

## *Euphrasia* (Scrophulariaceae) – described or distributed by SENNEN

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### Abstract

The taxa published by Sennen in the genus *Euphrasia* (Scrophulariaceae) have been revised critically, lectotypes have been chosen and the actual names have been stated. The other specimens of *Euphrasia* distributed by Sennen in his exsiccata series "Plantes d'Espagne" have been revised and assigned to the species in actual use.

**Key Words:** Scrophulariaceae, *Euphrasia*; taxonomy, types; Sennen; Plantes d'Espagne, Flora Iberica.

### Kurzfassung

Die von Sennen beschriebenen *Euphrasia*-Taxa (Scrophulariaceae) wurden kritisch revidiert und Lectotypen ausgewählt. Auch die anderen von Sennen in der Exsiccata-Serie "Plantes d'Espagne" verteilten Belege wurden den aktuell verwendeten Namen zugeordnet.

### Introduction

In *Euphrasia*, as in many other taxonomically difficult genera, Sennen has described many new taxa. Most of them have been ignored since then (e.g. YEO 1972, 1979), put into synonymy, or combined to a new taxon (ROTHMALER 1935, MALAGARRIGA & BARRAU I ANDREU 1968). Only few have been used for any length of time, combined under another species (e.g. DE BOLÒS & VIGO 1995), misunderstood with use not fitting the type and/or the original description. During preparation of the treatment of the genus for Flora Iberica, all these taxa have been checked critically.

### Material and methods

The Sennen specimens of *Euphrasia* in the herbaria BC, BC-SENNEN, LISE, MA, MACB, MAF, LISE, PO, RNG, W have been checked and reviewed completely, some other collections have been checked partly in connection with earlier investigations, e.g. G, K, SEV, ZT, etc. The abbreviations for the herbaria follow Index Herbariorum (HOLMGREN et al. 1990).

For the selection of lectotypes, only specimens of the exsiccata series with printed labels have been taken into account. Sennen also distributed some more duplicates with handwritten labels, some of them possibly coming from the same collection. Specimens with handwritten labels may also have originated later, when the collections have been

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divided to duplicates in some herbaria (e.g. the RNG series came from BM\*). They have only been considered, if the "Plantes d' Espagne"-number is clearly identified on the label.

\* The BM bought specimens extensively in the 1950s under the Keeper Sir George Taylor. He bought the herbarium of Joseph Héribaud (Jean Baptiste Caumel), a French monk, to find it consisted of a substantial amount of Sennen specimens of which the BM already had a set. They simply added the Pteridophytes and N. African specimens, but the European were checked and, if present, the duplicates were sent on to RNG. The BM specimens when received at RNG were separated in folders and sometimes only by single sheets of paper. RNG was especially careful with them and threw much material away if it was thought that it could have been mixed. However, it is not known what happened when the specimens were first put in the boxes. The BM did not create any further duplicates. However, RNG made duplicates, sending a set (often only a fragment) to SEV. (Communication by S.L. Jury, RNG).

### Results and discussion

Up to now all authors treating *Euphrasia* have struggled with the same basic problems for taxonomy: wide variation of each natural species, overlapping with others; autogamy leading to local abundant variants, looking different and worth distinguishing from a local view; parallel reaction to ecological factors of different species, leading to similar variants; occasionally hybrid populations, etc. (e.g. WETTSTEIN 1896, YEO 1979, VITEK 1998). Sennen, like other botanists of his time, used a very narrow species concept. This, together with a very local view of the genus, led him to describe many new taxa, most of them distributed in his exsiccatae series "Plantes d'Espagne", today found in several herbarium collections (e.g. BC, BM, G, MA, PO, RNG, W, ZT etc.).

The exsiccata series "Plantes d'Espagne" was distributed with printed labels, so all names on the labels are effectively published (Code § 29). A few of the labels, especially in the later years, also bear descriptions. For most of the taxa (but not all!) descriptions have been published in a series of publications in different journals (SENNEN 1908 - 1936, see references).

SENNEN used the terms "proles" (= race) for a very small species closely related to another. However, based on his labels and publications, it is clear that the rank of species was intended by him. The terms "stirps" and "grex" have been used to give a relation to a larger group - these could be taken as equivalent to use of the term "aggregate" today.

For providing a stable taxonomic basis for the future, it was necessary to choose lectotypes for all these names, especially because some collections are a mixture of several species. The lectotypes have been selected in accordance with the protologue from the collections in BC-SENNEN and BC as far as possible. Though not obligatory necessary (Code § 8.1), one typical plant has been marked as lectotype on each lectotype-specimen, only mentioned below, if necessary (e.g. in mixed collections). The isotypes are cited only in as far as they have been checked - there will be more in the cited herbaria as well as others.

Table 1: *Euphrasia* species accepted in the treatment for Flora Iberica (VITEK in prep., see also Vitek 2001)

<i>E. officinalis</i> L.	<i>E. stricta</i> WOLFF ex LEHM.
ssp. <i>rostkoviana</i> (HAYNE) TOWNS.	<i>E. pectinata</i> TEN.
<i>E. hirtella</i> JORDAN ex REUTER	<i>E. willkommii</i> FREYN
<i>E. alpina</i> LAM.	<i>E. nemorosa</i> (PERS.) WALLR.
<i>E. minima</i> JACQ. ex DC.	<i>E. salisburgensis</i> FUNCK ex HOPPE.

There are differences between the published text of the descriptions and that on the printed labels, e.g. the collection date is always omitted in the descriptions. Linguistic differences have been ignored, but other differences have been marked in brackets with annotations "descr." (in descriptione) and "sched." (in schedis) respectively. Validly published names are written in italics, ≡ is used for validly published synonyms based on the same type, = for other synonyms. The approximative publication year of the names published only on the labels has been estimated, based on the year of collection and the "received date" at BM on some of the labels. Many names have been published earlier as nomina nuda when the collections were distributed with the printed labels, but also when using them in other articles (e.g. SENNEN 1926a). These nomina nuda are only mentioned in the following list, if necessary. They can be dated to c. 1-3 years after the collection date.

Some specimens checked during earlier investigations (e.g. VITEK 1985a, b, 1986) have not been labelled as types or bear the determination "E. stricta agg.", not being clear of their exact status at that time.

### Names published by Sennen in his "Plantes d' Espagne"

*Euphrasia abscondita* SENNEN [st. *nana*]<sup>descr.</sup> = *E. stricta*  
Bol. Soc. Ibér. Cienc. Nat. 29: 156 (1930).

Type: Cerdagne, Val d'Eyne, pâturages, vers 2150 m, 01.08.1922 F. Sennen – Plantes d'Espagne no. 4456 [lecto BC 46076, iso MA 113294, RNG].

*Euphrasia anitae* SENNEN gr. *hirtella* = *E. hirtella*  
Plantes d'Espagne no. 5821 (c. 1927), description on the label.

Type: Cerdagne, Llivia et Estavar, prairies, 1250 m, 17.06.1926 F. Sennen – Plantes d'Espagne no. 5821 [lecto W 1927-20265, iso G (2), MAF 57914, RNG].

Note: This collection has slightly larger flowers, and therefore, it has been determined as *E. rostkoviana*, but it is within the variation of *E. hirtella*.

*Euphrasia aranica* SENNEN, nomen = *E. minima*  
Plantes d'Espagne no. 9078 (c. 1935).

Specimen: Val d'Aran, massif du Port de Viella, 1900 m, 06.08.1934 P.V. Estival, F. Sennen – Plantes d'Espagne no. 9078 [BC 89802, BC-SENNEN 832362, MAF 21342, MAF 55436, RNG].

Note: Sennen himself clearly did not accept this name ("*Euphrasia minima* JACQ. in sched. an *E. aranica* SENNEN nov."), and therefore, it is not validly published (Code § 34.1).

*Euphrasia arveti* SENNEN = *E. pectinata*  
 Bol. Soc. Ibér. Cienc. Nat. 29: 125 + 148 (1930); description divided in two parts of the same (continued) publication.

Type: Cerdagne, Vallée de Carol à Porta, 1500 m, 13.08.1916 F. Sennen – Plantes d'Espagne no. 2779 [lecto BC 45984, iso MA 113296, PO 50464, RNG, W 1922-2378].

*Euphrasia asperrima*, mentioned 1930: 122 (nomen nudum), but no specimen found.

*Euphrasia borderi* SENNEN st. *nemorosa*? = *E. salisburgensis* x *stricta* agg.  
 Bol. Soc. Ibér. Cienc. Nat. 29: 160 (1930)

Type: Pyrénées Centrales: Vallée d'Asp, vers 1900 m, Sennen, Arvet-Trouvet, Gautier – Plantes d'Espagne no. 4276 [BC 45967].

Note: The specimen consists of four plants, three are probably *E. salisburgensis* x *stricta*, the fourth could also be a variant of *E. alpina* and is excluded from type.

*Euphrasia broussei* SENNEN, in syn. ad *Odontites broussei* SENNEN  
 Bol. Soc. Ibér. Cienc. Nat. 29: 110 (1930).

*Euphrasia cabreræ*, SENNEN & GONZALO = *E. pectinata*  
 Plantes d'Espagne 5525 (c. 1925/1926), description on the label.

Type: Barcelone, Cabrera, prairies, 1287 m, 14.07.1925 H. Gonzalo – Plantes d'Espagne no. 5525 [lecto BC 45915, iso W 1926-22877].

*Euphrasia cadevallii* SENNEN & GONZALO = *E. alpina*  
 Plantes d'Espagne 5527 (c. 1925/1926), description on the label.

Type: Barcelone, S. Julián de Cabrera, près de la "Font de Cabrera", 1100 m, 14.07.1925 H. Gonzalo – Plantes d'Espagne 5527 [lecto BC-SENNEN 832324, iso BC 46039].

*Euphrasia capcirensis* SENNEN = *E. alpina*  
 Bol. Soc. Arag. Cienc. Nat. 1916: 265 (1916).

Type: France: Le Capcir, France, Le Capcir, [pacages]<sup>sched.</sup> [coteaux herbeux]<sup>descr.</sup> aux Angles, vers 1600 m, 27.07.1915 F. Sennen – Plantes d'Espagne no. 2388 [lecto RNG, iso W 1922-15112].

*Euphrasia carolensis* SENNEN = *E. hirtella*

"*E. hirtella* JORD. proles *E. carolensis* SENNEN"  
 Bol. Soc. Arag. Cienc. Nat. 1916: 268 (1916).

Type: Cerdagne: dans la vallée de Carol, [pelouses]<sup>descr.</sup> vers [1400]<sup>descr.</sup> 1300 m., 13.09.1915 F. Sennen – Plantes d'Espagne 2392 [lecto BC-SENNEN 832349, iso RNG].

Note: A second specimen with the same label in RNG is excluded – this is *E. stricta* (mixed label?).

