Medicinal plant uses and names from the herbarium of Francesc Bolòs (1773–1844)

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Abstract

Ethnopharmacological relevance: Ethnobotany takes into account past uses to be projected into the present and future. Most current ethnobotanical research is focused, especially in industrialised countries, on obtaining information of plant uses from elderly people. Historical ethnobotany is less cultivated, although papers have demonstrated its interest. Particularly poor, but potentially very relevant, is the attention paid to historical herbaria as a source of data on useful plants.

Aims of the study: Bearing this in mind, we studied the herbarium of the Catalan pharmacist and naturalist Francesc Bolòs (1773–1844), which contains information on medicinal uses and folk names, with the aim of establishing a catalogue of plants and uses and tracing them through old and contemporary literature.

Methodology: The ca. 6,000 plant specimens of this herbarium were investigated to assess those including plant uses and names. These taxa have been thoroughly revised. The data have been tabulated, their biogeographic profile, possible endemic or

threatened status, or invasive behaviour have been assessed, and the content regarding medicinal uses, as well as folk names, has been studied. The medicinal terms used have been interpreted as per current days' medicine. The popular names and uses have been compared with those appearing in a certain number of works published from 11th to 20th centuries in the territories covered by the herbarium and with all the data collected in 20th and 21st centuries in an extensive database on Catalan ethnobotany.

Results: A total of 385 plant specimens (381 taxa) have been detected bearing medicinal use and folk names information. We collected data on 1,107 reports of plant medicinal properties (in Latin), 32 indications of toxicity, nine reports of food use, and 123, 302 and 318 popular plant names in Catalan, Spanish and French, respectively. The most quoted systems are digestive, skin and subcutaneous tissue (plus traumatic troubles) and genitourinary. Relatively high degrees of coincidence of plant names and uses in the herbarium and the literature comparison set have been found. Of the taxa contained in this medicinal herbarium, 294 were native to the Iberian Peninsula, and 86 were alien. Neither endemic nor threatened taxa have been detected, whereas a considerable portion of the alien taxa shows invasive behaviour at present.

Conclusions: Our analyses indicate a certain degree of consistency between the medicinal uses of plants recorded in this 18th and 19th century herbarium and the records found in the literature and in recent ethnobotanical datasets, accounting for the robustness of pharmaceutical ethnobotanical knowledge in the area considered. Data appearing on the specimen labels are numerous, pointing out the herbarium as a relevant source of ethnopharmacological information. Special attention should be paid to some original uses contained in the herbarium's labels for further investigation on plant properties and drug design.

Key words: Catalonia; herbaria; historical ethnobotany; historical ethnopharmacology; Iberian Peninsula; medicinal plants.

1. Introduction

Ethnobotany and ethnopharmacology have always been focused on past plant uses to be projected into the present and future (Harshberger, 1896; Heinrich & Jäger, 2015). The popular uses of plants dealt with by these disciplines go back to most ancient times. In addition to many recent reports and from classical historical sources of pharmaceutical botany, such as the famous Dioscorides' "Materia medica" from the 1st century AD (Riddle, 1971), Solecki (1975) and Lietava (1992) found evidence of medicinal plant use in Middle Palaeolithic (around 60,000 years ago) from pollen deposits in a Neanderthal grave in Iraq.

Most current ethnobotanical research is focused on obtaining information of plant uses mostly from elderly people. This is the approach of the immense majority of the abundant literature on ethnobotany and ethnopharmacology in the territories concerned by the present study and throughout Western Europe (see, only as three recent examples, Abbet et al., 2014; Menendez-Baceta et al., 2014; Rigat et al., 2015). Moreover, this is also the main orientation in ethnobotanical research in non-industrialised countries (see, again only as a few case examples, Vásquez et al., 2015; Yemele et al., 2015).

Irrespective of the evident above-mentioned historical roots of ethnobotanical knowledge, historical ethnobotany is much less cultivated than current field ethnobotany. Nevertheless, papers devoted to this subject are relatively abundant and have demonstrated its interest. Lardos (2015) details the importance of written historical sources in ethnopharmacological research and in drug development. Heinrich et al. (2006), Hsu (2006) and De Natale et al. (2009) show the relevance of historical methods and sources in ethnobotany and ethnopharmacology, with case studies from Hispanic America, China and Italy, respectively. Silva et al. (2014) review 103 publications from 1949 to 2012 with ethnobotanical data collected in historical written and iconographic documents.

Particularly poor, but potentially very relevant, is the attention paid to herbaria as a source of data on useful plants. As Reis (1962, 1977) stated earlier, herbaria are excellent repositories of ethnobotanical information, particularly relating to medicinal plant uses, not only interesting for ethnographic approaches, but relevant as well for

pharmaceutical ethnobotany purposes focused on new drug design. Complementarily, herbaria have been used to experimentally test some ethnobotanically-claimed plant uses (Eloff, 1999). Recently, Nesbitt (2014) reviewed the use of herbaria in ethnobotanical research and stated that herbarium specimens are not only necessary as vouchers of all ethnobotanical information currently published, but as sources of new ethnobotanical information apart from that collected from informants as well. Flaster (2004) remarks on the particular relevance of plant collections orientated to economic botany for information in this field. Historical herbaria (e.g., Birch, 2009; Andel et al., 2012) are richer in ethnobotanical indications on the labels than those of the present day, making them privileged targets for historical ethnobotanical research. The historical data recorded in herbaria facilitate the comparison with current plant uses, only some of which are traceable from the past (Soelberg et al., 2015). Furthermore, Lulekal et al. (2012) stress the interest of herbaria in linking ethnobotanical information to flora conservation, adding one more point of attractiveness to the applied research on plant collections, and increasing and diversifying the intrinsic multidisciplinary status of ethnobotany and ethnopharmacology.

Francesc Bolòs (complete name Francesc Xavier Bolòs i Germà, sometimes quoted as Francesc Xavier Bolòs, Francesc X. Bolòs, Francisco Bolós or Francisco de Bolós; 1773–1844, Olot, Catalonia, Iberian Peninsula) was an apothecary and naturalist (Fig. 1). He studied pharmacy between 1789 and 1793 in Barcelona, and he worked in his family's pharmacy, located in his native town. At that time, the studies on pharmacy were far from currently, and consisted of professional training instead of academic learning. On the one side, the university had been suppressed from Barcelona by the king Philip 5th to penalise the city for its position in the war finished in 1714 (Soldevila, 1938). On the other hand, the first institution to deliver pharmacy teaching, the Saint Victorian Royal College, was founded in Barcelona in 1815 and incorporated in 1845 to the university, which had been back in the city in 1837; before this, the apothecaries were not formed by teachers in different matters, but trained in a theoretical and practical way by older pharmacists (Carmona, 1983). Outside this training, and regarding his formation as a botanist, Bolòs had intense exchanges during his herbarium's elaboration with many colleagues in different geographical areas, particularly with the French botanist Pierre-André Pourret (1753–1818), of whom Bolòs

may be considered a disciple. In addition to the herbarium, he built a local catalogue of plants. Apart from botany, Bolòs cultivated all other aspects of natural sciences as well. In zoology, he elaborated a local catalogue of fauna. In geology, he was one of the discoverers of the volcanic region occupying his town and surroundings, where he was, in 1830, the guide for a visit by the famous geologist and Charles Darwin's influencer Charles Lyell. More details on his life and work may be found in Garganta (1935, 1936), a paper and a book derived from a PhD thesis devoted to the historical study of this scientist and his work.

Through personal botanical trips and intensive plant exchange, Francesc Bolòs built a herbarium following Pourret's advice (Garganta, 1936). According to Bolòs (1841) himself, the herbarium contains ca. 6,000 plant specimens, 1,004 of which are from Olot and its surroundings. Others are from the Pyrenees, where Bolòs went on some excursions, and there are also samples obtained by exchange with other contemporary botanists such as Pierre-André Pourret, Antoine Gouan (1733–1821) or Ignacio Seriola (fl. 1789, 1801, 1832). Although the locality is generally missing on the label, Bolòs indicated with a Greek cross symbol the specimens collected in the Olot area (Bolòs, 1841). Unfortunately, whether the specimens come from cultivated or from wild plants is unknown, as well as their collection data, as the labels do not provide any indication on these fields. Regarding taxonomic information, the labels contain Linnaean names and pre-Linnaean descriptions according to Bauhin (1623), Tournefort (1719) and others. In some cases, the labels contain ethnopharmacological information preceded by "vir" or "vis" (respectively from Latin *virtus* and *vis*, power or force), vernacular names preceded by the name of the language and some symbols used in the *Species Plantarum* of Linné (1753) relating to the life cycles and sex in dioecious plants. In 1936, his great-grandson Antoni de Bolòs (1889–1975) offered it to the Botanical Institute of Barcelona, where he was keeper of the herbarium (and later, director), and since that year it has been conserved in the herbarium of this institution (BC). For this reason, the vouchers of the plants quoted in this paper bear BC codes. Regrettably, the study of this herbarium has been neglected until now.

Taking into account the above-stated relevance of historical herbaria in ethnobotanical research and the fact that no or very scarce research on this field has been undertaken in Europe and, particularly in the Iberian Peninsula, the main aims of

the present study were: (i) to study the ethnobotanical potential of a Catalan herbarium from 18th and 19th centuries (the personal herbarium of Francesc Bolòs); (ii) to analyse the biogeographic profile of the plant taxa with ethnobotanical uses included in this herbarium (such as their native/alien status, chorotype of the native taxa, origin and invasive behaviour of the alien taxa, and the occurrence of endemic and/or threatened plants), (iii) to study the popular names and medicinal plant uses recorded in this historical herbarium; and iv) to look for coincidences of the reported names and uses in a selection of literature covering from 11th to 21st centuries (including data from 1st century) in the cultural and geographical area covered by the herbarium in order to evaluate the traceability and the degrees of tradition and conservation of the ethnobotanical knowledge.

