

Type specimens preserved in the Trèmols and Costa herbaria (BC)

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Abstract

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The Trèmols herbarium, preserved at the Botanical Institute of Barcelona, is one of the oldest herbaria in Catalonia, largely made up of European plants collected in 19th century. The digitization of this historical collection, currently in progress, has made possible to locate nomenclatural types of various authors, acquired through exchange. In this article, we indicate two syntypes (for *Fumaria caespitosa* Loscos and *Carex loscosii* Lange), and one isolectotype (*Polygala vayredae* Costa) in Trèmols herbarium. Additionally, we designate the lectotype of *Polygala vayredae* in the Costa herbarium and its isolectotype in the Vayreda herbarium.

Keywords: Botanical Institute of Barcelona, *Carex loscosii*, *Fumaria caespitosa*, *Polygala vayredae*, Trèmols and Costa herbaria, type specimens.

Resumen

Gavioli, L., Ibáñez, N. & Soriano, I. 2016. Especímenes tipo conservados en los herbarios de Trèmols y Costa (BC). *Anales Jard. Bot. Madrid* 73(2): e041.

El herbario Trèmols, conservado en el Instituto Botánico de Barcelona, es uno de los primeros herbarios en Cataluña, compuesto en gran parte por plantas europeas recolectadas durante el siglo XIX. La digitalización de esta colección histórica, actualmente en curso, ha permitido localizar tipos nomenclaturales de diversos autores, adquiridos mediante intercambio. En este artículo, indicamos dos sintipos (para *Fumaria caespitosa* Loscos y *Carex loscosii* Lange) y un isolectotipo (*Polygala vayredae* Costa) en el herbario Trèmols. De manera adicional, designamos el lectotipo de *Polygala vayredae* en el herbario Costa y su isolectotipo en el herbario Vayreda.

Palabras clave: *Carex loscosii*, *Fumaria caespitosa*, herbarios Trèmols y Costa, Instituto Botánico de Barcelona, *Polygala vayredae*, tipos nomenclaturales.

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INTRODUCTION

The Trèmols herbarium, kept at the Botanical Institute of Barcelona, is one of the first herbaria in Catalonia, largely made up of European plants (Gavioli & al., 2013a, 2013b). The current F. Trèmols' collection consists of approximately 9,000 specimen sheets, arranged in 60 volumes, plus four boxes of *Hieracium* spp. and 85 boxes with additional material. A computerized inventory at the genus level for all volumes, the original catalogue of the herbarium, and taxonomical cards are now available. We have also developed a preliminary list on the contents of the 85 extra boxes (Gavioli & al., 2013a, 2013b).

At present, 3,695 specimens of Trèmols herbarium have been computerized, corresponding to 22 full volumes and 4 boxes of *Hieracium*. For the most part, these sheets derive from botanical exchanges (2,480; 67.1%), as a result of Trèmols involvement in botanical societies such as the *Société Botanique de France*, the *Société Helvétique pour l'Échange des Plantes* (from 1870), and the *Sociedad Botánica Barcelonesa* (1872-1878). Only 1,215 sheets were collected by Trèmols (32.9%), most of them in Catalonia (1,063; 87.5%).

The aims of this study are focused on find and designate types in the computerized part of Trèmols herbarium (BC). This search has also lead us to look into other contemporary collections from 19th century, particularly in Costa and Vayreda herbarium (BC).

MATERIAL AND METHODS

We computerized the sheets from Trèmols herbarium with the Herbar program (Pando & al., 1994-2010).

Records include all information available on every sheet, such as taxon name and author, collector, locality, and date. Additionally, we brought up-to-date locality data and nomenclature and, in some cases, identifications were also revised.

During this process, we have detected several putative type specimens among the exchanged materials. In these cases, research also included the protologue of taxa, and information about the process of typification. In some cases, the search for types was expanded to other historical herbaria of Botanical Institute of Barcelona of botanists involved in exchanges with F. Trèmols, for instance, A.C. Costa, and E. Vayreda the author and the collector of the original materials of *Polygala vayredae*.

RESULTS

Among the plant material preserved in the BC-Trèmols, BC-Costa herbaria, we designate below two syntypes and one lectotype. For all taxa, we indicate: name; place of publication and taxon's author; indication of the original locality in the protologue; locality of the type in brackets; a transcription of the original label; the date of gathering, the label's author in cursive (m = manuscript); herbarium number and

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some remarks on the typification process, or on nomenclatural or geographical matters.

Fumaria caespitosa Loscos, Tratado Pl. Aragón: 26 (1876-1877)

Ind. loc.: “Leg. circumcirca *Castelserás* in segetes sicci vel paulo irrigati, speciatim ultra *La Nora* freq. 28 Apr. 1875, Loscos.”

TYPE: [Spain. Teruel. Castelserás, La Nora:] “[20]/SERIES EXSICCATA FLORAE ARAGONENSIS: / CENTURIA PRIMA. / N. 2. *Fumaria* (caespitosa) Loscos mser. / Leg. circumcirca *Castelserás* in segetes sicci vel paulo / irrigati, speciatim ultra *La Nora* freq. 28 Apr. 1875 / Loscos. / *F. Cespitosa* proxima *F. Parviflorae* quatum confusa in Serie Inconfecta / n. 90: ab ea distinguitur floribus omnino purpurascens, petalo su- / periore apice emarginato; inferiore abrupte in lamina suborbiculari su- / perne dilatato. Folia glauco-cinerea laciniis subelliptici subplanis: caules / in solo pingui intricatissimi, caespitosi.”, 28 Apr 1875, *F. Loscos* s.n. (syntype: BC-Trèmols 865594!, fig. 1; former syntypes: BC 97570!, JE 00018039!, SG 2737!).