*Euphrasia catalaunica* SENNEN & PAU, in syn. ad *Odontites catalaunica* SENNEN & PAU  
 Bol. Soc. Ibér. Cienc. Nat. 29 111 (1930).

*Euphrasia cephalata* SENNEN = *E. pectinata*  
 Plantes d'Espagne no. 482 (c. 1923/1924), description on the label.

Type: Barcelone, Manlleu, pâturages de Puigguardial, 17.05.1923 H. Gonzalo – Plantes d'Espagne 482 [lecto W 1926-23346, iso MA 113305, RNG].

Note: The printed number 482 is corrected to "4842" in hand-writing in all specimens.

*Euphrasia cephalata* SENNEN, nom. illeg. = *E. pectinata*

Plantes d'Espagne no. 5519 (c. 1925/1926), description on the label.

Type: Barcelone, Manlleu, pâturages, 470 m, 24.05.1925 H. Gonzalo – Plantes d'Espagne no. 5519 [lecto BC 46171, iso W 1926-22772].

Note: Has to be treated as younger homonym because of different types.

*Euphrasia cephalata* SENNEN, nom. illeg.

Bol. Soc. Ibér. Cienc. Nat. 29: 158 (1930).

Type: Barcelone, Manlleu, pâturages de "Puigguardiol", 500 m, 18.04.1926 H. Gonzalo – Plantes d'Espagne no. 4824 [?].

Note: Has to be treated as younger homonym because of different types. No specimen has been found until today – possibly the specimen no. 482 mentioned above was intended as type (4824 could be a printing error for 4842), but neither the number nor the date coincide.

*Euphrasia cephalata* SENNEN f. *longecuspadata*, nom. nud.

= *E. pectinata*

Plantes d'Espagne 9197 (c. 1935).

Specimen: Barcelone, Manlleu, pâturages de "Puigguardiol", 14.04. et 09.05.1926, H. Gonzalo – Plantes d'Espagne 9197 [BC 80509, MA 113307, MAF 21371, MAF 55433, RNG].

*Euphrasia ceretana* Sennen, in syn. ad *Odontites ceretana*

Bol. Soc. Ibér. Cienc. Nat. 29: 87 (1930).

*Euphrasia ceretana* SENNEN [gr. *salisburgensis* ?]<sup>sched.</sup>

= *E. salisburgensis*

Plantes d'Espagne, no. 5829 (c. 1927/1928), description on the label.

Type: Cerdagne, Val de Llo, bois, 1700-1850 m, 07.08.1926 F. Sennen – Plantes d'Espagne no. 5829 [lecto BC-SENNEN 832327, iso BC 115594, MAF 57915W 1927-20364].

*Euphrasia ceretana* SENNEN

= *E. salisburgensis*

"*E. salisburgensis* FUNCK proles *E. ceretana* SENNEN"

Bol. Soc. Arag. Cienc. Nat. 1916: 269 (1916).

≡ *Euphrasia ceretana* SENNEN, nom. illeg. (superfluous and younger homonym)

Bol. Soc. Ibér. Cienc. Nat. 29: 117 (1930) [non *E. ceretana* SENNEN, 1927/1928, see above].

Type: Cerdagne, vallee de Llo, [bois]<sup>sched.</sup> [sous les pins]<sup>descr.</sup>, vers 1640m, 06.09.1915 F. Sennen – Plantes d'Espagne no. 2393 [lecto BC 45943, iso BC 45943 p.p., RNG]

= *Euphrasia ceretana* Sennen, nom. nud., Plantes d'Espagne no. 2393

Note: *E. ceretana*<sup>descr.</sup> / *ceretana*<sup>sched.</sup>, writing error or different words? SENNEN described *E. ceretana* (1930) based on the same specimen as his *E. ceretana*, using an epithet used before himself.

On the lectotype sheet there is also one plant of *E. stricta* (excluded from type).

*Euphrasia chaberti* SENNEN

= *E. pectinata*

Bol. Soc. Ibér. Cienc. Nat. 29: 153 (1930).

Type: Cerdagne, Cambredase et Gorges de Llo, 1550-1700 m, 08.1916 F. Sennen – Plantes d'Espagne no. 2767 [lecto BC 46025, iso MA 113361, PO 50463, RNG].

Note: In descr. type "Pl. d'Esp. 2707", but given localities "Cerdagne: Gorges de Llo, boulis herbeux, bleut, e. 1550 m; Le Cambredase, paturages, vers 1700 m." agreeing with the label; probably a typing error.

*Euphrasia chodati* SENNEN = *E. hirtella*  
Bol. Soc. Ibér. Cienc. Nat. 29: 154 (1930).

Type: Pyrénées Orientales: Le Capcir, aux Angles, pâturages, vers 1700 m, 26.07.1915 F. Sennen – Plantes d'Espagne no. 4275 [lecto BC 46083, iso G, RNG].

Note: Most of the plants are eglandular dwarf variants of *E. hirtella*, as lectotype a glandular plant has been chosen.

*Euphrasia condensa* SENNEN = *E. stricta*  
Plantes d'Espagne no. , W 1929-10089 (c. 1928/1929), description on the label.

Type: Cerdagne, Serra dels Clots, pâturages alpins, 2450 m, 12.08.1917 Sennen et Elías – Plantes d'Espagne no. 6156 [lecto BC-SENNEN 832328, iso RNG].

Note: This very strongly condensed, hairy alpine variant could have originated from *E. stricta* or *E. pectinata*. With its short capsules, it is put into synonymy under *E. stricta*.

*Euphrasia "confusa?"* SENNEN, nom. inval.

Bol. Soc. Ibér. Cienc. Nat. 29: 114 (1930); description in the text.

Specimen: Barcelone, Plaine de Vich à Sta. Maria de Corcó, vers 900 m – Plantes d'Espagne "1007" – but the locality given on the label of no. 1007 is different (see below under this number). No other specimen found up to now. Other specimens from the same locality have been named *E. dorotheae* on hand written labels (see there).

Note: This name is invalid, because the clear intention is not given (Code § 34.1).

*Euphrasia conilli* SENNEN = *E. hirtella*

Bol. Soc. Ibér. Cienc. Nat. 29: 121 (1930), "E. conillii" in sched.;

Type: Cerdagne, Vallée de Llo, pâturages, à côté du torrent, 1800 m, 07.08.1916 F. Sennen – Plantes d'Espagne no. 2769 [lecto BC 46032; iso PO 50440, RNG, RNG p.p., W 1922-15806].

Note: In a short paragraph following the original description, SENNEN mentions that this [the only and therefore type] collection represents a distinct variant: "ce no. présentent un faciès distinct" .... "var. grandidentata? SENNEN". This cannot be regarded as a distinct name though "dont les plus saillant pris sur les axes consiste dans la dentelure foliaire bien plus large et plus lâche" could be taken as description.

Some plants show somehow larger flowers and more acute leaf teeth, which could be interpreted as the hybrid influence of *E. alpina*, surely existing in the same area - this has led to a determination as "*E. rostkoviana* agg.". But as a whole entity, the population is still within the variation of *E. hirtella*.

One specimen in RNG is a mixture of *E. hirtella* and *E. stricta* (these plants are excluded as types).

*Euphrasia costeana* SENNEN st. *hirtella* = *E. hirtella*

Bol. Soc. Ibér. Cienc. Nat. 29: 119 (1930).

Type: Pyr. orientales, Capcir Matemale, prairies [de la Solane]<sup>descr.</sup>, 1600 m, 10.07.1916 F. Sennen – Plantes d'Espagne no. 2775 [lecto BC 46030, iso LISE 81367, PO 50438, RNG, W 1922-2380].

*Euphrasia costeana* SENNEN var. *ramosa* SENNEN, nom nud. = *E. hirtella*

Plantes d'Espagne no. 3753 (c. 1920/1921)

Specimen: Cerdagne, Sareja, prairies, 1400 m, 09.07.1919 F. Sennen – Plantes d'Espagne no. 3753 [BC 46031, BC-SENNEN 832330, LISE 81542, RNG, W 1922-17092].

*Euphrasia cousturieri* SENNEN = *E. stricta*  
Bol. Soc. Ibér. Cienc. Nat. 29: 148 (1930).

Types: Cerdagne, St. Pierre, pâturages, 1600 m, 02.08.1915 F. Sennen – Plantes d'Espagne 4274 [lecto BC 46081, iso G, RNG]; other syntype: Pyrénées Orientales: Cerdagne et Capcir, les Angles et Dorres, pâturages; 17. et 25.07.1916 F. Sennen – Plantes d'Espagne 2774 [BC 46027, BC 46028, MA 113431 (2 sheets), LISE 81840, PO 50447, RNG p.p., W 1922-15811]

Note: The specimen no. 2774 in W shows some tendency to *E. minima*, some of the plants could be of hybrid origin. The RNG specimen no. 2774 contains also one plant *E. hirtella*.

*Euphrasia crispata* SENNEN = *E. minima*  
Bol. Soc. Ibér. Cienc. Nat. 29: 149 (1930).

Type: Pyr. Orientales, Capcir, les Angles, 1650 m, 25.07.1916 F. Sennen – Plantes d'Espagne no. 2776 [lecto BC 46026, iso MA 113438, PO 50448, RNG, W 1922-15812].

Note: No specimen number is given in the diagnosis, but the second specimen distributed under *E. crispata* is excluded and described as *E. nuriensis* (loc. cit. p. 150).

*Euphrasia curticensis* SENNEN [sub *E. cuprea* in sched.]<sup>descr.</sup> = *E. salisburgensis*  
Bol. Soc. Ibér. Cienc. Nat. 29: 116 (1930).

Type: Castille, Sierra Obarenes, pic Unión, [1200 m]<sup>descr.</sup>, 28.08.1913 H. Elías, F. Sennen – Plantes d'Espagne 2449 [lecto BC 45955].

Note: "*Euphrasia salisburgensis* FUNK proles *cuprea* JORD."<sup>sched.</sup>; "M. le professeur Wilczek rapporte cette forme au *stricta*".

The collection under no. 2449 is mixed; the lectotype sheet in BC contains clear *E. salisburgensis*; the specimens MA 113566, PO 50455 and RNG have been determined as *E. cf. stricta* (probably influenced by *E. salisburgensis*) and are excluded as types.

*Euphrasia duffourii* SENNEN, in syn ad *Odontites duffourii* SENNEN  
Bol. Soc. Ibér. Cienc. Nat. 29: 111 (1930).

*Euphrasia edouardi* SENNEN = *E. hirtella*

Diag. des nouveautés parues dans les Exsiccata Plantes d'Espagne et du Maroc de 1928 a 1935: 51 (1936)

≡ *Euphrasia stricta* WOLFF ex LEHM. subsp. *edouardii* (SENNEN)G. MONTSERRAT, in ASEGINOLAZA IPARRAGIRRE & al. (1984), Araba, Bizkaia eta Gipuzkoa, Landare Katalogoa.