2. Material and methods

The ca. 6,000 plant specimens of Francesc Bolòs' herbarium were investigated to assess those including information on plant uses and names. Once identified the herbarium vouchers with ethnopharmacological value, they have been thoroughly revised. When possible, scientific names have been updated following Bolòs et al. (2005) for generic and lower levels; for names not recorded in this flora, we used Castroviejo et al. (1986–2015) for Iberian taxa, Tutin (1964–1980) for European taxa and Tropicos (2015) for African, American or Asian taxa. Additionally, all names have been updated according to The Plant List (http://www.theplantlist.org). Appendix 1 shows the original names in the herbarium as well as those updated with The Plant List and the other sources quoted. For two specific cases, the specimens have been redetermined: (i) when the nomenclatural update has not been possible because the original taxon could be assigned to more than one (*pro parte*) (for six taxa); and (ii) when the infraspecific rank has to be identified in order to discern whether a taxon was native or alien, whether it was threatened, and whether it had medicinal uses (for seven taxa). Families have been assigned following APG IV (Angiosperm Phylogeny Group, 2016).

The popular names and medicinal uses have been compared with those appearing in a certain number of works published from 11th to 20th centuries in the territories covered by the herbarium (Catalonia and the whole Iberian Peninsula) and

also with all data contained in our research team's extensive database on Catalan ethnobotany. For these analyses, the updated scientific names and the plant popular names and uses appearing on the herbarium labels have been used. For ethnobotanical analyses we used Bolòs' identities, since we must assume that he provided the names and uses for the taxa he was convinced to have. The sources constituting our comparison set (Table 1), including an example of each Catalan, Spanish and French classical pharmacopoeias, are in general encyclopaedic in the field of applied, mostly pharmaceutical botany, comprehensive and representative of diverse periods of time. Although they are not especially ethnobotanical works, since at most periods of time treated, ethnobotany was not present in pharmaceutical botany or medical matter manuals, these books reflect, fully for names, very importantly for uses, the existing folk knowledge on medicinal plants. In pharmacopoeias, plants are usually presented in mixtures and uses are not provided (only recipes and preparation forms); so, we used the pharmacopoeias just to check common names (when present) and the presence or absence of a medicinal plant, not its use.

For the native taxa, their general distribution (i.e. chorotype) has been assessed according to Bolòs et al. (2005) and Castroviejo et al. (1986–2015), whereas their possible threatened status has been evaluated according to the Catalan red book (Sáez et al., 2010). We considered as aliens those taxa not native to the Iberian Peninsula. We mainly followed Bolòs et al. (2005) and Castroviejo et al. (1986–2015) to discern whether a taxon was native or alien. For each alien taxon, we gathered information on their native ranges as well as their invasion stage, both at local (Garrotxa district, Catalan Countries, and the rest of the Iberian Peninsula) and at global (entire world) level. The native ranges were mainly obtained from the Germplasm Resources Information Network (GRIN) of the United States Department of Agriculture (www.ars-grin.gov), although other authoritative sources were used when needed. To define the native areas, we followed the geographic regionalization proposed by the *World Geographical Scheme for Recording Plant Distributions* (Brummitt, 2001), which is used in GRIN, complemented in some cases with Zeven & De Wet (1982). We used four categories to define the invasion stage: (i) cultivated, when a taxon has still not escaped from cultivation; (ii) casual, if a given taxon can occur outside cultivation but not forming self-replacing populations; (iii) naturalised, if they sustain self-

replacing populations, i.e. "established" plants, and (iv) invasive, that is, those naturalised taxa that are capable of spreading considerably and usually with harmful effects, i.e., "transformers" or "weeds" (see Pyšek et al., 2004, for more details). For the Garrotxa district, the Catalan Countries, and the rest of the Iberian Peninsula, each taxon was classified in each of the four categories based on the information available on regional and local lists or compendiums of alien species (Moragues & Rita, 2005; Sanz et al., 2004, 2011; Almeida & Freitas, 2006, 2012; Oliver, 2008, 2009; Andreu & Pino, 2013) as well as Bolòs & Vigo (1984–2001). For each taxon we also indicated whether it is widely naturalised, widely invasive, or widely cultivated on a world scale. As "widely", we consider that the taxon should be commonly present, as naturalized, invasive, or cultivated, in a minimum of two of the nine main world areas as defined by Brummitt (2001; Europe, Africa, Asia Temperate, Asia Tropical, Australasia, Pacific, Northern America, Southern America, and Antarctic). Several large databases including GRIN (see above), Global Invasive Species Database (www.iucngisd.org/gisd), Invasive Species Compendium (www.cabi.org/isc), Delivering Alien Invasive Species Inventories for Europe (DAISIE; www.europe-aliens.org), and Pacific Island Ecosystems at Risk (www.hear.org/pier) were retrieved in order to get this information on a worldwide scale. For those alien species with scarce information regarding their native ranges or their invasion stage, the specimens have been redetermined to ensure their identity. The new identities have been used only for the analyses concerning alien species and not for the ethnobotanical ones (for the latter, as explained above, we employ the updated scientific name included in the label).

A catalogue of the plants in Bolòs' herbarium with use and folk names indication has been prepared, and the content regarding medicinal uses, as well as folk names, has been studied. The medicinal terms used on the labels (always in Latin) have been interpreted and, when necessary, adapted to current days' medicine terminology. The herbarium original data with the updated scientific names have been tabulated in Appendix 1, and the equivalences of medicinal terms are compiled in Appendix 2.

3. Results and discussion

The list of plant taxa from Francesc Bolòs' herbarium with indication of scientific name (including authorities), family, herbarium voucher, locality (if any,

indicating the plants coming from the area where Bolòs lived), popular names and medicinal and related (food, toxic) information is shown in Tables 2, 3 and 4. A total of 385 plant specimens, i.e., approximately a 6.5% of the whole Bolòs' herbarium, corresponding to 381 taxa, has been detected bearing medicinal (or related, i.e. food or toxic) use and folk names information on their labels. This low percentage indicates that Bolòs' herbarium had general botanical aims. A selection of specimens and labels are presented in Fig. 2. We collected information in the herbarium totalling 1,152 reports of plant uses and 743 plant names: 1,107 reports of plant medicinal properties, 32 indications of toxicity, nine reports of food use, and 123, 302 and 318 popular plant names in Catalan, Spanish and French languages, respectively.

3.1. Taxonomic aspects. Species, genera, and families

The 381 taxa (species and subspecies) with use and name indication belong to 297 genera and 92 botanical families. The five most represented families in number of species are Asteraceae (12.7%), Lamiaceae (9.4%), Fabaceae (6.2%), Rosaceae (4.9%) and Apiaceae (4.4%). We did not find published ethnobotanical studies dealing with Mediterranean herbaria, but we can compare these results with those obtained in previous ethnobotanical prospections. These values are very close to those obtained in an ethnobotanical survey in the Alt Empordà district (Parada et al., 2009), where the same five families were the most quoted ones, almost in the same order, only inverting Rosaceae and Fabaceae, and with almost identical percentages for Asteraceae (12.3%) and Lamiaceae (9.5%). This district borders on the one where Bolòs was located (Garrotxa), from where a relevant number of specimens of his medicinal herbarium come. Similarly, but with some clear differences, most top families are coincidental with those inventoried in an ethnofloristic investigation in another district, Ripollès, also bordering with Garrotxa (Rigat et al., 2016). In this case, the five major families are Asteraceae, Lamiaceae, Rosaceae, Apiaceae, and Ranunculaceae; Fabaceae are placed in the sixth position at an important distance from the seventh one. While the general panorama is practically the same as in Bolòs' herbarium, the presence of the Ranunculaceae here is most probably due to the high number of reports attributed to some *Ranunculus* and *Aconitum* high mountain taxa, since Garrotxa and Alt Empordà districts lack this altitudinal belt.

General studies performed in the Mediterranean region (e.g., González-Tejero et al., 2007, of general reach in the whole region, but see also Rigat et al., 2016 and references therein for many geographically more restricted studies in this territory) confirm the above-quoted families as the most relevant in ethnobotanical prospections. This fact is easily explained by the relevance of these families in terms of number of taxa, Asteraceae being the richest within plants, and the remaining all being important from this viewpoint, and of presence in this biogeographical region. This finally agrees with the simple, but not irrelevant, idea that the closer and commoner a plant is in the geographical and cultural environments of a human group, the more probable is its use (Johns et al., 1990; Bonet et al., 1999). In addition, this is coincidental with the conclusion by Yessoufou et al. (2015) that species with more uses in South Africa were randomly distributed across the phylogeny and were more likely to be included in the local pharmacopoeias due to their large distributions. As for broader groups (such as families), Saslis-Lagoudakis et al. (2012) found that traditional plant uses are grouped in the phylogenies of some medicinal floras of different geographical regions. Both the prevalence of uses of more common plant species and a certain phylogenetic signal in plant uses for high taxonomic categories have now been confirmed with historical data from a herbarium source.

3.2. *Vernacular names*

The percentages of names in the three vernacular languages present in the herbarium labels are 42.8, 40.7 and 16.6, respectively, for French, Spanish and Catalan. It is not easy to surely establish the reasons for this distribution, but some arguments appear. The French language was, at that time, a *lingua franca* of science, probably the most important in botany apart from Latin. In addition, as has been commented, one of Francesc Bolòs' mentors was the French botanist Pierre-André Pourret. Finally, the district where Bolòs was located has mountain borders with Vallespir, a Catalan territory belonging since 1659 to France. All these arguments help us understand the predominance of the French language in vernacular names in the herbarium studied. Spanish was then the only official language in the area considered since Philip 5th 1714–1716 decrees banning the official use of Catalan. This easily explains the second position of Spanish. Some Spanish names are rather classical and written with old orthography, even with some Catalan influences. Catalan was the mother tongue of

Francesc Bolòs, who used it not only orally, but written as well (Garganta, 1936; Fig. 1). Moreover, people in Bolòs' district and, in general, in Catalonia used this language (irrespective of having stopped studying it at school after the quoted king's decrees) for normal communication, including the transmission of ethnobotanical knowledge. The form adopted for some Catalan names, such as *matapoy*, correctly written *matapoll*, denotes a phonetic trait typical of the dialect spoken in Garrotxa, where Bolòs lived, and surrounding districts. Taking all this into account, it is logical that at least some vernacular names are in Catalan. The same reasons explain why many Catalan names have a vacillating orthography; we adapted these terms to the current official linguistic normative, as we did with Spanish and French terms too.

