

# The Anthocerotae and Hepaticae of Spain and Balearic Islands: a preliminary checklist

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## Abstract

This list results from the compilation of all the published data, revised with herbaria specimens. The non-revised species are present in an annex; some of them do not probably occur in Spain, and other are waiting for confirmation.

**Key words:** Anthocerotae, Balearic Islands, checklist, Hepaticae, Spain.

**Resum.** *Les antocerotes i les hepàtiques d'Espanya i les Illes Balears: llista preliminar*

Aquesta llista és el resultat de la recopilació de totes les dades publicades prèvia revisió dels exemplars d'herbari. Les espècies no revisades són incloses en un annex; algunes d'elles no és probable que es trobin a Espanya i d'altres se n'espera la confirmació.

**Paraules clau:** Antocerotes, catàleg, Espanya, Hepàtiques, Illes Balears.

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## Introduction

At present there is no reliable Spanish reference of the hepatic flora of Spain. The only available information for the Iberian Peninsula and Balearic Islands (exclusively) is provided by a few earlier and incomplete publications (from the point of view of present knowledge), and by some more recent publications on surveys at the European scale where each species' occurrence in Spain is mentioned.

The earliest work (Casares, 1915) is a list of the hepatics and mosses from the Iberian Peninsula and Balearic Islands collected until then by the author and by others before him. Later, in the "Flora Ibérica", Casares (1919) presents a detailed study of the hepatics including their morphology, reproduction, ecology and geographical distribution over the Peninsula and the Islands, as well as the keys for genera and species determination, and a detailed and illustrated description of each species. It includes all the species collected from the above mentioned territory, but considering that the Spanish hepatic flora was still very poorly known, the author adds the description of numerous taxa which, due to their ecology and

European distribution, could potentially be found in the Iberian Peninsula. In fact, 79 years later, and for most of the species, the surveys by V. and P. Allorge, between 1926 and 1968, and those carried out by a number of Spanish and foreign bryologists confirmed Casares' intuition. As a result, the number of species of the hepatic flora increased. Nevertheless, Casares (1919) mentions a dozen taxa of doubtful occurrence in Spain.

Jovet-Ast & Bischler (1976) published a list of hepatics from the Iberian Peninsula as a result of their survey from the East, South and North Spain, as well as West Portugal. It comprises 104 species, less than half of those in the Spanish bryoflora but it was, apart from Casares (1915), the most important contribution until then. All the cited species are included in the present list, except for *Plagiochila spinulosa* (Dicks.) Dum. which was later proved to be mistaken for *Plagiochila killarniensis* Pears.

On the other hand there is the more recent work by Düll (1983), an European survey with references to the presence of many species in Spain, most samples of which were provided by the present author. Düll's work represents, until now, the most complete, though not fully precise, reference of the Spanish hepatic flora. The retrieval, from this work, of the species occurring in Spain may be regarded as an attempt to update the list of hepatics in this country. Over the 15 years after Düll's publication, we have come to the conclusion that some species need to be added to his list, and must be confirmed, the presence of species of doubtful occurrence, denoted as Hs and Hs? in Düll's work. Nevertheless, some species remain for which we could not revise herbaria specimens and thus confirm the presence in Spain. Some are ancient references, taken from Müller (1954-1957) and Casares (1915, 1919) which we could not re-collect from the cited locations. In other cases we found misidentifications. Many of these references cited in Düll (1983) were recompiled from Frey et al. (1995).

More recently, Sérgio et al. (1994), with the purpose of revealing the peninsular bryoflora, add to the species' red list, a roll of the remaining known species. From Düll's work (1983), only the species of proven occurrence and correct identification from herbaria specimens are included in either list.

## Materials

To elaborate this list data were compiled from all the above mentioned references and from all other publications that refer to hepatics from Peninsular Spain and Balearic Islands. Furthermore, at least one specimen for each species was checked, with samples from the BCB, MA and PC herbaria, and from a few other Spanish herbaria, in order to obtain a reliable list. This list includes all the recently confirmed species but, to provide maximum information, all those considered as unreliable are not excluded, but rather presented in an annex listing, while waiting for a revision that might subsequently confirm their presence in Spain. The difficulty in the determination of the genus *Cephaloziella*, of which many collections are sterile and rejected, should be emphasised.