Type: Santander, Las Caldas de Bessaya, 05.06.1927 F. Leroy – Plantes d'Espagne 6945 [lecto BC-SENNEN 832336, left plant in upper row; isotype on same sheet, left plant in lower row, excluding all others (= *E. stricta*), iso G].

= *Euphrasia cebennensis* MART. var. *Eduardi* (SENNEN)ROTHM., nom. inval. (Code § 34.1.a)

Note: The lectotype-sheet contains a mixture of *E. stricta* and *E. hirtella*. Based on the description ("... bracteis pubo-glandulosus ...") one of the *E. hirtella* plants has to be chosen as lectotype. The sheet MAF 21293 contains only *E. stricta*.

The *E. stricta* plants on the type-sheet in BC look a little aberrant in having very broad leaves, the base somehow less cuneate as usual for *E. stricta*. Possibly there could be some introgression with *E. hirtella* - but for acknowledging these plants as putative hybrids the characters are not clear enough. Probably this part of the collection no. 6945

has been named *Euphrasia cantabrica stricta* by SENNEN (loc. cit., p. 51: "Mêlé au précédent, d'où nous l'avons démêlé"). This trinomial is not validly published.

ROTHMALER (1935) proposed the inclusion into *E. cebennensis*, but with the words "Tal vez será mejor designarla como .." [Could be better named as ..] did not really accept this combination himself.

*Euphrasia eliae* SENNEN st. *stricta* = *E. stricta*  
Bol. Soc. Ibér. Cienc. Nat. 29: 161 (1930).

Type: Burgos, Sierra Obarenes, pelouses humides, 850 m, 17.10.1923 H. Elías – Sennen Plantes d'Espagne 5006, sub *E. eliasii* [lecto BC 46086, iso MA 113359, RNG, W 1926-23436].

*Euphrasia eliasii* Sennen = *E. stricta*  
Plantes d'Espagne no. 5597 (c. 1926/1927), description on the label.

Type: Burgos, Sierra Obarenes, pâturages humides, 900 m, 12.10.1925 H. Elías – Plantes d'Espagne no. 5597 [lecto W 1926-22785, iso MA 113358, MA 471122].

*Euphrasia fochii* SENNEN [st. *alpina*]<sup>descr.</sup> = *E. alpina*  
Bol. Soc. Ibér. Cienc. Nat. 29: 118 (1930).

Type: Cerdagne, Targasonne, [éboulis granitiques]<sup>sched.</sup> [sables granitiques à l'arbrü d'énormes blocs]<sup>descr.</sup>, vers 1600 m, 22 et 27.08.1917 F. Sennen – Plantes d'Espagne no. 3132 [lecto BC 46022, iso LISE 81696, RNG, W 1922-15159].

*Euphrasia fusca* SENNEN = *E. stricta*  
Plantes d'Espagne 6162 (c. 1928), description on the label.

Type: Cerdagne, Gorges de Llo, pâturages escarpés, 1450 m, 11.08.1927 F. Sennen – Plantes d'Espagne 6162 [lecto BC-SENNEN 832342, iso G, RNG].

*Euphrasia gandogeriana* SENNEN = *E. pectinata*  
Bol. Soc. Ibér. Cienc. Nat. 29: 148 (1930).

Type: Cerdagne, vallée de Lanoux, pâturages [à coté du lac]<sup>descr.</sup>, vers 2000 m, 14.08.1916 F. Sennen – Plantes d'Espagne no 2771 [lecto BC 46021, iso MA 113434, W 1922-15808].

*Euphrasia gautieri* SENNEN = *E. alpina*  
"E. alpina LAMK. proles E. Gautieri SEN."

Bol. Soc. Arag. Cienc. Nat. 1916: 266 (1916).

Type: France, Cerdagne, [pelouses]<sup>descr.</sup> à St. Pierre, [pâturages]<sup>sched.</sup> vers [1600]<sup>descr.</sup> 1650 m, 04.08.1915 F. Sennen – Plantes d'Espagne no. 2389 [lecto RNG, iso W 1922-15100].

*Euphrasia geminata* Sennen see *E. nemorosa* var. *geminata* SENNEN

*Euphrasia glabratifolia* SENNEN sub *E. salisburgensis* in sched. = *E. salisburgensis*  
Bol. Soc. Ibér. Cienc. Nat. 29: 115 (1930).

Type: Catalogne, Pyrénées [catalanes, Gérone]<sup>descr.</sup>, montagne de Surroca au Puig de Tagne [Tague]<sup>descr.</sup>, 1900 m, 28.08.1913 F. Sennen – Plantes d'Espagne no. 1751 [lecto BC-SENNEN 832399, iso BC 45966, MA 113586, MA 177163, PO 50454, RNG].

*Euphrasia gonzali* SENNEN = *E. pectinata*  
in errore ? pro *E. gonzaloi* in Plantes d'Espagne no. 5521 and 9195.

Specimens: Barcelone, Manlleu, lieux herboux, 450 m, 24, 25. et 28.05., 05.06.1925 H.

Gonzalo – Plantes d'Espagne no. 5521 [W 1926-22791]; Barcelone, Manlleu, pâturages de Puigguardiol, 09.05.1926 H. Gonzalo – Plantes d'Espagne no. 9195 [MA 113288, MAF 21375, MAF 55434, RNG, W 1935-5209].

*Euphrasia gonzaloi* SENNEN = *E. pectinata*

Plantes d'Espagne no. 4843 (c. 1924/1925), description on the label.

Type: Barcelone, Manlleu, lieux herbeux, 31.05.1923 H. Gonzalo – Plantes d'Espagne no. 4843 [lecto W 1926-23345, iso MA 113285, PO 52124].

Note: The description "remarquable par ses belles feuilles peu caduques et ses fleurs" is more or less without information, but existing - therefore, this name cannot be treated as a nomen nudum. See also *E. gundisalvi*.

var. *grandidentata* SENNEN see *Euphrasia conilli*.

*Euphrasia gundisalvi* SENNEN, in syn. ad. *Odontites catalaunica gundisalvi* SENNEN

Bol. Soc. Ibér. Cienc. Nat. 29: 111 (1930).

*Euphrasia gundisalvi* SENNEN st. *alpina*, nom illeg. = *E. pectinata*

Bol. Soc. Ibér. Cienc. Nat. 29: 159 (1930); descr. lat.

Syntypes: Barcelone, Manlleu, lieux herbeux [à Can Puntí, 420 m]<sup>descr.</sup>, 31.05.1923 H. Gonzalo – Plantes d'Espagne no. 4843 sub *E. gonzaloi* [lecto W 1926-23345, iso MA 113285, PO 52124 – at the same time type for *E. gonzaloi*]; Barcelone, Manlleu, pâturages, Can Puntí, [420 m]<sup>descr.</sup>, 24.05.1921 H. Gonzalo – Plantes d'Espagne no. 4207 sub *E. gonzaloi* [RNG, MA 113284, W 1922-16727].

Note: Both syntypes carry the name *E. gonzaloi* on the label, this name being valid (see there), choosing the same specimen as lectotype for *E. gonzaloi* and *E. gundisalvi* the latter is superfluous and, therefore, illegitimate.

*Euphrasia gustavei* SENNEN du gr. *minima* = *E. minima*

Bol. Soc. Ibér. Cienc. Nat. 29: 153 (1930) [in this place as "*E. gundisalvi*" in error, cf. SENNEN, Bol. Soc. Ibér. Cienc. Nat. 30: 50 (1931)].

Type: Cantal (France), sommet du Plomb, [en Auvergne, vers 1700 m]<sup>descr.</sup>, 04.08.1913 F. Victor, F. Sennen – Plantes d'Espagne np. 4267 [lecto BC 46204, iso G, MA 113417, RNG].

*Euphrasia heterocalyx* SENNEN, in syn. ad *Odontites heterocalyx* SENNEN

Bol. Soc. Ibér. Cienc. Nat. 29: 111 (1930).

*Euphrasia hispidula* (FAVRAT) SENNEN f. *major* SENNEN, nom. nud. = *E. stricta*

Specimen: Cerdagne, Val d'Err, pâturages, vers 1600 m, 11.08.1927 Sennen et Elías – Plantes d'Espagne no. 6158 [BC-SENNEN 832347, G, MA 113419, MA 476744, RNG, W 1929-10090].

Note: The combination is clearly the intention of the author ("*FAVRAT pro var.*") and also the Basionym can easily be identified: *Euphrasia minima* var. *hispidula* FAVRAT ex GREMLI, Neue Beitr. 4: 26 (1887). Therefore, this combination is validly published. At same time SENNEN creates a new nomen nudum "forma major".

*Euphrasia hydrophilis* SENNEN, in syn. ad *Odontites hydrophilis* SENNEN

Bol. Soc. Ibér. Cienc. Nat. 29: 88 (1930).

*Euphrasia imbricata* SENNEN = *E. pectinata*  
 "Euphrasia pectinata TEN. proles *E. imbricata* SENNEN" in descr.

Bol. Soc. Arag. Cienc. Nat. 1916: 271 (1916).

Type: France, Cerdagne, Estavar, [pâturages]<sup>sched.</sup> [pelouses des gorges de l'Angost]<sup>descr.</sup>, vers 1250 m, 04.09.1915 F. Sennen – Plantes d'Espagne no. 2395 [lecto MA 113289, iso RNG].

*Euphrasia imbricata* (Lap.)Pers. var. *setulosa* SENNEN, nom. nud. = *E. pectinata*  
 Plantes d'Espagne no. 9194 (c. 1935).

Specimen: Barcelone, Manlleu, pâturages près "Fugurull", 27.04.1926 H. Gonzalo – Plantes d'Espagne no. 9194 [BC 80516, BC-SENNEN 832355, MA 113290, MAF 21374, MAF 55435, RNG, W 1935-5208].

Note: "*E. imbricata* (Lap.)Pers." is wrongly cited in WILLKOMM & LANGE (1870) as a synonym to *E. parviflora* FRIES var. *imbricata* (correct *E. minima* var. *imbricata* PERS.).

*Euphrasia immacolatae-concepcionis* SENNEN & GONZALO = *E. pectinata*  
 Plantes d'Espagne no. 5523 (c. 1925/1926), description on the label.

Type: Barcelone, Manlleu, pâturages, 450 m, 20.06.1925 H. Gonzalo – Plantes d'Espagne no. 5523 [lecto BC 46041, iso W 1926-22879].

*Euphrasia jordaniana* SENNEN = *E. minor* JORD. non LINK = *E. minima*  
 Plantes d'Espagne no. 4273 (c. 1920-1922), in sched.