The consideration of the 743 folk names at the forefront of the comparison set used gives different results depending on the works (and the Catalan and Spanish pharmacopoeias not including common names). In two of them, containing only Catalan names, the degree of acknowledgement is scarce: 16 names (2.2%) in Faraudo (1943) and 37 (5%) in Agustí (1617). Higher is the coincidence with Laguna (1566), which presents names in the three languages (116, 15.6%), with a particularly relevant overlapping in French names. Coincidences are also relevant in Quer & Gómez Ortega (1695–1764), with Spanish names (110, 14.8%), and in the French pharmacopoeia (Codex medicamentarius, 1884; 92, 12.4%) and Lamarck (1778; 118; 15.9%), with French names. The maximum degree of concurrency, around one third, is reached by the books from Bassagaña (1859; 229 coincidences, 30.8%), Font (1961; 233, 31.4%) and Texidor (1871; 263; 35.4%). The five latter works are the most encyclopaedic in the field of medicinal plants, two of them being almost contemporary with the herbarium studied. Finally, the persistence of the Bolòs' herbarium plant names in those present in our Catalan ethnobotany database represents one fifth (151, 20.3%). This percentage is rather high, because in this database, collecting only the information given by the informants of ethnoflorisic prospections, the names are almost only in Catalan language (with only a few in Spanish and even less in French).

Particularly interesting in pharmaceutical ethnobotany among plant names are those related to medicinal plant uses. First, 50 names in Spanish and 5 in French bear the adjective "oficinal"/"officinal", derived from the specific epithet *officinalis*, meaning of use in pharmacies. No one Catalan name bears this adjective, probably

because, for reasons stated above, the names in this language come from folk knowledge and not from official sources. In addition, four Catalan, four French and 11 Spanish names have more specific allusions to medicinal properties, such as Catalan *matapoll* (*Euonymus europaeus*), meaning "louse killer", claiming a use against infestations by *Pediculus humanus*, French *vulnéraire* (*Anthyllis vulneraria*), announcing a vulnerary activity, and Spanish *adormidera*, (*Papaver somniferum*), alluding to somniferous properties.

3.3 Plant uses

3.3.1 Medicinal uses

With 1,107 records in 343 taxa, medicinal uses are absolutely dominant among the ethnobotanical or economic botanical information present on the herbarium labels. This is not strange when considering the basic formation of the herbarium's author as a pharmacist, his scientific role as a botanist and the large predominance of plants in 18th and 19th centuries' pharmacopoeias and related works, being even particularly addressed in floras.

The medicinal uses appearing on the labels (Table 2) have been grouped by human body systems to which they are referred (Fig. 3), since, as they are expressed, some particular uses were doubtful, whereas the systems to which they should be attributed were not. We must assume that a certain bias may exist, since the translation and adaptation of old Latin medical terms to current medical pathologies' terminology is not always evident. Furthermore, the precise identification of a specific trouble is sometimes difficult, too. In any case, their assignment to a human system was rather clear in all cases, making this classification more suitable for discussion. The three most quoted systems for which medicinal uses were recorded are digestive, skin and subcutaneous tissue plus traumatology issues and genitourinary, in this order and at a large distance from the following ones in the ranking (Fig. 3). We consider subcutaneous tissue and traumatology issues together since the latter are very often treated through the skin.

The items related to the digestive system include properties such as astringent, appetizer and stomachic, with a high number of records for each case. Digestive disorders also occupy the first position in an ethnobotanical study performed (Rigat et

al., 2007) in a Catalonian district which borders on the one of the studied herbarium. This accounts for the persistency of a kind of use that fulfils the largely accepted idea that pharmaceutical ethnobotanical data and, most generally, phytotherapy approaches importantly address chronical or mild troubles (Barnes, 2003), of which the quoted digestive ones usually found among the largest disease categories in ethnobotanical studies (Heinrich & Jäger, 2015; Rigat et al., 2016, and references therein) are good examples.

Uses addressed to skin and subcutaneous disorders have been grouped with traumatology problems. Altogether, this set comprises, among others, vulnerary, resolutive, emollient and cicatrising properties. Skin troubles in their wider sense are very important nowadays (Tripathi & Srivastava, 2010), in general and particularly in rural areas, such as the one from where the studied herbarium comes, in which are practised agricultural and cattle raising tasks. This explains the prevalence of remedies addressing these troubles as much in Bolòs' herbarium as in current studies in neighbouring areas (Rigat et al., 2015). Skin and the above-mentioned digestive disorders are also among the three top targets for plant uses in an ethnobotanical survey in another Iberian area (González et al., 2010).

The system occupying the third place, genitourinary, is particularly relevant for diuretic and emmenagogue uses. This is in agreement with the current ethnobotanical results of a survey in the Alt Empordà, one of the districts in the vicinity of the one in which Francesc Bolòs prepared his herbarium (Parada et al., 2009). One of the top ten plants in the latter study, *Foeniculum vulgare*, is quoted there as a diuretic, accounting for the persistence of the use registered in Bolòs' herbarium. Apart from this, venereal illnesses are frequently quoted on the herbarium labels. This is one of the plant properties that do not have continuity; in current ethnobotanical prospections in the proximity of the area considered (Rigat et al., 2016, and references therein), this kind of affection is hardly reported, since it is most probably treated with antibiotics.

Within the metabolic system, in the fourth place in the herbarium considered, numerous specimens claim refreshing and diaphoretic plant properties. As commented in the last point, in this case we do not find a continuity of these uses nowadays (or only a very scarce one), but their presence in the herbarium shows that they were probably

more frequent earlier. Unexpectedly, the respiratory system only occupies the sixth place for the uses recorded on the herbarium labels, and this at a considerable instance of the first positions. This system is commonly one of the two or three first placed in ethnobotanical works in the proximity of the area considered (Rigat et al., 2016, and references therein). Today's very frequent uses, such as anticatarrhal and antitussive, do not appear on the herbarium labels, this probably being the main reason for the placement of respiratory system relatively far from the top. Conversely, several mentions of use against tuberculosis exist on the labels, but the current continuity of these uses is inexistent, since the prevalence of the illness in the area considered is very low.

3.3.2 Food uses and toxicity indications

Apart from medicinal plant properties, the studied herbarium includes information on two other aspects, constituting just a very small complement of the kernel of data. Both are also linked with health: food (nine reports) and toxicity (32 indications). As for food (Table 3), most reports include basically a pool of nutritious plants (five cereals, one tuber, one root, one pulse and one fruit), all of them typically consumed nowadays. Concerning toxicity (Table 4), some classical (and also reported in today's Catalan ethnobotany) problems, such as the irritant power of *Clematis vitalba* or the narcotic one of *Papaver somniferum* are claimed, together with some rarer, such as the narcotic one of *Arnica montana*.

3.4. Comparison between historical and current plant uses

Having addressed the most quoted human systems and the continuity of the uses recorded in present times, we will now discuss what we may call the traceability of plants and uses covering time, through the consideration of the studied herbarium's data and those in the comparison set embracing from 11th to 21st centuries. Table 5 and Fig. 4 present the similarities between data contained in 18th–19th centuries' Francesc Bolòs' herbarium and those included in the different sources of the comparison set, and Fig. 5 shows the coincidences between plant taxa and uses in Francesc Bolòs' herbarium and in the different sources of the comparison set.

The three oldest sources in the comparison set (Laguna, 1556; Agustí, 1617; Faraudo, 1943—the latter presenting the work of 11th century's Ibn Wafid), to a certain

extent representing the state-of-art of the subject in the area considered from 11th to 17th centuries, with a background in the 1st century in Laguna (1556) show a rather low, but not negligible, degree of coincidence with data present in the 18th–19th centuries' studied herbarium. No information appears in these comparison sources for roughly 73–87% of the herbarium's plants. This means that ca. 13–27% of plants present in the herbarium, with an approximately 2–6% of coincidental uses, represent the most ancient or basal set of plants in the herbarium considered in terms of an old record of their properties. Among these three sources, the degree of coincidence is higher with Laguna (1556); this is not surprising, since this author perpetuates and updates Dioscorides' work, which is a classical one in the Old World's pharmaceutical ethnobotany (Riddle, 1971). Concerning the two more discrepant sources, Faraudo (1943) records information on a quite limited number of taxa, and Agustí (1617) is basically a treatise on agriculture, although containing data on medicinal uses of plants.

Five sources of the comparison set are the most coincidental with the herbarium data. The percentages of the herbarium's plants without information in Quer & Gómez Ortega (1695–1764), Lamarck (1778), Bassagaña (1859), Texidor (1871) and Font (1961) range from roughly 27 to 55%, meaning that from 45 to 73% of herbarium taxa are quoted in these works, with ca. 23–28% of coincidental uses. These five books represent a synthesis of the knowledge on medicinal plant uses in the area considered in the 19th and the first half of 20th centuries. They are chronologically and thematically closer to the author of the herbarium studied, and all of them are large and encyclopaedic. Several authors of several of these works, Lamarck, Casimiro Gómez Ortega, Pere Bassagaña and Joan Texidor, were partially contemporary to Francesc Bolòs. Another one, Pius Font i Quer, did know Bolòs' herbarium and work, since he was the director of Barcelona's Botanical Institute when Bolòs' great-grandson deposited there the herbarium. All this explains clearly the high degree of agreement between herbarium and this part of the comparison set data, constituting a major part of the ethnobotanical and phytotherapeutic knowledge in Bolòs' and surrounding epochs.

Finally, the agreement between the herbarium and the ethnobotanical database comprising results from prospections in the 20th and 21st centuries is similar, but slightly lower, than the one from the preceding three books. There is no information on the ca. 37% of the herbarium's plants, i.e. both sets agree in an approx. 63% of the cases, with

20% of coincidental uses. This means that two thirds of the herbarium's plants are still present in the contemporary corpus of Catalan ethnobotany, and that one out of five plant medicinal properties recorded in 18th–19th herbarium labels are still in use or at least known nowadays. Soelberg et al. (2015) reported that 31% of the medicinal properties of plants recorded in herbaria from the end of 17th century to the beginning of 19th century remain currently in use in Ghana. This means a percentage only 10 points higher than the one obtained in the present work. Taking into account the higher degree of industrialisation, and thus of acculturation, in the western European area concerned in respect to Ghana, this places rather high the plant set with historically traceable medicinal uses.