The nomenclature followed Grolle (1983) and, for the genus *Riccia*, Jovet-Ast

(1986). To simplify the use of the list, the genera are presented in alphabetical order, followed by the systematic order of families and genera. All the mentioned species occur in Spain, except the one marked with \*\*, which only occurs in the Balearic Islands; species marked with \* occur also in the Balearic Islands.

### List of Anthocerotae and Hepaticae species from Spain and Balearic Islands

#### Anthocerotopsida

##### Anthoceros L.

caucasicus Steph.

punctatus L.

##### Phaeoceros Prosk.

\* bulbiculosus (Brotero) Prosk.

carolinianus (Michx.) Prosk.

\* laevis (L.) Prosk.

#### Marchantiopsida

##### Adelanthus Mitt.

decipiens (Hook.) Mitt.

##### Anastrophyllum (Spruce) Steph.

hellerianum (Nees ex Lindenb.)

Schust.

minutum (Schreb.) Schust.

##### Aneura Dum.

pinguis (L.) Dum.

##### Anthelia (Dum. emend. Schiffn.) Dum.

juratzkana (Limpr.) Trev.

##### Aphanolejeunea Evans

microscopica (Tayl.) Evans

##### Apometzgeria Kuwah.

pubescens (Schrank) Kuwah.

##### Asterella P. Beauv.

africana (Mont.) Evans

gracilis (F. Web.) Underw.

##### Athalamia Falconer

\* hyalina (Sommerf.) Hatt.

\* spathysii (Lindend.) Hatt.

##### Barbilophozia Loeske

atlantica (Kaal.) K. Müll.

attenuata (Mart.) Loeske

barbata (Schmid. ex Schreb.)

Loeske

binsteadii (Kaal.) Loeske

floerkei (Web. & Mohr) Loeske

hatcheri (Evans) Loeske

kunzeana (Hüb.) K. Müll.

lycopodioides (Wallr.) Loeske

##### Bazzania S. Gray

flaccida (Dum.) Grolle

tricrenata (Wahlenb.) Lindb.

trilobata (L.) S. Gray

var. depauperata (K. Müll.) Grolle

var. trilobata

##### Blasia L.

pusilla L.

##### Blepharostoma (Dum. emend. Lindb.)

Dum.

trichophyllum (L.) Dum.

##### Calypogeia Raddi

arguta Nees & Mont.

azurea Stotler & Crotz

fissa (L.) Raddi

integrastipula Steph.

muelleriana (Schiffn.) K. Müll.

neesiana (Mass. & Carest.) K. Müll.

sphagnicola (H. Arn. & J. Perss.)

Warnst. & Loeske

suecica (H. Arn. & J. Perss.)

K. Müll.

##### Cephalozia (Dum. emend. Schiffn.) Dum.

ambigua Mass.

bicuspidata (L.) Dum.

ssp. bicuspidata

ssp. lammersiana (Hüb.) Schust.

connivens (Dicks.) Lindb.

hibernica Spruce ex Pears.

lunulifolia (Dum.) Dum.

macrostachya Kaal.

pleniceps (Aust.) Lindb.

##### Cephaloziella (Spruce) Schiffn.

\* baumgartneri Schiffn.

calyculata (Durieu & Mont.)

K. Müll.

divaricata (Sm.) Schiffn.

\* var. divaricata

var. asperifolia (Tayl.) Macv.