Note: Sennen created a nomen novum. As Basionym - if supposed, that it was at the same rank - has to be taken *E. minor* JORD. ex PERARD, Bull. Soc. Bot. Fr. 16: 329 (1871), descr. in clave; non *E. minor* LINK, Handb. 1: 514 (1829), non *E. minima* var. *minor* JORD. in GREN., Fl. Jur. 5790 (1865).

The original description of *E. minor* puts it close to *E. minima*, the differences being "feuilles très-petites à dents toutes obtuses, tige filiforme". This would also allow to relate this taxon to *E. hirtella*. But in an earlier part of the key, there is the character ".. feuilles .. non glanduleuses ..". Therefore, the name has to be put into synonymy of *E. minima*.

The specimen itself: Cerdagne, Le Cambredase, bois, 1650 m, 04.08.1915 F. Sennen – Plantes d'Espagne no. 4273 consists only of weak plants and has been determined as *E. cf. pectinata* [BC 46087, BC-SENNEN 832357, RNG] and *E. cf. minima* [G, MA] respectively.

*Euphrasia latibracteata* SENNEN gr. *hirtella* = *E. hirtella*  
 Plantes d'Espagne no. 5823 (c. 1927/1928), description on the label.

Type: Cerdagne, Llivia, prairies, 1250 m, 14.07.1926 F. Sennen – Plantes d'Espagne no. 5823 [lecto BC-SENNEN 832358, iso BC 45909, G (2), RNG].

Note: Earlier (c. 1919/1920) as nomen nudum.

Specimens: Cerdagne, Sareja, 1230 m, 06.08.1918 F. Sennen – Plantes d'Espagne, no. 3503 [BC 46074, LISE 81835, PO 50442, RNG, W 1922/16004]; – Cerdagne, Sareja, prairies, vers 1230 m, 18.07.1918 F. Sennen – Plantes d'Espagne no. 4208 [BC 45910, G, PO 50441, RNG, W 1922-16726].

*Euphrasia leptocheilos* SENNEN, in syn ad *Odontites leptocheilos* SENNEN  
 Bol. Soc. Ibér. Cienc. Nat. 29: 110 (1930).

*Euphrasia llenasi* SENNEN du gr. *E. minima* = *Euphrasia stricta*  
Bol. Soc. Ibér. Cienc. Nat. 29: 155 (1930).

Type: Pyrénées catalanes, Val d'Aran, 07.1911 M. Llenas – Plantes d'Espagne 4270 [lecto BC 46205, iso RNG].

Note: The specimens contain glabrous and hairy plants, one of the glabrous has been chosen as the lectotype. The specimen in G has been interpreted as *E. minima* in 1981, it needs a second inspection before being included or excluded.

*Euphrasia luciae* SENNEN = *E. alpina* × *stricta* agg.  
Bol. Soc. Ibér. Cienc. Nat. 29: 115 (1930).

Type: Barcelone, Sta. Lucía, autour du sanctuaire, [900 m]<sup>descr.</sup>, 09.1921 H. Gonzalo – Plantes d'Espagne, no. 4844 [lecto BC-SENNEN 832360, iso MA 113561, RNG, W 1926-23344].

Note: The collection contains a population intermediate between *E. alpina* and *E. stricta* agg., the single plants turning more or less to the one or other. The plant selected as lectotype is a clear hybrid with the leaf form of *E. alpina*, the flower size and the indumentum of *E. stricta* agg. (*E. stricta* vel *E. pectinata*).

The specimen in G has been determined as *E. cf. stricta* in 1981 and needs reinspection.

*Euphrasia mariani* Font Quer & Sennen, nom. nud. = *E. alpina*  
Plantes d'Espagne 8229 (c. 1933).

= *Euphrasia alpina* var. *mariani* (SENNEN)ROTHM., Cavanillesia 7: 23 (1935).

Specimen: Alava, Sierra de Bobeda, 1250 m, 07.1932 M. Losa – Plantes d'Espagne 8229 [BC 76258, MAF 21340, MAF 57917, RNG, W 1933-5593].

Note: The name *Euphrasia mariani* in Plantes d'Espagne is a nomen nudum. The combination created by ROTHMALER is published too late to be accepted without a Latin diagnosis, so this is also a nomen nudum.

*Euphrasia* "memorosa JORD." var. *multiaculeata* SENNEN see *E. nemorosa*

*Euphrasia nana* (ROUY)SENNEN ["*E. nana* ROUY pro var. *minima*"<sup>sched.</sup>] = *E. minima*  
Bol. Soc. Ibér. Cienc. Nat. 29: 156 (1930)

≡ *Euphrasia minima* var. *nana* ROUY, Flore de France 11: 155 (1909).

Specimen: Cerdagne, vallée de Planés, pâturages, 2300 m, 04.08.1916 F. Sennen – Plantes d'Espagne 2764 [BC 46010, BC-SENNEN 832367, RNG].

Note: On the RNG specimen there is a second handwritten label (*E. pallida* ROUY, Catalogne, Pyrénées Nuria, 04.08.1913 F. Sennen), obviously the two collections have been mixed.

*Euphrasia navasi* SENNEN st. *gracilis*. = *E. nemorosa*  
sub *E. nemorosa* MARTIUS in sched.

Bol. Soc. Ibér. Cienc. Nat. 29: 159 (1930).

Type: Catalogne, S. Feliu de Pallarols près Ntra. Sra. de la Salut, [pâturages]<sup>sched.</sup> vers 1000 m, 07.09.1914 F. Sennen – Plantes d'Espagne no. 2015 [lecto BC-SENNEN 832369 (sheet 1), isotypes BC-SENNEN 832369 (sheets 2 and 3), BC 45921 (2 sheets), MA 113456, MA 113457, RNG, W 1922-15524].

*Euphrasia nemorosa* ("memorosa Jord."<sup>sched.</sup>) var. *multiaculeata* SENNEN = *E. pectinata*  
Bol. Soc. Ibér. Cienc. Nat. 29: 125 (1930).

Type: Cerdagne, Alp La Molina, prairies, vers 1450 m, 30.07.1920 F. Sennen – Plantes

d'Espagne 4004 (sub *Euphrasia cousturieri* SENNEN) [lecto BC 46080, iso G, LISE 81827, MA 113314, RNG, W 1922-16623].

Note: "E. memorosa Jord." does not exist, and is probably a printing error for *E. nemorosa*; the description of the variety "mais un indument plus hérissé" is poor, but existing, and therefore, this name has to be treated as validly published. The plants are more or less intermediate between *E. pectinata* and *E. stricta*. As lectotype a plant closer to *E. pectinata* has been chosen.

*Euphrasia nervata* SENNEN = *E. stricta*

Bol. Soc. Arag. Cienc. Nat. 1916: 267 (1916).

Type: Cerdagne: Les Escaldes, [pâturages]<sup>descr.</sup> [pacages]<sup>sched.</sup> vers 1400 m, 14.07.1915 F. Sennen – Plantes d'Espagne 2391 [lecto BC 46009, iso LISE 81237, MA 113316 (2 sheets) MACB, G, RNG, W 1922-15102].

*Euphrasia nigra* SENNEN = *E. nemorosa*

Bol. Soc. Ibér. Cienc. Nat. 29: 151 (1930).

Type: Cerdagne, Targasonne, pâturages, 1800 m, 14.09.1917 F. Sennen – Plantes d'Espagne no. 3134 [lecto BC-SENNEN 832373, iso BC 46008, MA 113412, W 1922-15161].

*Euphrasia nuriensis* SENNEN = *E. stricta*

Bol. Soc. Ibér. Cienc. Nat. 29: 150 (1930).

Type: Pyrénées de Catalogne, Nuria, rochers granitiques, 1900 m, 13.08.1919 F. Sennen – Plantes d'Espagne no. 3759 (sub *E. crispata*) [lecto BC 46082, iso LISE 81543, MA 113439, W 1922-17086].

*Euphrasia papyracea* SENNEN = *E. stricta*

Bol. Soc. Arag. Cienc. Nat. 1916: 270 (1916).

Type: Cerdagne à Estavar, [gorges de l'Angost, pelouses aux bords des rochers]<sup>descr.</sup> pelouses à l'abri des rochers, vers 1250 m, 04.09.1915 F. Sennen – Plantes d'Espagne 2394 ("1394" in descr.) [lecto W 1922-15105, iso MA 113406, RNG (2)].

Note: Part of one specimen in RNG is excluded, these plants could also be untypical *E. alpina*.

*Euphrasia parviflora* SENNEN stirps *stricta*? = *E. pectinata*

Plantes d'Espagne 6159 (c. 1928/1929), description on the label.

Type: Cerdagne, Val d'Err, pâturages escarpés, 1550 m, 11.08.1929, Sennen et Elías – Plantes d'Espagne 6159 [lecto RNG, iso G].

*Euphrasia patulidens* SENNEN gr. *pectinata*. = *E. hirtella*

Plantes d'Espagne no. 6154 (c. 1928/1929), description on the label.

Type: Cerdagne, Sarèje, Err, prairies, 1260-1400 m, 07. et 08.1927 F. Sennen – Plantes d'Espagne no. 6154 [lecto BC-SENNEN 832380, iso G, RNG, W 1929/10088].

*Euphrasia pectinata* TEN. var. *aspera* SENNEN = *E. pectinata*

Bol. Soc. Ibér. Cienc. Nat. 29: 122 (1930).

Type: Cerdagne: Val de Llo, près de la métairie Jaubert, vers 1700 m, 27.07.1920 F. Sennen – Plantes d'Espagne no. 4001 [lecto BC 46150, iso MA 113283, RNG, W 1922-16608].

*Euphrasia pectinata* TEN. var. *geminata* SENNEN = *E. pectinata*  
Bol. Soc. Ibér. Cienc. Nat. 29: 123 (1930).

≡ *Euphrasia geminata* SENNEN, Plantes d'Espagne no. 3135 (c. 1918/1919), nom. nud.  
Type: Cerdagne, Dorres, 1450 m, 05.09.1917 F. Sennen – Plantes d'Espagne no. 3135  
[lecto BC 46020, iso LISE 81698, MA 113317, PO 50466, RNG, W 1922-15162].

*Euphrasia pectinata* [f.] *leptostachys* SENNEN = *E. pectinata*  
Bol. Soc. Ibér. Cienc. Nat. 29: 124 (1930).

Type: Cerdagne: Les Escaldes, pâturages, vers 1450m. Sennen – Plantes d'Espagne no. 3506 [lecto BC 46147, iso W 1922-16001].

Note: In the description as Trinom (would be invalid), but on the label indicated as "f. *E. leptostachys*".

*Euphrasia pectinata* TEN. var. *squarrosa* Sennen, nom. nud. = *E. pectinata*  
Plantes d'Espagne no. 9096 (c. 1935).

Specimen: Barcelone, Manlleu, pâturages de Puiguardiol, 09.05.1926 H. Gonzalo – Plantes d'Espagne no. 9096 [BC 86510, MAF 21377, MAF 55439, RNG].