Although they do not contain specific use reports, the three pharmacopoeias used for comparison purposes (Alós, 1686; Pharmacopoeia matritensis, 1762; Codex medicamentarius, 1884) allow us to have an idea of the degree of presence of the medicinal plants from Bolòs' herbarium in the official repertories from the end of 17th to the end of 19th centuries. The results are quite similar in the Catalan and Spanish works (17% and 19%, respectively), and more than double in the French one (38%), which is more modern and comprehensive, as well as fitting better with Bolòs' epoch.

Whereas a non-irrelevant number of medicinal plant uses recorded in the studied herbarium shows a clear traceability from old times to present, there is an also important amount of uses present on the herbarium labels, but not or very scarcely reported in the comparison set. We provide just a few examples, concerning two native and two alien plants. *Acacia farnesiana* (antihaemorrhoidal according to the herbarium labels) and *Achillea ptarmica* (antiodontalgic, vulnerary) are quoted in some of the sources of the comparison set, but not with the uses claimed, whereas *Acmella oleracea* (against scurvy, antiodontalgic) and *Astragalus monspessulanus* subsp. *gypsophilus* (diuretic, haemostatic) do not appear at all in the comparison set. Some of the plants in one of these two situations have probably been abandoned as medicine because of their low performance or the existence of better solutions for the troubles addressed, but some others could be original materials for further studies, this accounting for the importance of historical herbaria in ethnopharmacological research (Reis, 1962; Flaster, 2004; Nesbitt, 2014).

3.5. Origin and distribution of specimens and taxa

3.5.1. Specimens origin

The plants coming from the town where Bolòs lived (Olot) and its surroundings, marked on the labels with a Greek cross symbol (Fig. 2), were 245 (that is, 63.6% of the 385 specimens with ethnobotanical information); however, the more or less exact locality is only indicated in three of these specimens (la Garrotxa, la Vall d'en Bas, Santa Magdalena del Mont). This percentage is very high when compared with the information of Bolòs (1841) concerning the whole herbarium: the specimens collected from Olot and its surroundings only account for 16.7%. This suggests that Bolòs basically provided information he knew from local knowledge on plant uses and names in his town, whereas he knew much less on plants obtained in exchange or collected in other localities. Moreover, two specimens were collected from other localities: Formiguera (in French, Formiguères) in the French department of Eastern Pyrenees and Bassegoda in Catalonia, in the limit between La Garrotxa and Alt Empordà. The other specimens do not have any locality indication although in 34 there is some indication of the taxon's origin or general distribution (e.g. "Malabaria" [a region in southern India] for *Jasminum grandiflorum*; Table 2).

3.5.2. Species distribution and possible endemic or threatened status

Once revised some doubtful specimens (see *Materials and methods*), the number of taxa is 380: out of them, 294 were native to the Iberian Peninsula (77.4%) and 86 were alien (22.6%; Table 6). If we select the plant taxa with a Greek cross symbol on the label (i.e., those plants collected in Bolòs' town and surroundings, 245), then the percentage of alien plants decreases to 12.8%. This percentage is much lower when compared with that obtained in an ethnobotanical study of western Granada Province, also in the Iberian Peninsula, where 28% of the taxa with ethnobotanical uses were alien (Benítez et al., 2010). This could be easily explained because the number of alien plants increases over time; in Europe, for example, the number of alien species shows an exponential growth over the last two centuries in Europe (Lambdon et al., 2008). The percentage of alien plants in Bolòs' herbarium is close to the one of alien plants for the current flora of the area (17.1%; Oliver & Font, 2008; Oliver, 2009), although we should take into account that the former figure (12.8%) comes from an exclusively

ethnobotanical survey that probably includes a high percentage of cultivated plants (see below), whereas the latter (17.1%) comes from a "standard" flora that only includes wild plants. It is well-known that most alien plants are introduced due to their medicinal, alimentary or other economic uses (e.g. McNeely, 2001).

Regarding the chorotype of the autochthonous plants included in Bolòs' herbarium, 40.2% were European, 31.6% pluriregional, 23.4% Mediterranean, 4.5% Alpine and 1.4% Atlantic. When we select the plant taxa from Bolòs' town and surroundings (those with a Greek cross symbol on the label), the percentages were almost the same (45%, 33.2%, 18%, 2.4% and 1.4%, respectively). The percentage of Mediterranean taxa was much lower, for example, than those obtained in the ethnobotanical studies of Benítez et al. (2010) for western Granada Province (46%) and Nawash et al. (2014) for northern Jordan (45%). This could be attributed to the certain degree of continentality of Bolòs' study area, the Garrotxa region, located in the southern side of the Pyrenees, characterized by a strong precipitation regime (up to 1,000 mm annually) and a lack of the dry summer months that characterize the Mediterranean climate (Xercavins, 1988). The high percentage of pluriregional taxa is probably related to the findings of several authors (e.g. Stepp & Moerman, 2001; Leonti et al., 2013; Yessoufou et al., 2015) that widespread-distributed plants are more likely to be included in local pharmacopoeias.

Finally, it should also be noted that our study did not include either endemic (both Catalonian and Iberian) or threatened taxa, in agreement with the ethnobotanical database of Catalonia (www.etnobotanica.cat), which includes low percentages of endemic and threatened plants (less than 2% for both cases). Notably, the lack of local endemic and threatened taxa in our study is highly coincidental with the ethnobotanical study of western Granada Province (2.4% of narrow endemics and 0% of threatened taxa; Benítez et al., 2010). Therefore, endemicity and vulnerability seem not to play an important role in the composition of ethnobotanical floras.

3.5.3. Origin of alien plants and invasive behaviour

The Old World was the main origin of alien taxa detected within the Francesc Bolòs' herbarium: about three-quarters of all species have their native range in Africa, Asia, Europe, or any combination of these (65 taxa, 76.5%; Fig. 6). Notably, most of the

Asian native taxa were from temperate regions, not from tropical ones (Table 6; Fig. 6). American plants, despite their already relatively long tradition of introduction into the Iberian Peninsula (Del Campo, 1993; Valdés, 1996), were only scarcely represented (15, 17.7%), whereas there were only two taxa native to Oceania (the two widespread species: *Cardiospermum halicacabum* and *Cucumis melo*; Appendix 1). When we selected the plant taxa from Bolòs' hometown region, those with a Greek cross symbol on the label, the percentages for Old World and New World plants were also more contrasting (26 and three, 83.9% vs. 9.7%, respectively). The scarcity of American plants detected in our study matches neither the current alien flora of the area (103, 31.7% are of American origin; Oliver, 2009) nor the alien flora for Catalonia (149, 32.3%; Casasayas, 1989) and Spain (358, 38.2%; Sanz et al., 2004). Possible reasons for this apparent discrepancy may include: (i) the climate of Bolòs' region, not suitable for the growth of most of the American plants that arrived in Europe from 16th to 18th centuries (these were mostly Neotropical; e.g. López & López, 1997; Heywood, 2012), and (ii) the exclusion of the Catalan ports from trading with the Spanish colonies of America, which lasted till 1765 (and was not completely removed until 1778, when the monopoly of the southern Spanish cities (Sevilla and later Cádiz; Fischer, 1981) was broken. Such a low relevance of America as the origin of alien plants in the Iberian areas excluded from trade with the New World is well exemplified by a "proto-checklist" of the plant species cultivated in the gardens of Barcelona in the early 18th century (only about 10%; Montserrat & Ibáñez, 2008). Another conspicuous example comes from the fact that the only American crop species cultivated on a certain scale in Catalonia in the late 18th century was *Phaseolus vulgaris* (Durán, 1997).

At the local level, most of the alien species of our study are cultivated at present (or were formerly cultivated) in the Garrotxa district (58, 68.2%), in the Catalan Countries (75, 88.2%) as well as in the rest of the Iberian Peninsula (78, 91.8%). In all three regions, a large fraction of the taxa is currently showing invasive behaviour (Fig. 7), although mostly at an early stage: in the Garrotxa district, 29 (34.1%) among the taxa included in our study are behaving as casual at present, a cypher percentage that rises to 37 (43.5%) for both the Catalan countries and 40 (47.1%) for the rest of the Iberian Peninsula. The percentage of taxa that occur as naturalized and truly invasive progressively decreases in all three regions: 14.1%, 27.1% and 29.4% (12, 23 and 25

taxa, respectively) as naturalized, and <10% (7 and 5 taxa for the Catalan countries and the rest of the Iberian Peninsula, respectively) as invasive (Fig. 7). At global level, 80 (94.1%) of all taxa are currently widely cultivated, whereas widely naturalized and widely invasive species account for 43 (50.6%) and 26 (30.6%), respectively (Fig. 8).

Unfortunately, we are not able to make any inference about the presence of a given alien taxon in our study and its invasion stage after two centuries, because we do not know whether the specimens stored in this herbarium belonged to wild or to cultivated plants; we can suspect, nevertheless, that a large part of the taxa—if not most—were probably cultivated, given that most of the alien plants included in Table 6 are well-known economic plants with a long history of cultivation. It is likely than even some specimens were from plants cultivated in his own garden (Alcalde, 2006). In spite of this, the Bolòs' herbarium is still a valuable proof of the alien species (regardless of their invasion or cultivation stage) that were already present in the apothecary's region two centuries ago (31 taxa in total). Of these, only four do not occur in Olot district at present, according to Oliver (2009), either wild or cultivated (although three were cultivated in the past: *Lathyrus sativus*, *Levisticum officinale* and *Rubia tinctorum*). Of the 27 remaining taxa, all are cultivated at present, 15 are casual, and seven are naturalized in the Olot district. Although none of these 27 taxa behave as invasive within the study area, two are currently regarded as aggressive invaders in the Catalan Countries (*Chenopodium ambrosioides* and *Datura stramonium*).

4. Concluding remarks

Our analyses indicate a non-negligible degree of consistency between the medicinal uses of plants recorded in this 18th and 19th century herbarium and the records found in the literature and in recent ethnobotanical datasets, accounting for the robustness and long-term tradition of pharmaceutical ethnobotanical knowledge in the area considered. The importance of some folk plant names in relation to pharmaceutical uses is confirmed. Data appearing in this herbarium are numerous, indicating that historical herbaria are relevant sources of ethnopharmacological information, and also of biogeographical patterns; some of the currently well-established alien plant species in the Catalan Countries and in the rest of the Iberian Peninsula were already present in Bolòs' hometown region more than two centuries ago. The existence in Barcelona's

botanical institutions of other such relevant herbaria makes it recommendable to undertake their study from this viewpoint to confirm this statement. In addition, special attention should be paid to some original uses contained on the herbarium's labels for further investigation on plant properties and drug design.