- grimsulana (Jack ex Gott. & Rabenh.) Lacout.  
 \* hampeana (Nees) Schiffn.  
 integerrima (Lindb.) Warnst.  
 massalongi (Spruce) K. Müll.  
 spinigera (Lindb.) Joerg.  
 stellulifera (Tayl. ex Spruce) Schiffn.  
 turneri (Hook.) K. Müll.
- Chiloscyphus Corda  
 pallescens (Ehrh. ex Hoffm.) Dum.  
 var. fragilis (A. Roth) K. Müll.  
 var. pallescens  
 polyanthos (L.) Corda  
 var. polyanthos  
 var. rivularis (Schrad.) Nees
- Cladopodiella Buch  
 fluitans (Nees) Buch  
 francisci (Hook.) Joerg.
- Cololejeunea (Spruce) Schiffn.  
 calcarea (Libert) Schiffn.  
 minutissima (Sm.) Schiffn.  
 \* rosettiana (Mass.) Schiffn.
- Conocephalum Wiggers  
 \* conicum (L.) Underw.
- Corsinia Raddi  
 \* coriandrina (Spreng.) Lindb.
- Diplophyllum (Dum. emend. Lindb.) Dum.  
 albicans (L.) Dum.  
 obtusifolium (Hook.) Dum.  
 taxifolium (Wahlenb.) Dum.
- Douinia (C. Jens.) Buch  
 ovata (Dicks.) Buch
- Drepanolejeunea (Spruce) Schiffn.  
 hamatifolia (Hook.) Schiffn.
- Dumortiera Nees  
 hirsuta (Sw.) Nees
- Exormotheca Mitt.  
 bulbosa (Link ex Lindenb.) K. Müll.  
 pustulosa Mitt.
- Fossombronia Raddi  
 \* angulosa (Dicks.) Raddi  
 \* caespitififormis De Not. ex Rabenh.  
 crozalsii Corb.  
 \* echinata Macv.
- husnotii Corb.  
 maritima (Paton) Paton  
 \* pusilla (L.) Nees  
 wondraczekii (Corda) Lindb.
- Frullania Raddi  
 cesatiana De Not.  
 \* dilatata (L.) Dum.  
 fragilifolia (Tayl.) Gott. et al.  
 microphylla (Gott.) Pears.  
 oakesiana Aust.  
 tamarisci (L.) Dum.  
 var. atlantica Schiffn.  
 var. mediterranea De Not.  
 \* var. sardoa De Not.  
 \* var. tamarisci  
 teneriffae (F. Web.) Nees
- Geocalyx Nees  
 graveolens (Schrad.) Nees
- Gongylanthus Nees  
 ericetorum (Raddi) Nees
- Gymnocolea (Dum.) Dum.  
 inflata (Huds.) Dum.
- Gymnomitrium Corda  
 concinnatum (Lightf.) Corda  
 corallioides Nees  
 crenulatum Gott. ex Carring.  
 obtusum Lindb.
- Haplomitrium Nees  
 hookeri (Sm.) Nees
- Harpalejeunea (Spruce) Schiffn.  
 ovata (Hook.) Schiffn.
- Harpanthus Nees  
 scutatus (Web. & Mohr) Spruce
- Jamesoniella (Spruce) Carring.  
 autumnalis (DC.) Steph.
- Jubula Dum.  
 hutchinsiae (Hook.) Dum.
- Jungermannia L. emend. Dum.  
 \* atrovirens Dum.  
 confertissima Nees  
 exsertifolia Steph.  
 ssp. cordifolia (Dum.) Váňa  
 gracillima Sm.  
 handelii (Schiffn.) Amak.  
 hyalina Lyell  
 leiantha Grolle