*Euphrasia pectinata* TEN. var. *subulata* SENNEN = *E. pectinata*  
Bol. Soc. Ibér. Cienc. Nat. 29: 122 (1930).

Syntypes: Cerdagne, Sareja, coteaux herbeux, 1300 m, 17.07.1920 F. Sennen – Plantes d'Espagne no. 4002 [lecto BC 46148, iso LISE 81826, MA 113282, RNG, W 1922-16625].

Note: Of the other syntype: same locality, Plantes d'Espagne no. 3005 no specimen has been found.

*Euphrasia pectinata* TEN. var. *texidori* SENNEN = *E. pectinata*  
Bol. Soc. Ibér. Cienc. Nat. 29: 124 (1930).

= *Euphrasia texidoris* SENNEN, nom. nud., non SENNEN, Pl. d'Esp. 5526 (c. 1926)  
Plantes d'Espagne no. 4205 (c. 1922/1923).

Type: Barcelone, Manlleu, bords du canal à Can Puntí, 03.07.1921 H. Gonzalo – Plantes d'Espagne no. 4205 [lecto BC-SENNEN 832308, iso BC 46177, MA 113300, PO 50470, RNG, W 1926-22876, W 1929-16729].

Note: Though "le no. 4204 nous paraît être la même forme, l'épaisseur près" (SENNEN 1930: 124), no. 4204 are not types (see also *E. wilczekii*). See also *E. texidoris* SENNEN.

*Euphrasia pectinata* TEN. var. *valdesetulosa* SENNEN = *E. pectinata*  
Bol. Soc. Ibér. Cienc. Nat. 29: 123 (1930).

Syntypes: Cerdagne, Sareja à Tudó, 1400 m, 28.07.1918 F. Sennen – Plantes d'Espagne no. 3504 [lecto BC 46071, iso LISE 81836, MA 113320, MA 113321, PO 50467, RNG, W 1922-16003]; – Cerdagne, Sareja, coteaux herbeux, 1300 m, 14.07.1920 F. Sennen – Plantes d'Espagne no. 4003 [BC 46151, RNG, W 1922-16624]

= *Euphrasia valdesetulosa* SENNEN, nom. nud.  
Plantes d'Espagne no. 3504 (c. 1919/1920).

Note: Tending to *E. stricta*.

*Euphrasia pectinata* TEN. fa. *gracilior* SENNEN, nom. nud. = *E. pectinata*  
Plantes d'Espagne no. 9199 (c. 1935).

Specimen: Barcelone, Manlleu, pâturages du "Puntí", 30.05.1926 H. Gonzalo – Plantes d'Espagne no. 9199 [MAF 21373, MAF 55437, RNG].

*Euphrasia pedicellata* SENNEN gr. *hirtella* = *E. hirtella*

Plantes d'Espagne no. 5822 (c. 1927/1928), description on the label.

Type: Cerdagne, Villeneuve, prairies, 1350 m, 28.06. et 07.07.1926 F. Sennen – Plantes d'Espagne no. 5822 [lecto BC-SENNEN 832385, iso G (2), MAF 57920, RNG, W 1927-20367].

Note: The relatively larger flowers of some plants could be caused by hybrid influence from *E. alpina* – they led to the determination as *E. rostkoviana* ssp. *montana* (JORD.)WETTST. – but they are still within the variation of *E. hirtella*. As lectotype, a clear *E. hirtella* has been chosen.

*Euphrasia pedicellata* SENNEN, nom. illeg. = *E. hirtella*

Bol. Soc. Ibér. Cienc. Nat. 29: 120 (1930).

Type: Cerdagne, Les Escaldes, 1450 m, 08.08.1918 F. Sennen – Plantes d'Espagne no. 3502 [lecto BC 46073, iso LISE 81834, PO 50443, RNG (2), W 1922-16005].

Note: It cannot be treated as identical with the species above, because of the separate description and different type. Therefore it is a younger homonym.

*E. polyadena* GREN et ROUX forma *elata* SENNEN, nom. nud. = *E. hirtella*

Plantes d'Espagne no. 2014 (c. 1915/1916).

Catalogne, S. Feliu de Pallarols près Ntra. Sra. de la Salut, pâturages, vers 1000 m, 07.09.1914 F. Sennen – Plantes d'Espagne no. 2014 [BC 46005, BC-SENNEN 832390, RNG].

*Euphrasia ponsi* SENNEN = *E. alpina*

"*Euphrasia alpina* LAM. proles *E. ponsi* SENNEN"

Bol. Soc. Arag. Cienc. Nat. 1916: 264, in schedis "E. ponsii".

Type: France, Cerdagne à Dorres [et les Escaldes, pelouses]<sup>descr.</sup>, pâturages vers 1500 m, 15.07.1915 F. Sennen, Plantes d'Espagne 2387 [lecto W 1922-15113, iso LISE 81238, MA 113546, RNG].

Note: The collection in RNG is a mixture of *E. alpina* and *E. hirtella*, only the *E. alpina* plants are isotypes for *E. ponsi*.

*Euphrasia prolifica* SENNEN = *E. pectinata*

Bol. Soc. Ibér. Cienc. Nat. 29: 162 (1930); "st. *stricta*?" in descr.; "du gr. *E. pectinata*" in sched.

Type: Barcelone, Manlleu, cerro del Poquí, [vers 500 m]<sup>descr.</sup>, 26.06.1921 H. Gonzalo – Plantes d'Espagne 4206 [lecto BC-SENNEN 832392, iso MA 113298, PO 50469, RNG, W 1922-16728].

*Euphrasia pseudo-pumila* SENNEN, nom. nud. = *E. minima*

Plantes d'Espagne 4268 (c. 1916/1917)

Specimen: Cerdagne: Le Cambredase, pâturages dans le bois, 1700 m, 02.08.1915 F. Sennen – Plantes d'Espagne no. 4268 [BC 46184, G, MA 113414, RNG].

*Euphrasia pulchra* SENNEN = *E. alpina*

Bol. Soc. Ibér. Cienc. Nat. 29: 113 (1930).

≡ *Euphrasia salisburgensis* ssp. *pulchra* (SENNEN) MALAG. & BARRAU, Acta Phytotax. Barc. 1: 37 (1968).

≡ *Euphrasia alpina* ssp. *pulchra* (SENNEN) DE BOLOS & VIGO, Collect. Bot. 14, 98 (1983), nom. illeg., superfluous.

Type: Catalogne, Pyrénées, pelouses à San Juan de las Abadesas vers 750 m, 09.1910 F. Sennen – Plantes d'Espagne 1008 [lecto MA 113559 (sheet 1), iso MA 113562 (sheet 2), RNG, W 1911-2687]

Text in descr.: "Gérone: Paturages de la rive gauche du Ter, vers S. Juan de las Abadesas, 750m; sub *E. salisburgensis* forma *E. cuprea* JORD. (ex COSTE)."

Note: This collection contains a "valley-form" of *E. alpina*; the stems are somehow elongated, the leaves smaller, partly only with 1-2 teeth on each side, the flowers smaller. Similar forms can also be observed on other places throughout the range of *E. alpina*, e.g. in Valle Ordesa near the entrance of the National Park or in S. Feliú de Palarols etc. Morphologically, it comes very close to "shadow-variants" of *E. stricta*.

*Euphrasia pulla* SENNEN

= *E. stricta*

Plantes d'Espagne 6161 (c. 1928/1929), description on the label.

Type: Cerdagne, Val d'Err, pâturages escarpés, vers 1600 m, 11.08.1927 Sennen & Elías – Plantes d'Espagne 6161 [lecto BC-SENNEN 832393 p.p., iso G, W 1929-10092 p.p.].

Note: The specimen in BC-SENNEN consists of *E. stricta*, glabrous and hairy plants and *E. hirtella*; one of the glabrous *E. stricta* plants is selected as the lectotype, the *E. hirtella* excluded as type. Also the specimen in W is mixed, the *E. hirtella* plants excluded from type.

*Euphrasia pumila* KERNER var. *exocarpa* SENNEN

= *E. salisburgensis* × *stricta* agg.

Bol. Soc. Ibér. Cienc. Nat. 29: 152 (1930), description in the text.

Type: Cerdagne, Val de Llo, Serra dels Clots, pâturages, 2300 m, 28.07.1920 F. Sennen – Plantes d'Espagne no. 4005 [lecto BC-SENNEN 832394, iso BC 46185, LISE 81825, MA 113411, RNG].

Note: The description "... se différencie .. par plusieurs menus caractères, entre autres pas ses capsules exsertes" is poor, but existing. The collections shows intermediate characters between *E. salisburgensis* and *E. stricta* agg. (*E. pectinata* vel *E. stricta*), probably being of hybrid origin; a characteristic plant has been chosen as lectotype.

*Euphrasia remigii* SENNEN gr. *parviflora*

= *E. pectinata*

Plantes d'Espagne no 7248 (c. 1930), description on the label.; Bull. Int. Cat. Hist. Nat. 32: 110 (1932).

Type: Cerdagne, Gorges de Llo, bords escarpés schisteux, 1480 m, 29.08.1929 F. Sennen – Plantes d'Espagne no 7248 [lecto BC-SENNEN 832395, iso BC 80517, G, RNG].

*Euphrasia revoluta* SENNEN, nom. illeg., [non *E. revoluta* HOOK.f. (1854)] = *E. stricta*  
Bol. Soc. Arag. Cienc. Nat. 1916: 271 (1916).

Type: Cerdagne au Cambredase [La Cambredase]<sup>descr.</sup>, bois [de pins]<sup>descr.</sup>, vers 1700 m., 02.08.1915 F. Sennen – Plantes d'Espagne 2396 [lecto BC-SENNEN 832396, iso MA 113408, RNG p.p., W 1922-15107 p.p.].

Note: The specimen BC-SENNEN contains 3 *E. stricta*, and the others being cf. *E. stricta* × *salisburgensis*; one of the *E. stricta* plants is chosen as lectotype, the others are excluded as type. RNG contains 2 *E. stricta* (isotypes pro *E. revoluta*, the others excluded), 9 *E. salisburgensis*, and 3 possible hybrids between these two species; W contains *E. stricta* and possible hybrids.

*Euphrasia revoluta* SENNEN, nom. illeg., [non *E. revoluta* HOOK.f. (1854)]

Bol. Soc. Ibér. Cienc. Nat. 29: 152 (1930).

Type: Cerdagne, Le Cambredage, bois, vers 1700 m – Plantes d'Espagne no. 2796 [?].  
 Note: No specimen has been found until today.

*Euphrasia rocaprevera* SENNEN & GONZALO = *E. stricta*  
 Plantes d'Espagne no. 5520 (c. 1926), description on the label.