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Authors' contributions

All authors planned the study. The ethnobotanical (including historical) work was basically performed by Airy Gras, Teresa Garnatje and Joan Vallès. The aspects concerning plant origin, native status and conservation were basically performed by Neus Ibàñez, Neus Nualart and Jordi López-Pujol. Both subteams had several common meetings during the preparation of the study. Statistical calculations were performed by Airy Gras and Teresa Garnatje. Joan Vallès wrote a first skeleton of the manuscript and then each subteam developed the adequate parts. Finally, all authors read and emended the manuscript five times and Joan Vallès made the final version.

Figure captions

Fig. 1. Portrait of Francesc Bolòs and a self-penned manuscript with his signature. Documents from the Antoni de Bolòs' archive, reproduced from Garganta (1936).

Fig. 2. Examples of specimens of the herbarium of Francesc Bolòs with medicinal and related properties and folk names recorded on their labels.

Fig. 3. Human systems targeted by the medicinal plant uses quoted on Francesc Bolòs' herbarium labels.

Fig. 4. Comparison between plant taxa in Francesc Bolòs' herbarium with medicinal uses (n=343) and historical medicinal plant books and contemporary ethnobotanical data.

Fig. 5. Comparison of coincidences between plant taxa used and plant uses in Francesc Bolòs' herbarium and the different sources of the comparison set.

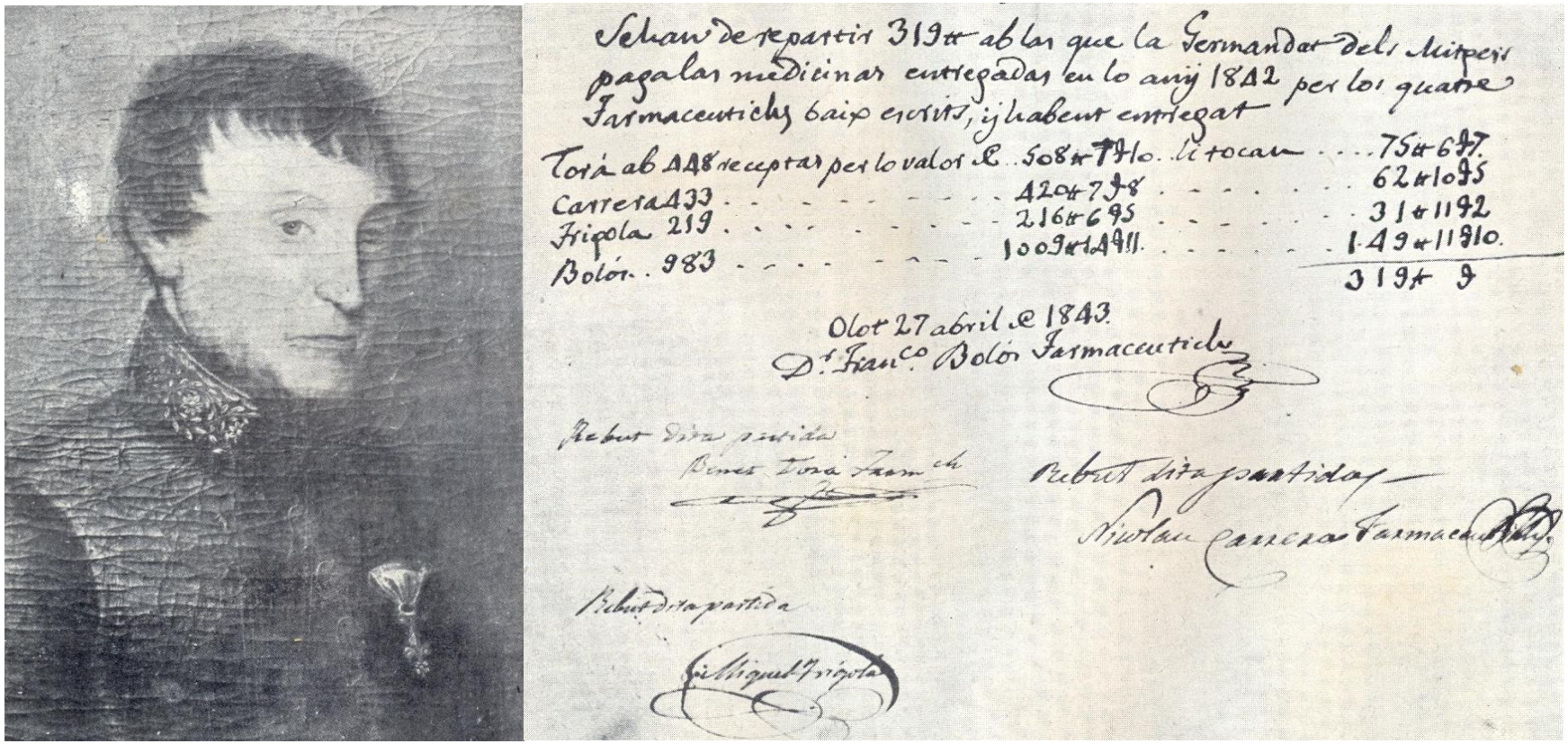
Fig. 6. Geographic origin of the alien taxa included in Francesc Bolòs' herbarium. A taxon has been classified as widespread if it is native to at least five of the areas defined by Brummitt (2001). Each taxon is allocated to one category only.

Fig. 7. Invasion stage at global (world) level of the alien taxa included in Francesc Bolòs' herbarium. WN, widely naturalized taxa; WI, widely invasive taxa; WC, widely cultivated taxa. As "widely", we consider that the taxon should be commonly present (as naturalized, invasive, or cultivated) in a minimum of two of the nine world regions

defined by Brummitt (2001). The categories “widely naturalized” and “widely invasive” are mutually exclusive, but they can be combined with the category “widely cultivated”.

Fig. 8. Invasion stage at local level of the alien taxa included in Francesc Bolòs’ herbarium for La Garrotxa district (GD), for the Catalan Countries (CC) and the rest of the Iberian Peninsula (rIP). The shaded areas of each bar indicate the proportion of casual, naturalized, or invasive taxa that are cultivated (at the present time or during the past; with the latter shaded in red). All categories are mutually exclusive except “cultivated”, which can be combined with any of the rest. Only those taxa that are commonly cultivated are categorized as “cultivated”.

Fig. 1



Se han de repartir 319tt ab las que la Germandat dels Misteris
pagalas medicinas entregadas en lo any 1842 per los quatre
Farmaceutichs baix escrits, y ja habent entregat

Toca ab 448 rectptas per lo valor de 508tt 7s 10d. li tocan . . . 75tt 6s 7d.
Carrera 433 . . . . . 420tt 7s 8d 62tt 10s 9s
Fripola 219 . . . . . 216tt 6s 9s 31tt 11s 2d
Bolós 983 . . . . . 1009tt 1s 9d . . . . . 149tt 11s 10d.
319tt 9