- obovata Nees  
 polaris Lindb.  
 pumila With.  
 sphaerocarpa Hook.
- Kurzia v. Martens  
 pauciflora (Dicks.) Grolle  
 sylvatica (Evans) Grolle  
 trichoclados (K. Müll.) Grolle
- Lejeunea Libert  
 \* cavifolia (Ehrh.) Lindb.  
 holtii Spruce  
 lamacerina (Steph.) Schiffn.  
 mandonii (Steph.) K. Müll.  
 \* patens Lindb.  
 ulicina (Tayl.) Gott. et al.
- Lepidozia (Dum.) Dum.  
 cupressina (Sw.) Lindenb.  
 reptans (L.) Dum.
- Lophocolea (Dum.) Dum.  
 bidentata (L.) Dum.  
 \* var. bidentata  
 var. rivularis (Raddi) Warnst.  
 fragans (Moris & De Not.) Gott.  
 et al.  
 \* heterophylla (Schrad.) Dum.  
 minor Nees
- Lophozia (Dum.) Dum.  
 ascendens (Warnst.) Schust.  
 badensis (Gott.) Schiffn.  
 bantriensis (Hook.) Steph.  
 bicrenata (Schmid. ex Hoffm.)  
 Dum.  
 collaris (Nees) Dum.  
 excisa (Dicks.) Dum.  
 heterocolpos (Thed. ex Hartm.)  
 Howe  
 incisa (Schrad.) Dum.  
 longidens (Lindb.) Macoun  
 longiflora (Nees) Schiffn.  
 obtusa (Lindb.) Evans  
 opacifolia Culm. ex Meyl.  
 sudetica (Nees ex Hüb.) Grolle  
 \* turbinata (Raddi) Steph.  
 ventricosa (Dicks.) Dum.  
 \* var. ventricosa  
 var. silvicola (Buch) Jones ex  
 Schust.
- wenzelii (Nees) Steph.
- Lunularia Adans.  
 \* cruciata (L.) Lindb.
- Mannia Opiz  
 \* androgyna (L.) Evans  
 fragans (Balbis) Frye & Clark
- Marchantia L.  
 \* paleacea Bertol.  
 polymorpha L.  
 ssp. montivagans Bischl. & Bois.  
 ssp. polymorpha  
 ssp. ruderalis Bischl. & Bois.
- Marchesinia S. Gray  
 mackaii (Hook.) S. Gray
- Marsupella Dum.  
 alpina (Gott. ex Limpr.) H. Bern.  
 brevissima (Dum.) Grolle  
 emarginata (Ehrh.) Dum.  
 var. aquatica (Lindenb.) Dum.  
 var. emarginata  
 funcckii (Web. & Mohr) Dum.  
 sparsifolia (Lindb.) Dum.  
 sphacelata (Gieseke ex Lindenb.)  
 Dum.
- Metzgeria Raddi  
 conjugata Lindb.  
 fruticulosa (Dicks.) Evans  
 \* furcata (L.) Dum.  
 temperata Kuwah.
- Mylia S. Gray  
 anomala (Hook.) S. Gray
- Nardia S. Gray  
 compressa (Hook.) S. Gray  
 \* geoscyphus (De Not.) Lindb.  
 scalaris S. Gray
- Nowellia Mitt.  
 curvifolia (Dicks.) Mitt.
- Odontoschisma (Dum.) Dum.  
 denudatum (Mart.) Dum.  
 elongatum (Lindb.) Evans  
 sphagni (Dicks.) Dum.
- Oxymitra Bisch. ex Lindenb.  
 \* incrassata (Broth.)  
 Sérgio & Sim-Sim
- Pallavicinia S. Gray  
 lyellii (Hook.) Carruth.