Type: Barcelone, Torelló, pâturages vers Rocaprevera, 500 m, 28.05.1925 H. Gonzalo – Plantes d'Espagne no. 5520 [lecto BC 46043, iso W 1926-22790].

Note: BC-SENNEN 832398 comes obviously from the same collection, but has no printed label.

*Euphrasia salisburgensis* var. *bergadensis* SENNEN = *E. salisburgensis*  
 Fl Catal.: 185 (1917), sub *Euphrasia cuprea* Jord. fa. *E. bergadensis* in sched.

Type: Catalogne, Montagne à Blancafort, Berga [.. de Blancafort à Berga]<sup>descr.</sup>, 28.07.1911 F. Sennen [lecto BC-SENNEN 832332].

Note: Though the hand written label carries "Plantes d' Espagne", no printed label has been found. One plant has been selected as lectotype, the others on the same sheet are isotypes.

*Euphrasia sebastiani* SENNEN, nom. illeg. = *E. hirtella*  
 "*Euphrasia hirtella* JORD. proles *E. sebastiani*";

Bol. Soc. Arag. Cienc. Nat. 1916: 266 (1916).

Type: France: Le Capcir, [pelouses dans le]<sup>descr.</sup> forêt de la Matte, vers 1550 m, 10.09.1915 F. Sennen – Plantes d'Espagne, no. 2390 [lecto BC 45898 p.p., RNG p.p.].

Note: The name is illegitimate, Code § 52.1, because SENNEN (loc. cit.) gives in the original description "*E. xfreynii* WETTST. = *E. minima* x *hirtella* WILCZEK in sched." as synonyms. The specimens are a mixture of *E. hirtella* and intensively hairy *E. stricta*. Based on the description ("folia ... leviter pubescentia glandulosa ..") one of the *E. hirtella* plants has been chosen as the lectotype.

*Euphrasia senneni* (CHABERT) SENNEN = *E. alpina*  
 "E. senneni CHABERT" in sched.

Plantes d'Espagne no. 2777 and no. 2778 (c. 1917/1918)

≡ *Euphrasia alpina* LAM. subsp. *senneni* (CHABERT) H.T.MALAG. & J.BARRAU, Acta Phytotax. Barc. 1: 30 (1968)

= *Euphrasia salisburgensis* "micromorphe" *senneni* CHABERT, Bull. Herb. Boiss. 2, II: 514 (1902).

Note: The "micromorphe" of CHABERT (loc. cit.) is not a valid taxon, but the others, based on this, are valid.

Specimens: Cerdagne, vallée de Carol à Porta, pâturages, 1520 m, 13.08.1916 F. Sennen – Plantes d'Espagne 2777 [BC 45998, MA 113541, RNG, W 1922-15813]; – Pyr. Orientales, Capcir, colline entre Formiguères et Espousouille, pâturages, 1600 m, 11.08.1916 F. Sennen – Plantes d'Espagne 2778 [BC 46000, LISE 81366, RNG, W 1922-2379].

*Euphrasia sicardii* SENNEN du gr. *E. minima* = *E. salisburgensis*  
 Bol. Soc. Ibér. Cienc. Nat. 29: 157 (1930).

≡ *Euphrasia minima* subsp. *sicardii* (SENNEN) BOLÒS & VIGO, Collect. Bot. 14: 98 (1983).

Type: Cerdagne, Val d'Eyne, pâturages [alpins, le long du torrent, vers]<sup>descr.</sup> 2200 m, 04.08.1919 F. Sennen – Plantes d'Espagne 4272 [lectotype BC-SENNEN 832409, right

plant on sheet, isotypes BC 46203 p.p., G p.p.]

= *Euphrasia sicardii* Sennen, nom. nud.

Bull. Soc. Bot. Fr.: 73: 662 (1926).

Note: Mixed collection: *E. salisburgensis* and tiny variants of (partly probably) *E. stricta* – one of the *E. salisburgensis* plants has been chosen as type. The specimens in MA 113418, RNG and W 1922-16775 contain only *E. (cf.) stricta*.

*Euphrasia substituta* Sennen, nom. nud.

= *E. minima*

Plantes d'Espagne no 4265 (c. 1917-1922)

Specimen: Pyr.-Orles, Le Capcir, Balcères, pâturages, 1700 m, 25.08.1916 F. Sennen – Plantes d'Espagne no 4265 [BC 46089, RNG].

*Euphrasia subulata* SENNEN gr. *tatarica* ?

= *E. pectinata*

Plantes d'Espagne no. 5827 (c. 1927/1928), description on the label.

Type: Cerdagne, Llivia, pâturages, 1300 m, 14.07.1926 F. Sennen – Plantes d'Espagne no. 5827 [lecto BC-SENNEN 832419, iso BC 46036, G, RNG].

*Euphrasia subulata* Sennen, nom. nud.

= *E. pectinata*

Plantes d'Espagne no. 3505 (c. 1919/1920).

Specimen: Cerdagne, Les Escaldes, 1450 m, 08.08.1918 F. Sennen – Plantes d'Espagne no. 3505 [BC 46072, LISE 81837, MA 113315 (2 sheets), PO 50468, RNG, W 1922-16002].

*Euphrasia texidoris* SENNEN

= *E. pectinata*

Plantes d'Espagne no. 5526 (c. 1926/1927), description on the label.

Type: Barcelone, S. Julian de Cabrera, prairies et coteaux, vers 1100 m, 14.07.1925 H. Gonzalo – Plantes d'Espagne no. 5526 [lecto BC-SENNEN 832309, iso BC 46177].

Note: *E. pectinata* var. *texidori* (q. v.) cannot be treated as a combination of *E. texidoris* (distinct description and type).

*Euphrasia timbali* SENNEN

= *E. minima*

Bol. Soc. Ibér. Cienc. Nat. 29: 150 (1930), "E. timbalii" in sched.

Type: Pyr. Orientales, Capcir, vallée de la Lladure, 1750 m, 25.07.1916 F. Sennen – Plantes d'Espagne no. 2772 [lecto BC 45987, iso BC 45986, MA 113433, PO 50449, RNG, W 1922-15809].

*Euphrasia valdesetulosa* SENNEN see *E. pectinata* TEN. var. *valdesetulosa* SENNEN

*Euphrasia valdesubulata* SENNEN, stirps *parviflora*

= *E. stricta*

Plantes d'Espagne no. 6160 (c. 1928/1929), description on the label.

Type: Cerdagne, Val d'Err, pâturages escarpés, vers 1550 m, 11.08.1927 Sennen et Elías – Plantes d'Espagne no. 6160 [lecto BC-SENNEN 832310, iso G, RNG, W 1929-10091].

*Euphrasia wilczekii* Sennen, nom. nud.

= *E. pectinata*

Plantes d'Espagne no. 1750 (c. 1913/1914), 3133 (c. 1918) and no. 4204 (c. 1920-1922, as "E. Wilczekii").

Specimens: Catalogne, Pyrénées, montagne de Surroca, pelouses vers 1250 m, 28.08.1913 F. Sennen – Plantes d'Espagne no. 1750 [MA 113318, W 1914-8168]; Cerdagne, Angoustrine, 1600 m, 31.08.1917 F. Sennen – Plantes d'Espagne no. 3133 [BC 46034, LISE 81697, MA 113319, PO 50465, RNG, W 1922-15160]; Barcelone,

Manlleu, marges herbeuses, droite du Ter, 05.07.1914 H. Gonzalo – Plantes d'Espagne no. 4204 [BC-SENNEN 832298, MA 113302, RNG, W1922-16730].  
 Note: See also *E. pectinata* var. *texidori*.

### Other nomina nuda created by Sennen

The following names have been used by Sennen on handwritten labels, no publication has been found until today. These names have no taxonomic value, but are listed here, because they may appear on several labels or even in publications.

*Euphrasia* *alpicola* Sennen, nom. nud. in sched. = *E. hirtella*  
 Cerdagne, Font-Romeu, prairies, 1790 m, 24.07.1923 [BC-SENNEN 832313].

*Euphrasia* *azuriflora* Sennen, nom. nud. in sched. = *E. stricta*  
 Val d'Eyne, pâturages, 1800 m, 22.09.1929 F. Sennen [BC-SENNEN 832321, RNG].

*Euphrasia* *companyoi* Sennen, nom. nud. in sched. = *E. salisburgensis*  
 France, Cerdagne, Gorges de Llo, rochers et éboulis schisteuse, 1990 m, 22.08.1916 F. Sennen [BC 46033].

*Euphrasia* *delpontii* Sennen, nom. nud. in sched. = *E. stricta*  
 Pyrénées de l'Aude, Marsa, 01.08.1928 F. Secondaire [RNG]

*Euphrasia* *densispicata* Sennen, nom. nud. in sched. = *E. stricta*  
 Val d' Eyne, rochers, 2000 m, 22.09.1929 F. Sennen [BC-SENNEN 832333, RNG].

*Euphrasia* *dorotheae* Sennen & Gonzalo, nom. nud. in sched. = *E. alpina*, *E. pectinata*  
 Barcelona, Sta. Maria do Corcó, prados de l' Arimany, 600 m, 14.07.1925 H. Gonzalo [BC-SENNEN 832416] = *E. alpina*  
 Barcelone, Sta. Maria do Corcó, pla de l' Arimany, près 600 m, 14.07.1929 F. Sennen [BC-SENNEN 832334, RNG] = *E. pectinata*

*Euphrasia* *eulaliae* Sennen & Gonzalo, nom. nud. in sched. = *E. pectinata*  
 S. Miguel del Fay, bosques, 500 m, 17.08.1925 H. Gonzalo [BC-SENNEN 832338].

*Euphrasia* *fontisromei* Sennen, nom. nud. in sched. = *E. alpina*  
 Cerdagne, Font-Romeu, clairières, 1800 m, 14.07.1927 F. Sennen [BC-SENNEN 832341, RNG].

*Euphrasia* *grenieri* Sennen, nom. nud. in sched. = *E. salisburgensis*  
 Cerdagne, Gorges de Llo, rochers calcaires, 1900 m, 01.08.1927 F. Sennen [BC-SENNEN 832346].

*Euphrasia* *gyroflexa* ARV. var. *parviflora* Sennen, nom. nud. in sched. = *E. pectinata*  
 France, Pyrénées Orles.Capcir aux Angles, 1700 m, 19.07.1916 F. Sennen [BC-SENNEN 832344].

*Euphrasia* *longipedicellata* Sennen, nom. nud. in sched. = *E. cf. minima*  
 Cerdagne, Val de Llo, pâturages en la Solane, vers 1790 m, 27.07.1920 F. Sennen [RNG].

*Euphrasia* *loreti* Sennen, nom. nud. in sched. = *E. stricta*  
 Cerdagne, Val d'Err, pâturages, 1990 m, 11.08.1927 F. Sennen [BC-SENNEN 832358]

*Euphrasia* *Mariae-gabrielis* Sennen, nom. nud. in sched. = *E. pectinata*  
Cerdagne, Val de Llo, pâturages vers la Cayelle, 1800 m, 28.07.1920 F. Sennen [BC-  
SENNEN 832361].