Olot 27 abril de 1843.
D.t Franco Bolós Farmaceutich

Rebut dita partida
Pares Tona Farm.ch

Rebut dita quantitat
Nicolau Carrera Farmaceutich

Rebut dita partida
Miquel Fripola

Fig. 2

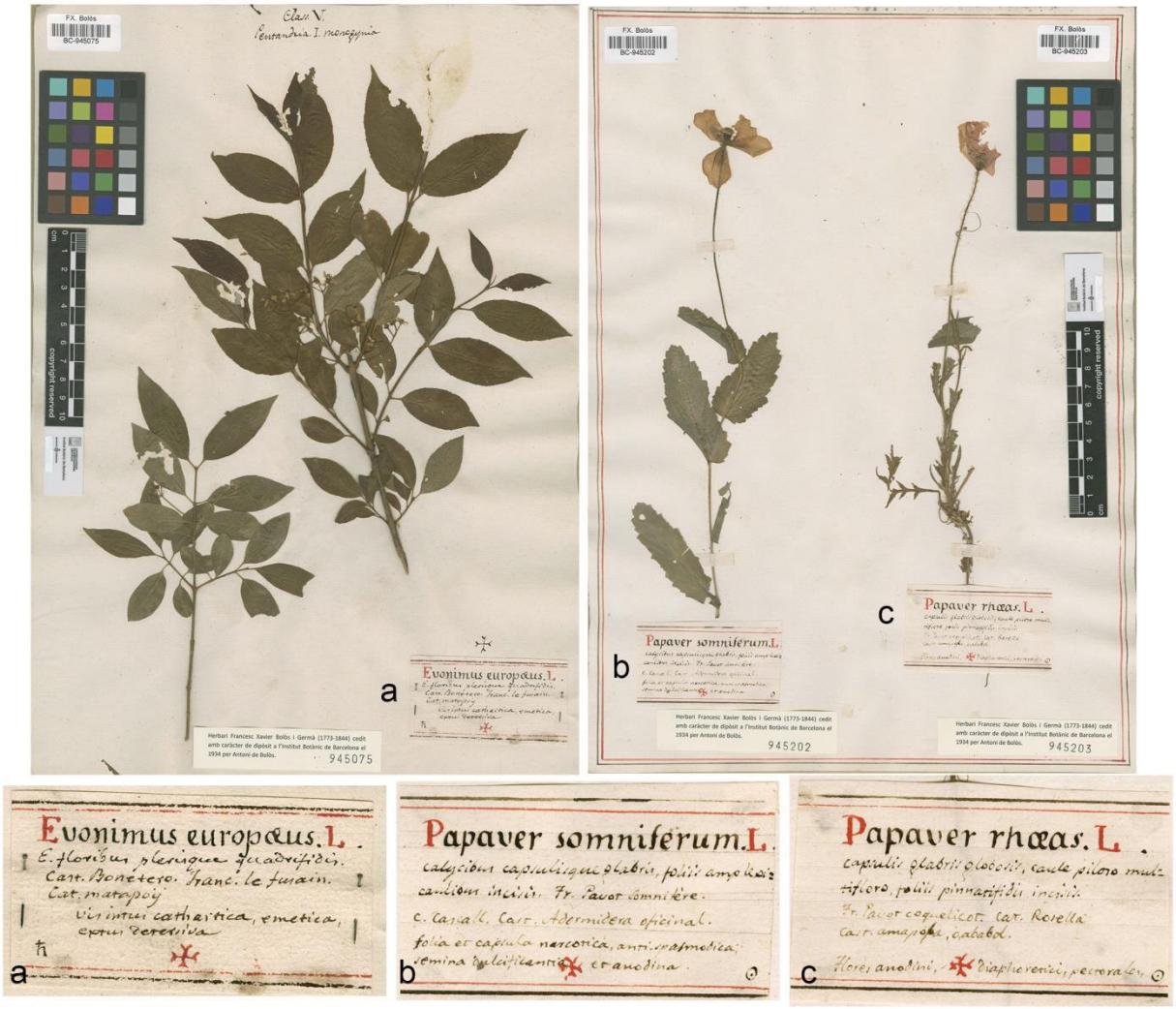

Evonimus europæus. L.
E. floribus plerisque tetradrifidis.
Cast. Bonetero. Franc. le fusain.
Cat. matapoj
Vis intus cathartica, emetica,
extus detersiva
a
Papaver somniferum. L.
calycibus capsulisque glabris, foliis amplexicaulibus inciſis. Fr. Pavot somnifère.
c. Casalk. Cast. Adormidera oficinal.
folia et capsula narcotica, anti-spasmodica;
semina pectoralia et anodina.
b
Papaver rhœas. L.
capsulis glabris globosis, caule piloso multiflorо, foliis pinnatifidis inciſis.
Fr. Pavot coquelicot. Cat. Rotella
Cast. amapola, cababol.
Flores anodini, diaphoretici, pectorales.
c

Fig. 3

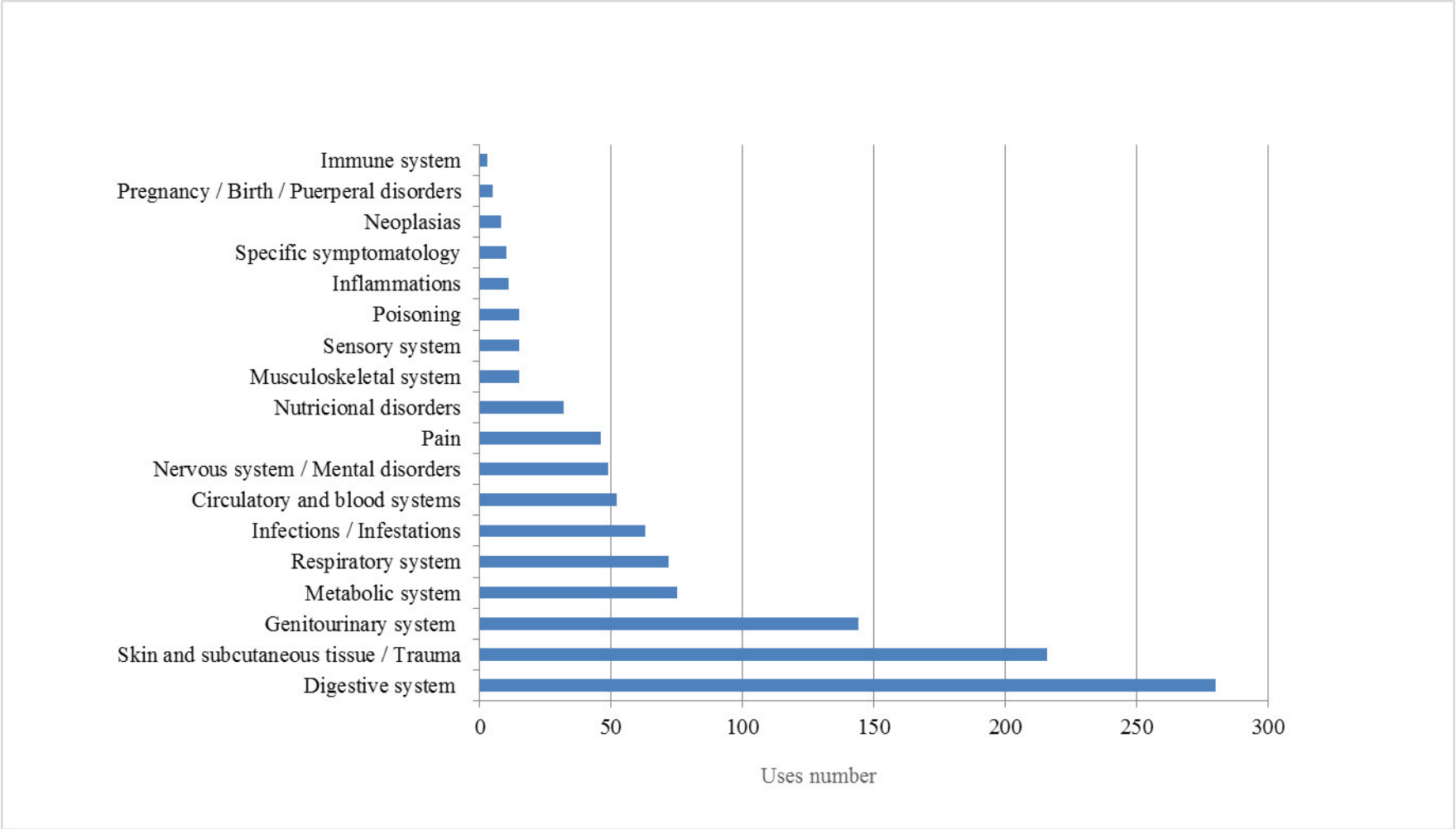

Immune system
Pregnancy / Birth / Puerperal disorders
Neoplasias
Specific symptomatology
Inflammations
Poisoning
Sensory system
Musculoskeletal system
Nutricional disorders
Pain
Nervous system / Mental disorders
Circulatory and blood systems
Infections / Infestations
Respiratory system
Metabolic system
Genitourinary system
Skin and subcutaneous tissue / Trauma
Digestive system
0
50
100
150
200
250
300
Uses number

Fig. 4

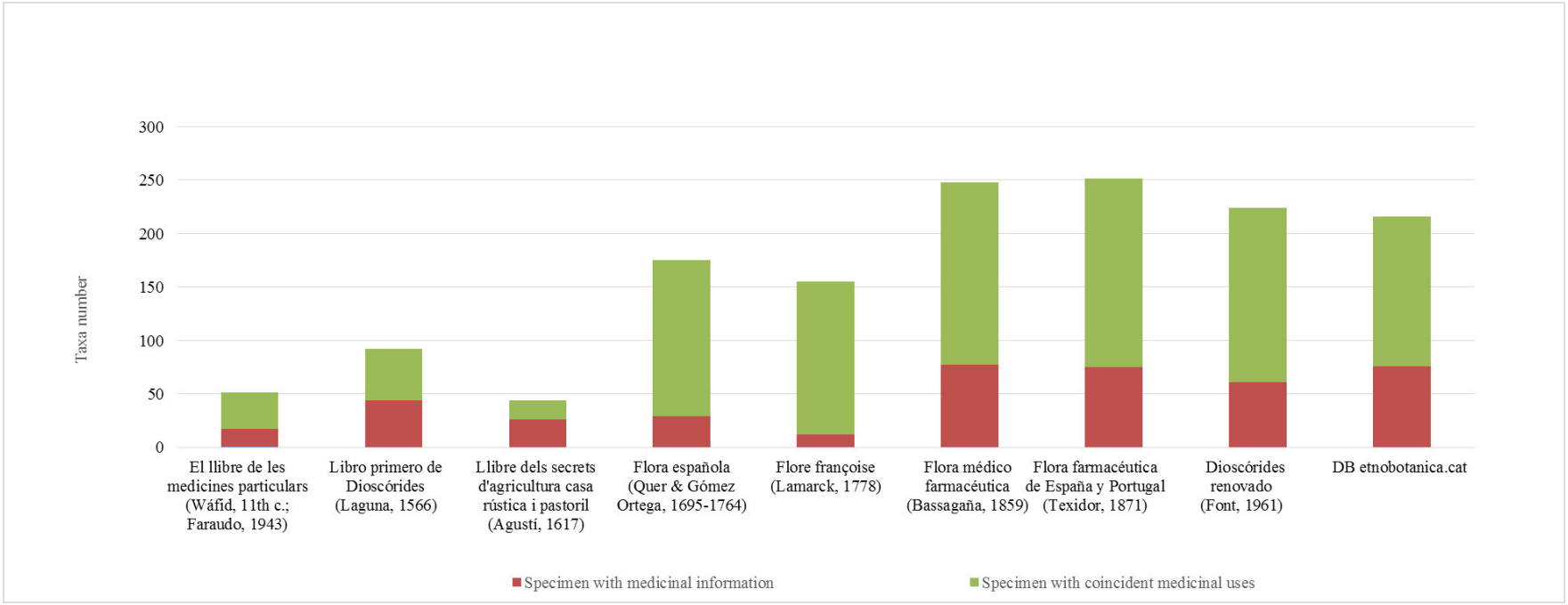

Taxa number
300
250
200
150
100
50
0
El llibre de les medicines particulars (Wáfid, 11th c.; Faraudo, 1943)
Libro primero de Dioscórides (Laguna, 1566)
Llibre dels secrets d'agricultura casa rústica i pastoril (Agustí, 1617)
Flora española (Quer & Gómez Ortega, 1695-1764)
Flore françoise (Lamarck, 1778)
Flora médico farmacéutica (Bassagaña, 1859)
Flora farmacéutica de España y Portugal (Texidor, 1871)
Dioscórides renovado (Font, 1961)
DB etnobotanica.cat
Specimen with medicinal information
Specimen with coincident medicinal uses