- Pedinophyllum* (Lindb.) Lindb.  
   *interruptum* (Nees) Kaal.  
*Pellia* Raddi  
   \* *endiviifolia* (Dicks.) Dum.  
   *epiphylla* (L.) Corda  
   *neesiana* (Gott.) Limpr.  
*Petalophyllum* Nees & Gott. ex Lehm.  
   \*\* *ralfsii* (Wils.) Nees & Gott.  
*Plagiochasma* Lehm. & Lindenb.  
   \* *rupestre* (R. & G. Forst.) Steph.  
*Plagiochila* (Dum.) Dum.  
   *asplenioides* (L. emend. Tayl.)  
   Dum.  
   *britannica* Paton  
   *exigua* (Tayl.) Tayl.  
   *killarniensis* Pears.  
   \* *porelloides* (Torrey ex Nees)  
   Lindenb.  
   *punctata* Tayl.  
*Pleurocladula* Grolle  
   *albescens* (Hook.) Grolle  
*Porella* L.  
   \* *arboris-vitae* (With.) Grolle  
   *baueri* (Schiffn.) C. Jens.  
   *canariensis* (F. Web.) Bryhn  
   *cordaeana* (Hüb.) Moore  
   \* *obtusata* (Tayl.) Trev.  
   *pinnata* L.  
   \* *platyphylla* (L.) Pfeiff.  
*Preissia* Corda  
   *quadrata* (Scop.) Nees  
*Ptilidium* Nees  
   *ciliare* (L.) Hampe  
   *pulcherrimum* (G. Web.) Vainio  
*Radula* Dum.  
   *aquilegia* (Hook. f. & Tayl.)  
   Gott. et al.  
   \* *complanata* (L.) Dum.  
   *holtii* Spruce  
   \* *lindenberiana* Gott. ex Hartm.  
*Reboulia* Raddi  
   \* *hemisphaerica* (L.) Raddi  
*Riccardia* S. Gray  
   *chamedryfolia* (With.) Grolle  
   *incurvata* Lindb.  
   *latifrons* (Lindb.) Lindb.  
   *multifida* (L.) S. Gray  
   *palmata* (Hedw.) Carruth.  
*Riccia* L.  
   \* *atromarginata* Levier  
   *beyrichiana* Hampe ex Lehm.  
   *bicarinata* Lindb.  
   *bifurca* Hoffm.  
   var. *bifurca*  
   var. *subinermis* Heeg  
   *canaliculata* Hoffm.  
   *cavernosa* Hoffm.  
   \* *ciliata* Hoffm.  
   *ciliifera* Link ex Lindenb.  
   *crozalsii* Levier  
   \* *crustata* Trab.  
   \* *crystallina* L. emend. Raddi  
   *duplex* Lorbeer  
   \* *fluitans* L. emend. Lorbeer  
   *frostii* Aust.  
   \* *glauca* L.  
   *gougetiana* Durieu & Mont.  
   var. *armatissima* Lev. ex K. Müll.  
   var. *gougetiana*  
   *huebeneriana* Lindenb.  
   \* *lamellosa* Raddi  
   *macrocarpa* Levier  
   *micelii* Raddi  
   *nigrella* DC.  
   *papillosa* Moris  
   *perennis* Steph.  
   *sommieri* Levier  
   *sorocarpa* Bisch.  
   var. *heegii* Schiffn.  
   \* var. *sorocarpa*  
   *subbifurca* Warnst. ex Crozals  
   \* *trabutiana* Steph.  
   *trichocarpa* Howe  
   *warnstorffii* Limpr.  
*Ricciocarpos* Corda  
   *natans* (L.) Corda  
*Riella* Mont.  
   *affinis* Howe & Underw.  
   *cossoniana* Trabut  
   \* *helicophylla* (Bory & Mont.) Mont.  
   \* *notarisii* (Mont.) Mont.  
*Saccogyna* Dum.  
   *viticulosa* (L.) Dum.  
*Scapania* (Dum.) Dum.  
   *aequiloba* (Schwaegr.) Dum.  
   *apiculata* Spruce

- \* aspera M. & H. Bern.  
 calcicola (H. Arn. & J. Perss.)  
 Ingham  
 compacta (A. Roth) Dum.  
 curta (Mart.) Dum.  
 cuspiduligera (Nees) K. Müll.  
 gracilis Lindb.  
 gymnostomophila Kaal.  
 irrigua (Nees) Nees  
 mucronata Buch  
 nemorea (L.) Grolle  
 paludosa (K. Müll.) K. Müll.  
 praetervisita Meyl.  
 subalpina (Nees ex Lindenb.) Dum.  
 umbrosa (Schrad.) Dum.  
 undulata (L.) Dum.  
 verrucosa Heeg
- Southbya Spruce  
 \* nigrella (De Not.) Henriques
- \* tophacea (Spruce) Spruce  
 Sphaerocarpos Boehmer  
 \* michelii Bellardi  
 \* texanus Aust.
- Targionia L.  
 \* hypophylla L.  
 \* lorbeeriana K. Müll.
- Telaranea Spruce ex Schiffn.  
 nematodes (Gott. ex Aust.) Howe
- Tetralophozia (Schust.) Schljak.  
 filiformis (Steph.) Urmi
- Trichocolea Dum.  
 tomentella (Ehrh.) Dum.
- Tritomaria Schiffn. ex Loeske  
 exsecta (Schrad.) Loeske  
 exsectiformis (Breidl.) Loeske  
 quinquedentata (Huds.) Buch

