naturali; f, theca aucta; g, utrumque peristomium valde amplificatum; h, operculum; i, calyptra aucta; **3.** *Bryum capillare*: magnitudine naturali; k, dentes interni peristomii valde aucti; l, dentes persitomii externi; **4**. *Phascum pachycarpon*: magnitudine naturali; m, valde auctum; n, folium, et, o, calyptra, utrumque nullum amplificatam; **5**. *Dicranum pellucidum*: magnitudine naturali; p, folium amplificatum; q, peristomii dentes valde aucti; **6.** *Climacium dendroides*: magnitudine naturali; r, folium amplificatum; s, dentes utriusque persitomii valde aucti; **7**. *Neckera heteromalla*: magnitudine naturali; t, folium amplificatum; u, dentes utriusque peristomii valde aucti; **8**. *Webera nutans*: magnitudine naturali; v, folium amplificatum; **9**. *Bryum bulbiferum*: magnitudine naturali; x, capitellum bulbosum valde amplificatum; y, folium auctum; **10**. *Gymnocephalus androgynus*: magnitudine naturali; z, folium auctum, et capitellum masculum; **11**. *Mnium rostratum*: magnitudine naturali; a., folium amplificatum; b., dentes utriusque peristomii valde aucti; **12**. *Hypnum myosuroides*: magnitudine naturali; c., folium amplificatum; d., dentes utriusque peristomii valde aucti.

ANNEX

Description and comparison of some copies of the *Flore générale des environs de Paris* and of *Fungorum et Byssorum illustrationes*.

First Edition of the *Flore générale*

Flore générale des environs de Paris, selon la méthode naturelle.// Description de toutes les plantes agames, cryptogames et phanérogames qui y croissent spontanément; leurs propriétés, leur usage dans la médecine, les arts, et l'économie domestique; // avec // une classification naturelle des Agames et des Cryptogames, basée sur l'organisation de ces végétaux // et accompagnée // de dix-huit tableaux iconographiques formant un genera propre à rendre l'étude plus facile.

Par F.F. Chevallier,

docteur en médecine de la Faculté de Paris, professeur de botanique, membre de plusieurs sociétés savantes

Ex rerum cognitione nascitur ordo

A Paris chez Ferra Jeune, Libraire

tome 1 : xxiv + 676 p. + 14 pl. coul. [647-648= corrections et additions; 649-674 = "Index plantarum et iconum tomi primi"; [675]-[676] = "omissions (Hydrogastrum)"]

tome 2: iv (title pages), 1-416, iv (title pages), 417-984 p., pl. 15-18 noir et blanc [949-980 = "Index plantarum et iconum tomi secundi"; [981] "Explication des signes botaniques"; [982]-[983] "corrections du tome II"].

Dedication

D.D. Petr. El. Fouquier equiti leg. Honor. Academiae Gallicae Membro, in Medica Facultate parisiensi professori necnon noscomio charitatis medico, etc. viro artis sagacissimo et dotibus praestantissimo honoris et grati animi pignus.

Foulquier Pierre Eloy (Maissemy près St Quentin [Département de l'Aisne] 6 July 1776 – Paris, 5 October 1850). Doctor in Medicine in 1802, Professor at the Faculté de Médecine in Paris (Chaire de Pathologie médicale since 1821, and Professeur de clinique since 1830); member of the Académie royale de Médecine (27 December 1820) – Eloge by P. Piorry on 8 october 1850 (cf. *Biographie Universelle (Michaud) ancienne et moderne*, Ed. 2, Paris, 1856, t. 14: 513-516).

Illustration

The Plates have the mention : "P. Duménil pinxit et direxit" They were engraved by Vve Plée, Lanvin, Joyeau, or Dien (complete information in Margadant 1968:82). Plates 1-14 (pls 1 & 2 Algae // pls 3-11 Fungi // pls 12-14 Lichens) are clearly published with tome 1 dealing with Agams; and pls 15-18 (Bryophytes (incl. *Chara*)), see Figs 2-5) with the cryptogams described in tome 2.

Quérard (1828) and Raspail (1828) have specified the occurrence of two versions: one with uncolored plates (sold 24 fr.) and the other with colored plates (sold 32 fr.).