Fig. 5

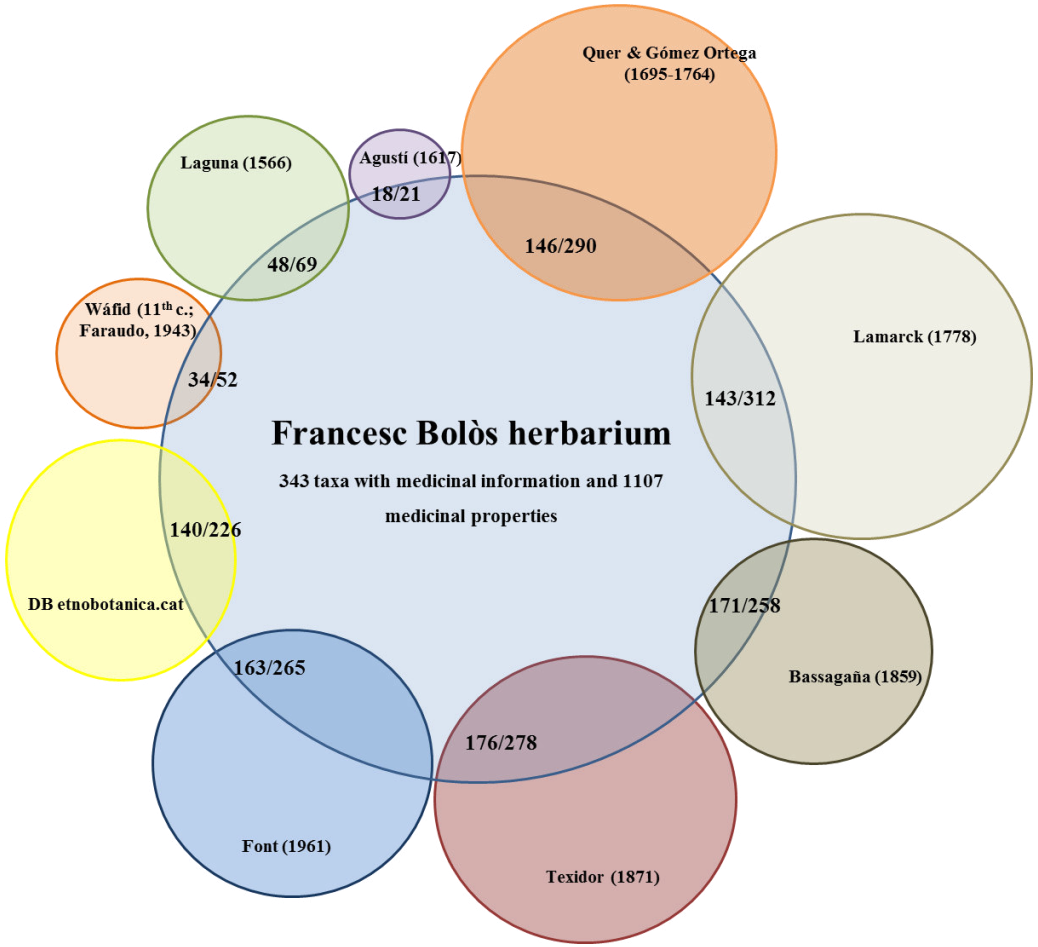

Quer & Gómez Ortega
(1695-1764)
Laguna (1566)
Agustí (1617)
18/21
146/290
48/69
Wáfid (11th c.;
Faraudo, 1943)
34/52
Lamarck (1778)
143/312
Francesc Bolòs herbarium
343 taxa with medicinal information and 1107
medicinal properties
140/226
DB etnobotanica.cat
171/258
Bassagaña (1859)
163/265
176/278
Font (1961)
Texidor (1871)

Fig. 6

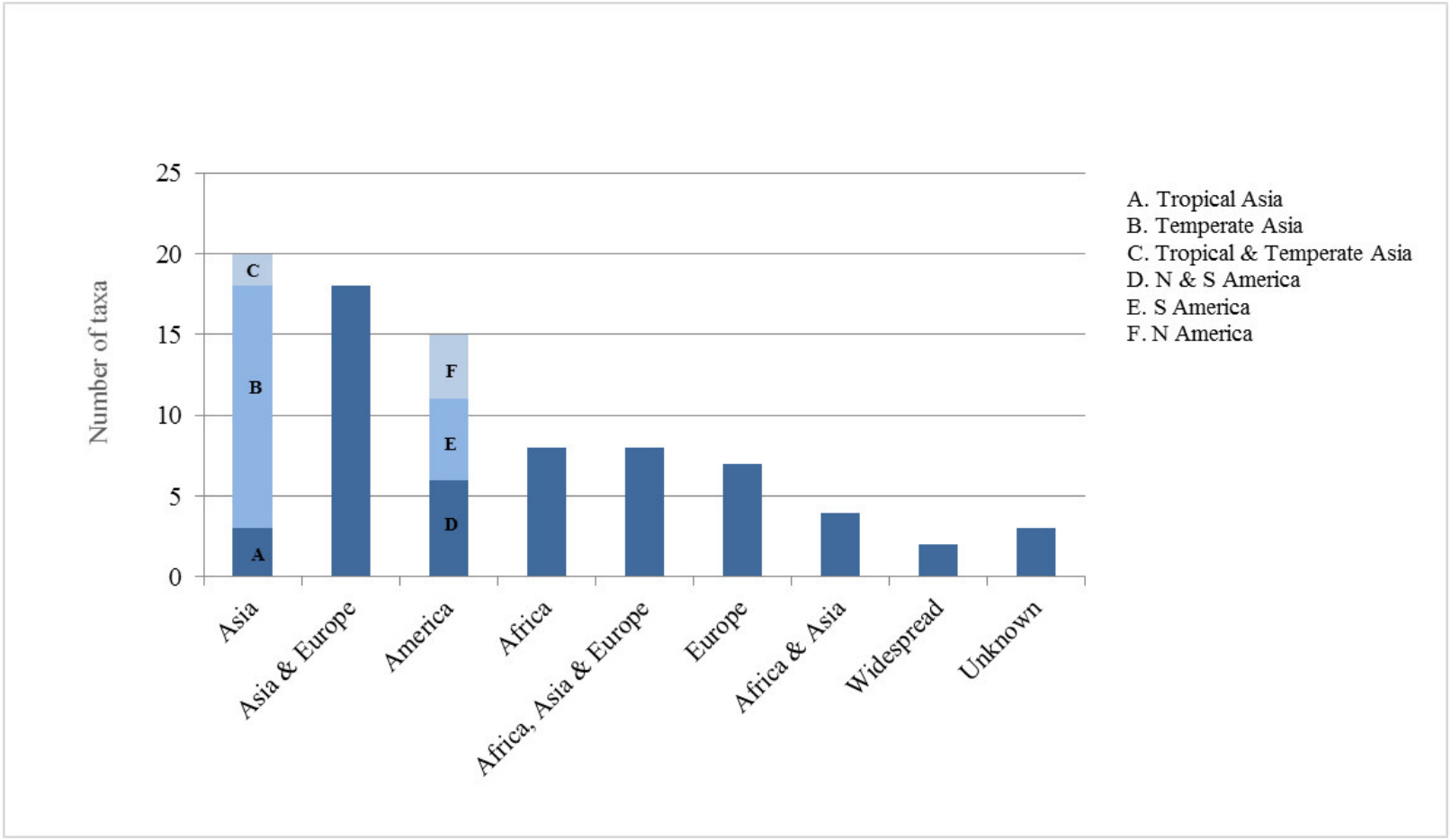

25
20
15
10
5
0
Number of taxa
A
B
C
D
E
F
Asia
Asia & Europe
America
Africa
Africa, Asia & Europe
Europe
Africa & Asia
Widespread
Unknown
A. Tropical Asia
B. Temperate Asia
C. Tropical & Temperate Asia
D. N & S America
E. S America
F. N America