## Systematic order

- Anthocerotopsida  
 Anthocerotales  
 Anthocerotaceae Dum.  
 Anthoceros L.  
 Phaeoceros Prosk.
- Marchantiopsida  
 Marchantiidae  
 Sphaerocarpaceae  
 Riellaceae Engler  
 Riella Mont.  
 Sphaerocarpaceae (Dum.) Heeg  
 Sphaerocarpos Boehmer
- Marchantiales  
 Targioniaceae Dum.  
 Targionia L.  
 Aytoniaceae Cavers  
 Plagiochasma Lehm. & Lindenb.  
 Reboulia Raddi  
 Mannia Opiz  
 Asterella P. Beauv.  
 Conocephalaceae K. Müll. ex Grolle  
 Conocephalum Wiggers
- Lunulariaceae Klinggr.  
 Lunularia Adans.
- Cleveaceae Cavers  
 Athalamia Falconer
- Marchantiaceae (Bisch.) Lindley  
 Preissia Corda  
 Marchantia L.
- Wiesnerellaceae Inoue  
 Dumortiera Nees
- Exoromotheceae K. Müll. ex Grolle  
 Exoromotheca Mitt.
- Corsiniaceae Engler  
 Corsinia Raddi
- Oxymitraceae K. Müll. ex Grolle  
 Oxymitra Bisch. ex Lindenb.
- Ricciaceae Reichenb.  
 Ricciocarpos Corda  
 Riccia L.
- Jungermanniiidae  
 Metzgeriales  
 Metzgeriaceae Klinggr.  
 Metzgeria Raddi  
 Apometzgeria Kuwah.