Copies

Eight copies of the first edition of *Flore générale des environs de Paris* have been checked: five are housed in the Muséum national d'Histoire Naturelle (Phanérogamie (P), Cryptogamie (PC), Ethnobiogéographie, Cultures, Bibliothèque Centrale du Muséum (PMusBC)), two other belongs to Institut de

France (one kept at the Institut de France and one deposited at the Cité des Sciences et de l'Industrie), and the last one at the Bibliothèque nationale de France. Their descriptions show clearly the occurrence of two sets, one with colored plates and with uncolored plates, and the variants in the volume 2 (division in two tomes between cahier 26 and cahier 27, or between cahier 32 and cahier 33). As we have not discovered a complete original copy with soft cover, we just say that the cut cahier 26/27 corresponds to a logical cut in terms of cut between families, whereas the cut cahier 32/33 allows an equal repartition of the number of pages between the two tomes. The general organization of the second edition supports the cut cahier 26/27.

The **P Mus copy** is complete. On the title page of the first tome, Prof. G.G. Aymonin has written « paru le 5 août 1826 » (published on the 5 August 1826). The tome 2 is divided in two parts, with the title pages inserted between p. 416 and p. 417 (cahier 26/27). This copy belonged to F.V. Mérat: 4+2 FF with handwriting of Mérat are bound with it; moreover, Mérat has indicated on each figure the name of the plant. The plates 15-18 are uncolored. A short paper glued on the last page indicated: 18 pl. and 272 figures

The **PC Mus copy** is incomplete: pp. 649-676 including the index of tome 1 are missing; the plates 1-14 are bound at the end of tome 1. Tome 2 is divided in two parts, bound separately: 1-416; 417-984, (cahier 26/27); the plates 15-18 are bound with the first part. All the plates (1-18) are colored.

The **PMusBC copy** [2259] is complete. The *Flore* is in three volumes; the division of the two parts is between p. 512 and p. 513 (cahier 32/33). The uncolored plates are bound at the end of the third volume. This copy was seen and described by Margadant (1968: 82-83).

p. 83 « I did not see a copy with colored plates of this edition and do not know if the color was partly printed as in ed. 2 if so, it would be a close second for color prints of mosses as far as I know (compare Sommerfelt n. 2) »

The **PMusEthnobiogeography copy** is complete. The *Flore*, newly bound, is in three volume; the division of the two part is done between p. 512 and p. 513 (cahier 32/33). The plates are uncolored. This copy preserves the original soft cover for the first tome; included on inside cover, two ex libris (Lib. Savy and Lib. F. Cahu), the first title page has the mention R. Portères (the last owner of this copy). The plates are included in the first tome: pls 1-5 after p. xxii, pls 6-9 after p. 84; pl. 10 after p. 380, pl. 11 after p. 508, pl. 15-18 after p. 340, the other plates (pls 12-14) are cut and each figure is glued in front of the description of the species.

The **PMusCultures copy** [A II 19] is complete in three volumes. Tome 2 is divided into two parts, bound separately: 1-416; 417-984 (cahier 26/27). The plates are not colored and inserted as follows: pl. 1 in front of the second title page and pl. 2 in front of p. 1 of the first volume (tome 1); pl. 3 in front of the second title page, pl. 4 in front of the p. 1 and pls 5-10 at the end of the volume 2 (tome 2, pars 1); pl. 11 in front of the second title page, pl. 12 in front of p. 417, and pls 13-18 at the end of the volume 3 (tome 2 pars 2).

The **PInstitut copy** [DM 293 A] is complete, in three volumes. The plates 1-14 are bound at the end of the tome 1. The tome 2 is divided in two parts, bound separately: 1-416; 417-984, (cahier 26/27); plates 15-18 are bound with the first part. All the plates (1-18) are colored. This copy belonged to Benjamin Delessert.

The **PInstitut copy** [M901D] kept at the Médiathèque, Cité des sciences et de l'Industrie, is complete in three volumes. The pp. 649-676 (Index and omission) are

bound at the end of the second part of the tome 2. Plates 1-14 are bound at the end of the tome 1. Tome 2 is divided into two parts, bound separately : 1-416; 417-984, (cahier 26/27); plates 15-18 are bound with the first part. All the plates (1-18) are colored.

The **PBibliothèque nationale de France copy** is incomplete. Pp. 647-676 of tome 1 are lacking. Tome 2 is divided into two volume 1-416; 417-984 (cahier 26/27). The plates, all uncolored: 1-14 bound with tome 1, and 15-18 with part 1 of the tome 2.