Note: Mentioned in the text in SENNEN 1930: p. 122).

*Euphrasia* *montgesignata* Sennen, nom. nud. in sched. = *E. stricta*  
Catalogne, Massif de Monseny près de Sta. Fe, 1200 m, 16.07.1913 F. Sennen [BC-  
SENNEN 832412].

*Euphrasia* *neglecta* Sennen, nom. nud. in sched. = *E. stricta*  
France, Cerdagne, Gorges de Llo, 1400 m, 12.07.1920 F. Sennen [BC-SENNEN  
832368, RNG].

*Euphrasia* *nitida* Sennen, nom. nud. in sched. = *E. stricta*  
Cerdagne, Val d'Eyne, pâturages, 1800 m, 22.09.1929 F. Sennen [BC-SENNEN  
832375].

*Euphrasia* *pascalis* Sennen, nom. nud. in sched. = *E. salisburgensis*  
France, Cerdagne, Gorges de Llo, 1900 m, 17.09.1929 F. Sennen [BC-SENNEN  
832379, RNG].

*Euphrasia* *rigida* Sennen, nom. nud. in sched. = *E. stricta*  
Cerdagne, Val de Llo, pâturages de la Solane, vers 1790 m, 18.07.1920 F. Sennen [BC-  
SENNEN 832397].

*Euphrasia* *sclerosa* Sennen, nom. nud. in sched. = cf. *E. pectinata*  
Cerdagne, Err, rochers humides, vers 1900 m, 26.07.1926 F. Sennen [BC-SENNEN  
832403].

Note: The plants are probably untypical small-leaved *E. pectinata*, but could also be  
untypical *E. nemorosa*.

*Euphrasia* *sicorisiana* Sennen, nom. nud. in sched. = *E. pectinata*  
Cerdagne, Val de Llo, 1690 m, 07.08.1923, F. Sennen [BC-SENNEN 832418].

*Euphrasia* *tatarica* var. *sublaevis* Sennen, nom. nud. in sched. = *E. stricta*  
Cerdagne, Val de Llo, Serra dels Clots, pâturages, 1800 m, 28.07.1920 F. Sennen [BC-  
SENNEN 832307, RNG].

*Euphrasia* *tatarica* fa. *simplex* Sennen, nom. nud. in sched. = *E. stricta*  
Cerdagne, Ste. Léocadie à Cousellabre, pâturages secs, 1260 m, 24.07.1920 F.  
Sennen [BC-SENNEN 832420].

*Euphrasia* *vianneyi* Sennen, nom. nud. in sched. = *E. stricta*  
Cerdagne, val de Llo à la Conlasse, bois au bord du Sègre, 1890 m, 07.08.1926  
F. Sennen [BC-SENNEN 832312].

### Other specimens distributed in "Plantes d' Espagne"

no. 926 [orig. *E. stricta* HOST (ex COSTE et PAU)] = *E. nemorosa*  
Castill, Ayuelas, coteaux, 16.09.1909 H. Elías [MA 113326, RNG].

- no. 1006 [orig. *E. pectinata* TEN.] = *E. pectinata*  
Catalogne, Manlleu, pelouses vers 600 m, 07.1910 F. Sennen [ALME 4850, MA 113275 (2 Sheets), MA 163611, RNG].
- no. 1007 [orig. *E. salisburgensis* FUNK (ex COSTE et PAU)] = *E. alpina*  
Catalogne, L'Esquirol, pelouses, vers 800 m, 07.1910 F. Sennen [MA 113557, RNG, W 1911-2688].
- no. 1748 [orig. *E. stricta* HOST forma *nana* - ex PAU; *E. glabratifolia* SENNEN] = *E. stricta*, *E. hirtella*  
Catalogne, Pyrénées au Puig de Navada près Montgrony, 1970 m, 21.08.1913 F. Sennen [PO 50459 (*E. stricta*), MA 113400 (*E. salisburgensis* + *E. stricta*), RNG (*E. stricta* + *E. hirtella*)].  
Note: Bol. Soc. Ibér. Cienc. Nat. 2: 117 (1930): "le no. 1478 sub *E. stricta nana* PAU in lit. est la même forme" [*Euphrasia glabratifolia* SENNEN = *E. salisburgensis*].
- no. 1749 [orig. *E. tatarica* FISCH.] = *E. stricta*  
Catalogne, Pyrénées, montagne de Surroca au Coll de Pal, 1750 m, 28.08.1913 F. Sennen [BC 45994, MA 113427, MA 113429, MA 177162, PO 50460, RNG].  
Note: Some of the plants are very densely hairy.
- no. 1752 [orig. *E. salisburgensis* FUNK var. *minuta* GREMLI - ex COSTE] = *E. hirtella*, *E. salisburgensis*, *E. stricta*  
Catalogne, Pyrénées à Montgrony, bois de Santou, 1450 m, 22.08.1913 F. Sennen [*E. salisburgensis*: BC 45963, MA 113589, MA 177164, PO 50453 (sheet 1), RNG; mixture of *E. hirtella*, *E. salisburgensis*, *E. stricta*: PO 50453 (sheet 2)].
- no. 1753 [*E. polyadena* GREN. et ROUX ex COSTE] = *E. hirtella*  
Catalogne, Pyrénées, montagne de Surroca, pelouses vers 1250 m, 28.08.1913 F. Sennen [BC 46006 (with one *E. salisburgensis*), BC-SENNEN 832386, RNG (2)].  
Note: Some of the plants have flowers a little larger, which may have led to the determination as *E. rostkoviana* by Yeo of one of the specimens in RNG - but they are within the variation of *E. hirtella*.
- no. 1754 [orig. *E. pectinata* TEN., ad *E. stricta* HOST vergens] = *E. pectinata*  
Catalogne, Massif du Monseny, prairies à Sta. Fe, 1150 m, 12.12.1913 F. Sennen [BC 46169, MA 113277 (2 sheets), MA 177156, PO 50461 (2), RNG].
- no. 1755 [orig. *E. hirtella* JORD. - ex PAU] = *E. hirtella*  
Catalogne, Massif de Montseny, prairies à Sta. Fe, 1150 m, 12.07.1913 F. Sennen [PO 50435, RNG].
- no. 1756 [orig. *E. hirtella* JORD. ad *E. brevipila* BURN. et GREMLI vergens] = *E. hirtella*  
Catalogne, Massif de Montseny, prairies à Sta. Fe, 1150 m, 12.07.1913 F. Sennen [PO 50436, RNG].
- no. 2016 [orig. *E. capitulata* TOWNS.] = *E. stricta*  
Catalogne, Pyrénées à Nuria, pelouses de Coma d'Eyne, 2200 m, 01.09.1914 F. Sennen [BC 45985, MA 113413, PO 50446, RNG, W 1922-15523].
- no. 2397 [orig. *E. minima* JACQ.; DC. proles *E. willkommii* FREYN] = *E. minima*  
France, Cerdagne au Cambredase, bois, 1950-2100 m, 04.08.1915 F. Sennen [BC 46198, MA 113395, RNG].

no. 2398 [orig. *E. nemorosa* MARTIUS proles *E. nana* ROUY] = *E. stricta*  
Catalogne, Pyrénées à Nuria, 2000 m, 03.08.1913 F. Sennen [BC-SENNEN 832371,  
MA 113401, MA 113404, PO 50445, RNG (2)].

no. 2763 [orig. *E. minima* JACQ. var. *nana* ROUY] = *E. minima*  
Pyr. Orientales, Capcir, vallée de Galba, 2000 m, 10.08.1916 F. Sennen [BC 46186, PO  
50450, RNG].

no. 2765 [orig. *E. nivalis* BECK] = *E. stricta*  
Cerdagne, Bouillouses et Cambredase, pâtures, 2000 m, 07 et 08.1916 F. Sennen [BC  
45979, MA 113436, RNG].

no. 2766 [orig. *E. willkommii* FREYN] = *E. cf. stricta*  
Cerdagne, vallée de Lanoux, pâtures, 2200 m, 14.08.1916 F. Sennen [BC 46182,  
RNG].

Note: The determination is not unambiguous, the plants could also be *E. minima*.

no. 2768 [orig. *E. pectinata* TEN.] = *E. stricta*  
Cerdagne, Vallée d'Angoustrine, éboulis, 1600 m, 19.+29.07.1916 F. Sennen [BC  
46160, MA 113272, PO 50462].

no. 2770 [orig. *E. sebastianii* SENNEN; *E. costeana* SENNEN] = *E. hirtella*  
Pyr. Orientales, Capcir, forêt de la Matte, 1550 m, 24.07.1916 F. Sennen [BC 46002, PO  
50439, RNG, W 1922-15807].

Note: "Le no. 2770 rapportée par inattention ... à *E. sebastianii* est une forme selvicole-  
pascuicole du *E. costeana*" (Bol. Soc. Ibér. Cienc. Nat. 29: 120 - 1930).

no. 2773 [orig. *E. montana* JORD.] = *E. hirtella*  
Cerdagne, Dorres, 1750 m, 17.07.1916 F. Sennen [BC 45882, LISE 81368, PO 50437,  
RNG].

Note: Some of the plants have larger flowers (especially RNG), which could have orig-  
inated by hybrid influence (of *E. alpina* or *E. officinalis* ssp. *rostkoviana*?).

no. 3754 [orig. *E. pectinata* TEN.] = *E. pectinata*  
Cerdagne, Les escaldes et Dorres, pâtures granitiques, 1450 m, 08.08.1918 F. Sennen  
[BC 46149, MA 113273].

no. 3755 [orig. *E. nivalis* BECK] = *E. stricta*  
Cerdagne, Les Bouillouses, pâtures, 2000 m, 30.07.1919 F. Sennen [BC 45980, BC-  
SENNEN 832376, MA 113435].

no. 3756 [orig. *E. hirtella* JORD.] = *E. hirtella*  
Géronne, S. Feliu de Pallarols, pâtures, 1000 m, 04.09.1919 H. Gonzalo [BC 45896].

no. 3757 [orig. *E. ericetorum* JORD.] = *E. stricta*  
Géronne, S. Feliu de Pallarols, pâtures, 1000 m, 04.09.1919 H. Gonzalo [BC 46207,  
BC-SENNEN 832339, MA 113324].

no. 3758 [orig. *E. stricta* HOST] = *E. stricta*  
Géronne, Pruit pentes du Puig Carriol, pâtures, vers 900 m, 04.09.1919 H. Gonzalo  
[BC 45938, MA 113325, RNG].