- Aneuraceae Klinggr.  
   Aneura Dum.  
   Riccardia S. Gray  
 Pelliaceae Klinggr.  
   Pellia Raddi  
 Pallaviciniaceae Migula  
   Pallavicinia S. Gray  
 Blasiaceae Klinggr.  
   Blasia L.  
 Codoniaceae Klinggr.  
   Fossombronia Raddi  
   Petalophyllum Nees & Gott. ex  
   Lehm.  
 Calobryales  
 Haplomitriaceae Dědeček  
   Haplomitrium Nees  
 Jungermanniales  
 Lophoziaceae (Joerg.) Vanden Berghen  
   Tetralophozia (Schust.) Schljak.  
   Barbilophozia Loeske  
   Lophozia (Dum.) Dum.  
   Gymnocolea (Dum.) Dum.  
   Anastrophyllum (Spruce) Steph.  
   Tritomaria Schiffn. ex Loeske  
 Jungermanniaceae Reichenb.  
   Jamesoniella (Spruce) Carring.  
   Mylia S. Gray  
   Jungermannia L. emend. Dum.  
   Nardia S. Gray  
 Gymnomitriaceae Klinggr.  
   Marsupella Dum.  
   Gymnomitrium Corda  
 Arnelliaceae Nakai  
   Southbya Spruce  
   Gongylanthus Nees  
 Plagiochilaceae (Joerg.) K. Müll.  
   Pedinophyllum (Lindb.) Lindb.  
   Plagiochila (Dum.) Dum.  
 Geocalycaceae Klinggr.  
   Lophocolea (Dum.) Dum.  
   Chiloscyphus Corda  
   Geocalyx Nees  
   Harpanthus Nees  
   Saccogyna Dum.  
 Scapaniaceae Migula  
   Douinia (C. Jens.) Buch  
   Diplophyllum (Dum. emend. Lindb.)  
   Dum.  
   Scapania (Dum.) Dum.  
 Adelanthaceae (Joerg.) Grolle  
   Adelanthus Mitt.  
 Cephaloziellaceae Douin  
   Cephaloziella (Spruce) Schiffn.  
 Cephaloziaceae Migula  
   Cephalozia (Dum. emend. Schiffn.)  
   Dum.  
   Nowellia Mitt.  
   Cladopodiella Buch  
   Pleurocladula Grolle  
   Odontoschisma (Dum.) Dum.  
 Antheliaceae Schust.  
   Anthelia (Dum. emend. Schiffn.)  
   Dum.  
 Lepidoziaceae Limpr.  
   Telaranea Spruce ex Schiffn.  
   Kurzia v. Martens  
   Lepidozia (Dum.) Dum.  
   Bazzania S. Gray  
 Calypogeiaceae (K. Müll.) H. Arn.  
   Calypogeia Raddi  
 Pseudolepicoleaceae Fulf. & J. Tayl.  
   Blepharostoma (Dum. emend. Lindb.)  
   Dum.  
 Trichocoleaceae Nakai  
   Trichocolea Dum.  
 Ptilidiaceae Klinggr.  
   Ptilidium Nees  
 Radulaceae (Dum.) K. Müll.  
   Radula Dum.  
 Porellaceae Cavers  
   Porella L.  
 Frullaniaceae Lorch  
   Frullania Raddi  
 Jubulaceae Klinggr.  
   Jubula Dum.  
 Lejeuneaceae Cas.-Gil  
   Marchesinia S. Gray  
   Drepanolejeunea (Spruce) Schiffn.  
   Harpalejeunea (Spruce) Schiffn.  
   Lejeunea Libert  
   Cololejeunea (Spruce) Schiffn.  
   Aphanolejeunea Evans



## List of reported Hepaticae species which occurrence in Spain still needs confirmation

Acrobolbus wilsonii Nees	Hygrobiella laxifolia (Hook.) Spruce
Anastrepta orcadensis (Hook.) Schiffn.	Jungermannia caespiticia Lindenb.
Anthelia julacea (L.) Dum.	Jungermannia parvica (Schiffn.) Grolle
Anthoceros agrestis Paton	Jungermannia subelliptica (Lindb. ex Kaal.) Levier
Asterella lindenbergiana (Corda ex Ness) H. Arn.	Lepidozia pearsonii Spruce
Asterella saccata (Wahlenb.) Evans	Lophozia capitata (Hook.) Macoun
Barbilophozia quadriloba (Lindb.) Loeske	Lophozia perssonii Buch & S. Arn.
Cephalozia catenulata (Hüb.) Lindb.	Mannia triandra (Scop.) Grolle
Cephalozia leucantha Spruce	Marsupella boeckii (Aust.) Kaal.
Cephalozia loitlesbergeri Schiffn.	Marsupella sprucei (Limpr.) H. Bern.
Cephaloziella arctica Bryhn & Douin	Peltolepis quadrata (Saut.) K. Müll.
Cephaloziella dentata (Raddi) Migula	Porella platyphylloidea (Schwein.) Lindb.
Cephaloziella elachista (Jack ex Gott. & Rabenh.) Schiffn.	Radula carringtonii Jack
Cephaloziella elegans (Heeg) Schiffn.	Riccia ligula Steph.
Cephaloziella phyllacantha (Mass. & Carest.) K. Müll.	Riella parisií Gott.
Cephaloziella rubella (Nees) Warnst.	Sauteria alpina (Nees) Nees
Colura calyptriifolia (Hook.) Dum.	Scapania scandica (H. Arn. & Buch) Macv.
Frullania polystricta Lindenb.	Scapania helvetica Gott.
Harpanthus flotvianus (Nees) Nees	Scapania uliginosa (Sw. ex Lindenb.) Dum.
	Tetralophozia setiformis (Ehrh.) Schljak.

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