Second Edition of the *Flore générale*

Flore générale des environs de Paris selon la méthode naturelle. // Description de toute les plantes agames, cryptogames et phanérogames qui y croissent spontanément leurs propriétés, leurs usages dans la médecine, les arts et l'économie domestique ; // avec // une classification naturelle des Agames et des Cryptogames, basée sur l'organisation de ces végétaux // et accompagnée // de vingt tableaux iconographiques formant un genera propre à en rendre l'étude plus facile

par F.F. Chevallier

docteur en médecine de la Faculté de Paris, professeur de botanique, membre de plusieurs sociétés savantes

Ex rerum cognitione nascitur ordo

Seconde édition, corrigée et augmentée

Paris, Ferra, Libraire-éditeur

1836, tome I: xxiv + 683 p., pl. 1-14 (legends of the plates on V° in front of each one); 1836, tome II – 1st part: 1-416 p., pl. 15-20 (legends of the plates on V° in front of each one); 1836, tome II –2nd part: 417-984.

Copies

The **PMus BC [310 695] copy** is complete and served as the basis of the description by Margadant (1968, p. 83). All the plates are uncolored.

The **PBibliothèque nationale de France** [8° Z leSenne 11509] copy is identical to the Pmus BC copy.

The **PMus Cryptogamie** [Gen 673] copy does not include the plates, neither pp. 649-683 (i.e. the classification of algae and the index of tome 1) of the first tome nor pp. 881-984 of the second volume. This copy was not bound and has a sheet cover, with a latin title and a German editor:

Lutetiae Flora generalis // sive // descriptio omnium vegetabilium agamorum cryptogamorum et phanerogamorum circa parisios crescentium, secundum methodum naturalem dispositorum

uni cum // agamarum et algarum classificatione nova // tabulisque XX ornata

A. F. Fulg. Chevallier

Academiae parisinesis, D.M., botanices professor, etc.

editio secunda aucta

Parisiis, apud Ferra bibliopolam,

in via Majorum Augustinorum, 25

Friburgi Brisgoviae apud Wagner bibliopolam

Monachii, apud bibliopolam Cotta

This latin title is confirmed by the advice on the fourth page of the cover of "*Fungorum et Byssorum illustrationes*…" (copy of Paris Institut de France (4° M

339F)): "Lutetiae Florae generalis, tabulis coloratis, 3 vol. In-8°, Paris, Ferra" is announced as "auctoris opera":

Fungorum et Byssorum illustrationes

Fungorum et Byssorum illustrationes
quos ut plurimum novos, trecentos et ultra cum caeteris minus bene cognitis, in diversis Europae regionibus collegit, ad vivum delineavit, sculpsit et coloribus naturalibus decoravit F. Fulg. Chevallier (Academiae parisiensis Doct. Med. Botanices professore)
Tomus I
Lipsiae apud bibliopolam Fr. Fleischer
Strasburgi et Parisiis apud Treuttel et Wurtz bibliopolas
Parisiis apud Baillière bibliopolam
1837
Frontispiece, colored and entitled:
Operis flos planta singularis aphylla absque fibrillis radicalibus // Epigonium gmelii // Egoprimus in Alsatiae inveni et secundus post Jacquinum delineavi
Frieiburgii Brisgoviae ex typis Wagnerianius.
1—2. Leipzig, Fr. Fleischer, Strasbourg et Paris, Treuttel et Würtz and Paris, Baillière. Vol. 1: Frontispiece, xii + 112 pp. (in fact not paginated), 52 pls; 31 pls (Vol. 2).
The text is not paginated; there are 53 color plates: the frontispiece illustrating *Epipogium gmelinii* and 52 plates illustrating Byssi and Fungi. On the original cover of the **PInstitut** copy [4°M339F] it is printed under the title: "Fasciculus I cum tabulis LII coloratis, 30 francs ou 14 florins". On the last page of this cover two books were announced: Fungorum et byssorum icones selectae ad usum Florae lutetiae generalis studentium, in-8°, Paris, Ferra, and Lichenes icones selectae, in-8°, Paris, Ferra.
Joachim (1929) mentioned the existence of the two fascicles; but we have not found any French library keeping the second fascicle. Moreover, Maiullari (personal communication) has not found it at Geneva, contrary to the information in Stafleu & Cowan (1976). As the editor is German, this title is not cited in the *Bibliographie de la France,* but it is also not indexed by Krüger (1841). Brunet (1860: 1839) noted that the author, before his death at the end of 1840, did not received his book, of which only two first fascicles were published.