Remarks.—Lidén (1986: 465) considers this name a taxonomic synonym of *F. vaillantii* Loisel. in *J. Bot.* (Desvaux) 2: 358 (1809).

Carex loscosii Lange, Vidensk. Meddel. Naturhist. Foren. Kjøbenhavn 1877–1878: 223 (1878)

Ind. loc.: “Circa *Castelserás* Aragoniae ad ripas corrugi “la acequia nueva” vocati parcius 19 Jun. c. fl. matur. Loscos!”

TYPE: [Spain. Teruel. Castelserás, La Acequia nueva:] “Herb. Joh. Lange / SERIES EXSICCATA FLORAE ARAGONENSIS: / CENTURIA PRIMA. / N. 92. *Carex* Mairii Coss. var. Serie imp. pag. / 428 lin. 9. / Leg. pr. Castelserás ad ripas corrugi vocati *La Acequia nueva*, sed partius, 19 Jun. 1875 / Loscos. / Spiculis femineis erectis, ovoideis: utriculis patentibus glabris, faciebus / convexis obscure nervosis: foliis asperis: caulibus obscure trigonis, levibus, / apice asperis / *Loscosii* Lge (m. Loscos).”, 19 Jun 1875, *F. Loscos* s.n. (syntype: BC-Trèmols 876826!; former syntypes: BC-Trèmols 876827!, fig. 2; BC-Trèmols 876828!; BC-Trèmols 876829!).

Remarks.—The printed label suggests that F. Loscos determined the plant as *C. mairii* Coss. (Loscos, 1876-1877: 44-45) but with some doubts (he wrote “var.” in the label), so he sent a sample to J.M.C. Lange in 1878 for confirmation (Muñoz Garmendia & González Bueno, 2001). Lange regarded it as a new species, publishing, and dedicating it to Loscos (Lange, 1878). However, Luceño (2008: 189) considers this name a taxonomic synonym of *C. mairii* Coss. & Germ.

Polygala vayredae Costa, Supl. Cat. Pl. Cataluña 10: 91 (1877)

Ind. loc.: “Hab. In collibus Vall del Bach inter Capsech et Baget (Olot) sitis die 23.^a Aprilis hujusce anni

amiciss. Stanislaus Vayreda detexit et mecum benevole communicavit.”

TYPE: [Spain. Catalonia. Olot, Vall del Bach entre Capsech i Baget:] “Herbarium A. C. Costae. / *Polygala* (*Chamaebuxus*?) *Vayredae* / n. sp. Suplem. Fl. Cat. p. / *Amicissimus* Stan. Vayreda Fl. nostra observatori / felicissimo libenter dicavi. / Hab. in collibus ditioris Olot in loco dicto / Vall del Bach inter Capsech et Baget / Legit die 23^o Aprilis anni 1877 c. fl. cl. Vayreda”, 23 Apr 1877, *A.C. Costa* s.n. (m. Costa) (lectotype, here designated: BC-Costa 929697!, fig. 3; isolectotypes: BC-Vayreda 929698!, BC-Trèmols 918953!).

Remarks.—Species endemic to the eastern Pyrenees and only known in a few localities in La Garrotxa district (Sáez & al., 2010: 244). F.X. de Bolòs was the first collector of this plant, and identified it as *Polygala bracteolata* L. (?) *conferatur cum chamaebuxo* (Bolòs, 1927). In April 1877, Vayreda retrieved the plant and sent some specimens to Costa, who described the species as a new taxon in May (Costa, 1877). Later, Vayreda distributed other specimens, apparently of the same collection, through the *Société Helvétique*.

DISCUSSION

The analysis of the 3,695 specimens from the Trèmols Herbarium clearly shows the importance of the materials exchanged by this lay botanist (Gavioli & al., 2013a, 2013b). Thanks to these exchanges, we detected several types in BC-Trèmols and other coetaneous herbaria.

Trèmols did not described any taxa, so it is not surprising that the types detected so far correspond to specimens obtained by exchange: *Fumaria caespitosa* Loscos and *Carex loscosii* Lange belong to “Series Exsiccata Florae Aragonensis” distributed by F. Loscos and *Polygala vayredae* was sent by E. Vayreda. It should be added that in recent floras like *Flora iberica*, *Fumaria caespitosa* and *Carex loscosii* are treated as taxonomic synonyms of other species. On the other hand, the endemic taxon *Polygala vayredae* Costa, dedicated precisely to its collector, is accepted as species. For this taxon, in addition, we have proposed the lectotype conserved in Costa herbarium (the only specimen studied with handwritten label). The computerization of the rest of the herbarium Trèmols should allow us to detect other types, in particular from the exsiccata distributed by Loscos, who described dozens of taxa from Aragon in the second half of the 19th century.

Beyond these type specimens, the great value of this collection is, undoubtedly, the fact that the Trèmols herbarium is one of the first herbaria in Catalonia constituted largely of European plants.

With our work we want to highlight the importance of the Trèmols herbarium, not only as the core foundation of the General herbarium of the IBB, but also as a place for collecting samples of the leading botanists of the second half of 19th century.



Fig. 1. Syntype of *Fumaria caespitosa* Loscos (BC-Trèmols 865594).



Fig. 2. Syntype of *Carex loscosii* Lange (BC-Trèmols 876827).



Fig. 3. Lectotype of *Polygala vayredae* Costa (BC-Costa 929697).

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