- no. 4000 [orig. *E. senneni* CHABERT du gr. *alpina*] = *E. alpina*  
Cerdagne, Gorges de Llo, escarpements herbeux, 1400 m, 12.07.1920, F. Sennen [BC 45929, LISE 81824, MA 113544, RNG, W 1922-16609].
- no. 4266 [orig. *E. variabilis* FREYN du gr. *E. minima*] = *E. minima*  
Pyrénées catalanes, Nuria, pâturages, 2030 m, 04.08.1914 F. Sennen [BC 46201, BC-SENNEN 832311, RNG]
- no. 4269 [orig. *E. minima* JACQ. var. *hispidula* FAVR.] = *E. minima*  
Cerdagne, Le Cambredase, pâturages des bois, 1650 m, 04.08.1915 F. Sennen [BC 46187, RNG]  
Note: Densely hairy.
- no. 4271 [orig. *E. minima* JACQ. var. *subaristata* GREMLI]. = cf. *E. pectinata*  
Cerdagne, Val d'Eyne, pâturages, 2200-2400 m, 03. et 04.08.1915 F. Sennen [BC 46188, RNG].  
Note: An unambiguous determination is not possible for these dwarf plants.
- no. 4144 [orig. *E. pectinata* TEN. var. *pseudocaerulea* ROUY ?] = *E. stricta*  
Burgos, Sierra Obarenes, bois de chênes, 17.08.1920 H. Elías [BC 46152, MA 113357 (2 sheets), RNG, W 1922-16878].
- no. 4457 [orig. *E. gautieri* SENNEN du gr. *E. alpina*] = *E. alpina*  
Cerdagne, Odeillo, pâturages, 1650 m, 18.07.1922 F. Sennen, Plantes d'Espagne no. 4457 BC 45928, BC-SENNEN 832343, RNG].
- no. 4896 [orig. *Euphrasia* du gr. *alpina*]. = *E. alpina*  
Ariège, Laurenti, Artigues, 1500 m, 10.08.1922 F. Secondaire [BC 45972, BC-SENNEN 832316, PO 52125, RNG, W 1926-23456].
- no. 5079 [orig. *E. hirtella* JORD.] = *E. hirtella*  
Pyrénées Catalanes, Font de la Ruirà, entre Caralps et Nuria, 1300 m, 07.08.1924 H. Gonzalo [BC 45892, BC-SENNEN 832353, PO 52121, RNG].
- no. 5080 [orig. *E. luciae* SENNEN, gr. *nemorosa*] = *E. stricta*  
Barcelone, S. Martí de Sobremunt à Sta. Lucía; Masias de Voltrega, Serratosa, 880 m, 24.09.1924 H. Gonzalo [BC 45926, G, MA 113562, RNG, W 1926-21772].  
Note: Some plants on the specimen in MA could also be variants of *E. alpina*.
- no. 5081 [orig. *E. bicknellii* WETTST. ? gr. *tatarica*]  
= *E. minima* / *salisburgensis* / *stricta* / cf. *salisburgensis* × *stricta*  
Pyrénées catalanes, Nuria vers le Col de Finistrelles, vers 2000 m, 08.08.1924 H. Gonzalo [BC 46067, BC-SENNEN 832323, MA 113409, RNG].  
Note: Mixed collection.
- no. 5082 [orig. *E. cephalata* SENNEN] = *E. pectinata*  
Barcelone, Manlleu, pâturages de Puigguardial, vers 500 m, 15.05.1924 H. Gonzalo [BC 46069, BC-SENNEN 832326, MA 113303, RNG, W 1926-21770].
- no. 5522 [orig. *E. prolifica* SENNEN] = *E. pectinata*  
Barcelone, Manlleu et Marias deRoda vers 400 m, 29.06.1929 H. Gonzalo [BC 46042, RNG (label in handwriting), W 1926-22789].

- no. 5524 [orig. *E. tatarica* FISCH.? sensu lato] = *E. pectinata*  
 Barcelone, Manlleu, pâturages, 470 m, 03.06.1925 H. Gonzalo [BC-SENNEN 832304, MA 113428, MA 471980].
- no. 5824 [orig. *E. sebastiani* SENNEN gr. *hirtella*] = *E. hirtella*  
 Cerdagne, Font-Romeu, pâturages, 1820 m, 30.07.1926 F. Sennen [BC 45912, BC-SENNEN 832404, G, RNG].
- no. 5825 [orig. *E. pectinata* TEN.] = *E. pectinata*  
 Cerdagne, Angoustrine, coteaux granitiques, 1400 m, 10.07.1926 F. Sennen [BC 46157, MA 113274, MA 466790, MAF 57919].  
 Note: The specimens tend strongly to *E. stricta*.
- no. 5826 [orig. *E. cousturieri* SENNEN gr. *tatarica*] = *E. stricta*  
 Cerdagne, Ro, coteaux schisteux, pâturages maigres, 1280 m, 17.07.1926 [BC 46038, G, W 1927-20365].
- no. 5828 [orig. *E. nervata* SENNEN gr. *tatarica* ?] = *E. pectinata*  
 Cerdagne, Villeneuve, coteaux, 1380 m, 28.06.1926 F. Sennen [BC-SENNEN 832372, BC 46037, RNG].
- no. 6150 [orig. *E. ceratana* SENNEN] = *E. salisburgensis*  
 Cerdagne, Gorges de Llo, détritius schisteux, 1450 m, 11.08.1927, Sennen & Elías [W 1929-10085].
- no. 6151 [orig. *E. hirtella* JORD. fa.] = *E. hirtella*  
 Cerdagne, Val d'Err, prairies, 1450 m, 11.08.1917, Sennen & Elías [BC-SENNEN 832351, RNG].
- no. 6152 [orig. *E. anitae* SENNEN stirps *hirtella*] = *E. hirtella*  
 Cerdagne, Llivia, prairies, 1250 m, 24.06.1927 F. Sennen [BC-SENNEN 832320, G, RNG, W 1929-10086].
- no. 6153 [orig. *E. polyadena* GREN. et ROUX] = *E. hirtella*, *E. stricta*  
 Cerdagne, Font-Romeu, Odeillo et Bolquère, pâturages, 1700-1890 m, 07. et 08.1927 F. Sennen [BC 45975, BC-SENNEN 832387, RNG].  
 Note: Mixed collection.
- no. 6155 [orig. *E. minima* JACQ.; DC. var. *hispidula* FAVRAT an sp.] = *E. stricta*  
 Cerdagne, Serra dels Clots, pâturages alpins, 2300 m, 12.08.1927 Sennen et Elías [BC-SENNEN 832363, MA 113424, MA 471882, RNG].
- no. 6157 [orig. *E. hirtella* JORD.] = *E. hirtella*  
 Cerdagne, Val d'Err, pâturages escarpés, 1550 m, 11.08.1927 F. Sennen [RNG].
- no. 6163 [orig. *E. willkommii* FREYN, vel accedens. stirps *minima*?] = *E. stricta*  
 Cerdagne, Serra dels Clots, pâturages alpins, 2500 m, 12.08.1927 Sennen et Elías [MA 113451, MA 471887].
- no. 6635 [orig. *E. hirtella* JORD.] = *E. hirtella*  
 Cerdagne, Villeneuve, prairies, 1350 m, 28.06.1928 F. Sennen [BC 45904, RNG].
- no. 6945 [orig. *E. edouardi* stirps *rostkowiana*] = *E. hirtella*, e glandular variant  
 Santander, Las Caldas de Besaya, prairies, 05.06.1927 E. Leroy [BC 45678, G, MA 113383].

- no. 6969 [orig. *E. stricta* HOST] = *E. stricta*  
Alava, Pipahón, sites humides, 800 m, 08.1929 M. Losa [MA 133336, RNG].
- no. 9077 [orig. *E. senneni* CHABERT] = *E. alpina*  
Val d' Aran, rochers calc. divers, 1200-1600 m, 08.1934 P.V. Estival [BC 89801, BC-  
SENNEN 832407, MA 113563, MAF 21411, MAF 55440, RNG, W 1935-5243].
- no. 9198 [orig. *E. pectinata* TEN. ( s. l.)] = *E. pectinata*  
Barcelone, Manlleu, pâturages du "Puntí", 30.05. et 10.06.1926 H. Gonzalo [BC 86514,  
MA 113276, MAF 21376, MAF 55438, RNG].
- no. 9200 [orig. *E. tatarica* FISCHER s. l.] = *E. pectinata*  
Barcelone, Manlleu, pâturages de "Puigguardiol", 18.04.1926 H. Gonzalo [MAF 21348,  
MAF 55441, RNG].
- no. 9201 [orig. *E. cephalata* SENNEN] = *E. pectinata*  
Barcelone, Manlleu, pâturages de "Puigguardiol", 23.05.1926 H. Gonzalo [ALME  
4848, BC 80512, MA 113308, MA 163610, MAF 21372, MAF 55432, RNG, W 1935-  
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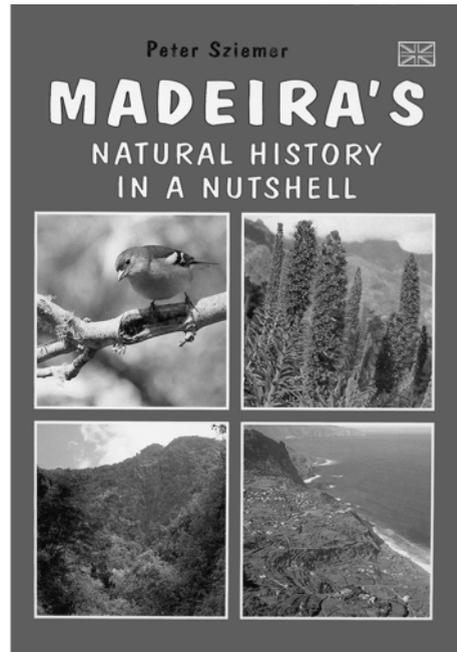
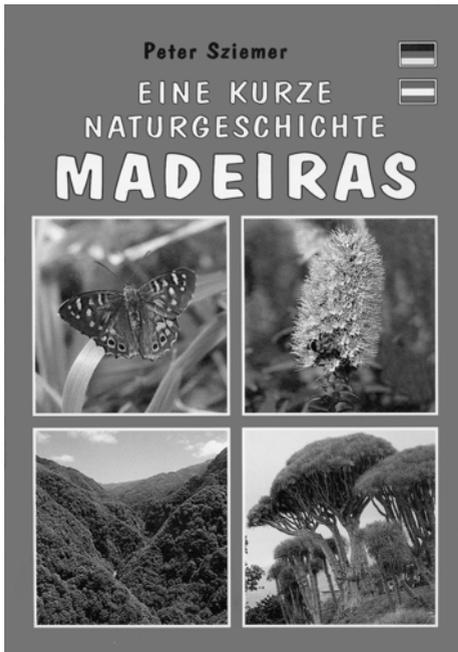
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