Fig. 7

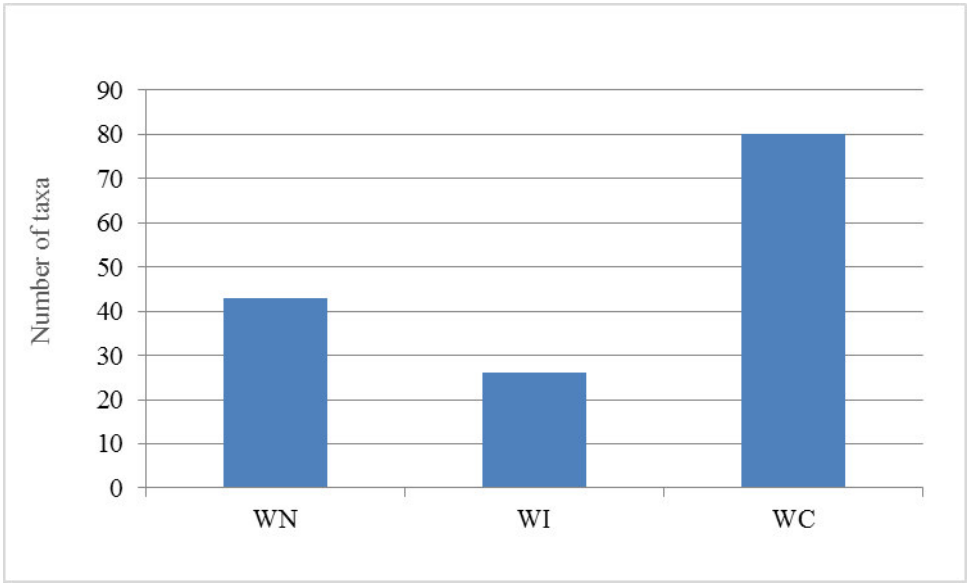


Fig. 8

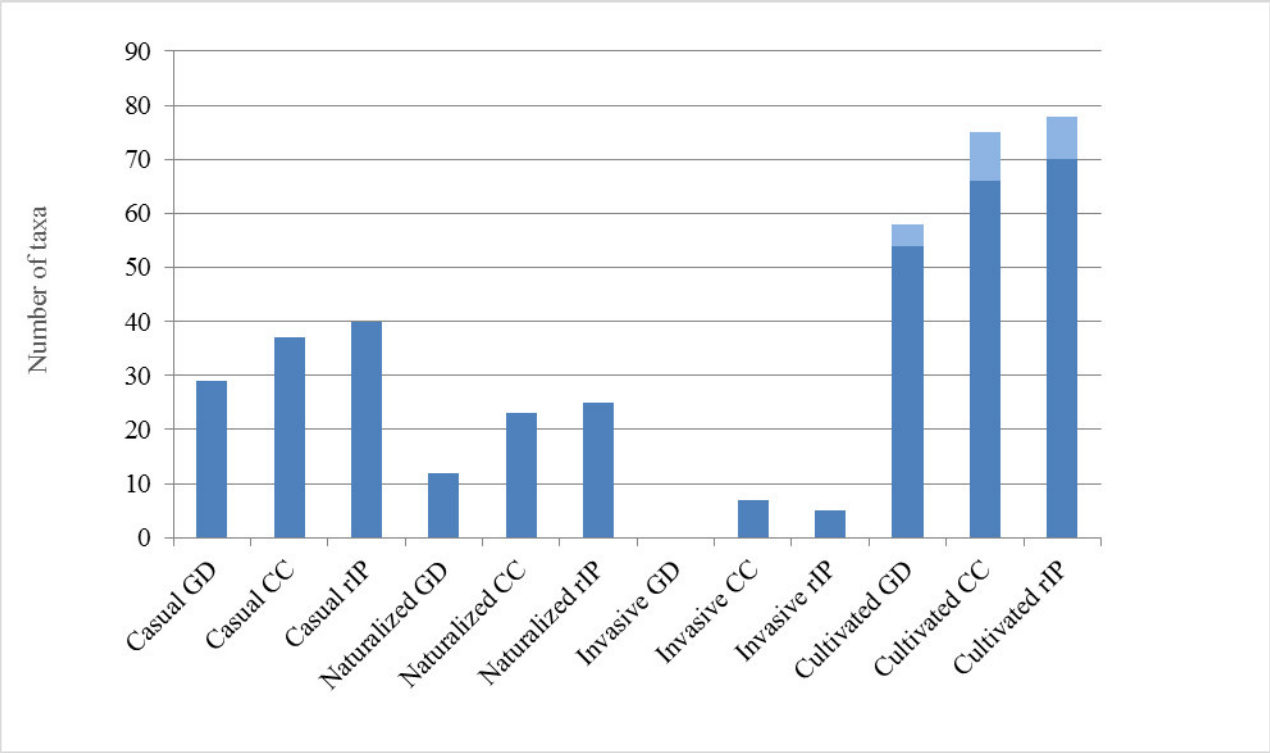

Number of taxa
90
80
70
60
50
40
30
20
10
0
Casual GD
Casual CC
Casual rIP
Naturalized GD
Naturalized CC
Naturalized rIP
Invasive GD
Invasive CC
Invasive rIP
Cultivated GD
Cultivated CC
Cultivated rIP

Table 1

Literature set used for comparison and traceability of plant names and uses.

Source	Characteristics
Faraudo (1943)	Transcription of a Catalan translation of a treatise on medicinal products written in the 11th century by the Arabic medicine doctor Ibn Wafid in Toledo (Spain)
Laguna (1566)	Version of the 'Materia medica' from the 1st century medicine doctor Pedanius Dioscorides, with much additional information from the Spanish 16th century's medicine doctor Andrés Laguna
Agustí (1617)	Treatise on agriculture, including much information on medicinal and aromatic plants, written by the 17th century monk Miquel Agustí, first published in Catalan and later translated into Spanish, which had numerous editions and constituted a best-seller in its time
Alós (1686)	An example of Catalan pharmacopoeia
Quer & Gómez Ortega (1695-1764)	A Spanish flora, with vernacular Spanish plants names and references to medicinal uses
Pharmacopoea matritensis (1762)	An example of Spanish pharmacopoeia
Lamarck (1778)	A French flora, with medicinal plant uses and French vernacular plant names
Bassagaña (1859)	Pharmaceutical botany manual published by Pere Bassagaña, pharmacist and auxiliary professor at the university in the 19th century
Texidor (1871)	Comprehensive treatise on medical botany in the Iberian Peninsula authored by Joan Texidor, university professor of medicinal plants at the University of Barcelona in the 19th century
Codex medicamentarius (1884)	An example of French pharmacopoeia, including French plant common names
Font (1961)	Compendium of ethnobotanical and other medicinal knowledge on Iberian plants from Pius Font i Quer, chemist, pharmacist and professor of botany at Barcelona's University in the 20th century
www.etnobotanica.cat	Information contained in our research team's database, including diverse field ethnobotanical works performed in 20th and 21st centuries in different Catalan language territories, with data on around 1,100 plant taxa obtained from ca. 1,600 informants.

Table 2

Plants in Francesc Bolòs' herbarium with medicinal uses. For the locality, we provide modern names (but for the origin and habitat, we provide the text as appears in the original label).

Taxon, family and herbarium voucher	Locality. Origin. Habitat	Popular name (Catalan. Spanish. French)	Medicinal properties
Acacia farnesiana (L.) Willd. (Fabaceae) BC-FXBolòs945402	–. –. –	Aromer. Aromo[6,9]. –	Astringent[6]. Antihaemorrhoidal
Acer campestre L. (Sapindaceae) BC-FXBolòs945393	–*. –. –	–. Quejigo arce. Érable commun[5]	Astringent[6]
Achillea millefolium L. (Asteraceae) BC-FXBolòs945333	–*. –. –	–. Milenrama oficinal[6,7,8,9]. Millefeuille[10]	Vulnerary[4,5,6,8,9]. Astringent[4,5,6,7,8,9]. Antiischaemia. Tonic[7,8,9]. Antihaemorrhoidal[4,8]
Achillea ptarmica L. (Asteraceae) BC-FXBolòs945334	–. –. –	–. Tármica común[6,7,8]. Herbe à éternuer	Sialagogue[6,7]. Sternutatory[4,5,6,7,8,9]. Vulnerary[5]. Antiodontalgic[4]
Acmella oleracea (L.) R.K.Jansen (Asteraceae) BC-FXBolòs945331	–. Brasilia. –	–. –. –	Against scurvy. Antiodontalgic
Actaea spicata L. (Ranunculaceae) BC-FXBolòs945200	–. Pyrenaeis. –	–. –. –	Diaphoretic
Adiantum capillus-veneris L. (Pteridaceae) BC-FXBolòs945420	–*. –. –	Capillera[1,6,7,8], falguerola, falzia[2,6,7,8,9]. Culantrillo de pozo[4,6,7,8,9]. Capillaire[8]	Pectoral[1,6,7,8,9]. Bechic[8,9]. Appetizer[4]
Aesculus hippocastanum L. (Sapindaceae) BC-FXBolòs945179	–. –. –	–. –. –	Sternutatory[4,5,6,7,8]. Astringent[5]
Agrimonia eupatoria L. (Rosaceae) BC-FXBolòs945096	–*. –. –	–. Agrimonia oficinal[4,6,7,8]. Aigremoine[5,10]	Vulnerary[4,5,6,7,9]. Astringent[4,5,6,7,8,9]. Appetizer[4,5]. Detersive[4,5]
Ajuga chamaepitys (L.) Schreb.	–*. –. –	Iva artètica[3,7,8]. Camepitio	Appetizer. Nervous tonic[6]. For headache.

(Lamiaceae) BC-FXBolòs945229		oficinal[7,8]. Germandrée ivette	Emmenagogue[3,7]. Against arthritis. Antirheumatic
Ajuga iva (L.) Schreb. (Lamiaceae) BC-FXBolòs945232	–. –. –	–. –. Ivette musquée[10]	Nervous tonic[4,6,9]. For headache[4]
Ajuga reptans L. (Lamiaceae) BC-FXBolòs945227	–*. –. –	–. Bugula oficinal[6,7,8]. Bugle rampante	Vulnerary[6,7,8]. Astringent[6,8]
Alchemilla vulgaris L. (Rosaceae) BC-FXBolòs945130	–*. –. –	–. Pie de león común[4,6,7,8]. Pied de lion commun[5]	Vulnerary[2,4,5,8,9]. Astringent[4,5,6,7,8]
Alisma plantago-aquatica L. (Alismataceae) BC-FXBolòs945178	–*. –. –	–. –. –	Renal lithotriptic
Alliaria petiolata (M.Bieb.) Cavara & Grande (Brassicaceae) BC-FXBolòs945273	–*. –. –	–. Aliaria oficinal[7]. Alliaire	Diuretic[7]. Against sexual transmission illness. Antiasthmatic. Antiulcerous. For lymphatic nodes and ganglions.
Alnus glutinosa (L.) Gaertn. (Betulaceae) BC-FXBolòs945377	–*. –. –	–. Aliso árbol[6,7,8]. Aulne	Astringent[6,7]. Resolutive[9]. Anti-inflammatory. Buccal and pharyngeal anti-inflammatory[7,8,9]
Althaea officinalis L. (Malvaceae) BC-FXBolòs945302	–. –. –	Malví[6,7,8,9]. Malvavisco oficinal[6,7,8,9]. Guimauve[5,10]	Emollient[5,8]. Demulcent. Lubricant. Antalgic[1,5]. Anti-inflammatory[2,6,8,9]. Antitussive[5,8,9]
Amaranthus blitum L. (Amaranthaceae) BC-FXBolòs945386	–. –. –	–. Bledo[6]. Amaranthe blette	Refreshing[6]. Antihaemorrhoidal
Amaranthus tricolor L. (Amaranthaceae) BC-FXBolòs945387	–. China. –	–. –. –	Humectant[4]. Refreshing
Ambrosia maritima L. (Asteraceae) BC-FXBolòs945385	–. –. –	–. Ambrosia marítima[4]. Ambrosie maritime	Astringent[4]. Resolutive[4]. Reinforcing
Anagallis arvensis L. (Primulaceae) BC-FXBolòs945144	–*. –. –	–. –. –	For headache[2,4,6,8]. Anticonvulsive[4,6]. Vulnerary[1,6,8]
Anagyris foetida L. (Fabaceae) BC-FXBolòs945189	–*. –. –	–. –. Bois puant	Emetic[2,4,7,8,9]. Emmenagogue[2,4,8]. For headache[2,4,8]
Anchusa azurea Mill. (Boraginaceae) BC-FXBolòs945135	–*. –. –	–. Buglosa oficinal[6,7,9]. Buglose[10]	Expectorant[6]. Against sexual transmission illness. Antipleuritic. Antipneumonic

Anemone coronaria L. (Ranunculaceae) BC-FXBolòs945277	–. –. –	Anemone[9]. –. Anemone	–
Anemone hepatica L. (Ranunculaceae) BC-FXBolòs945278	–*. –. –	–. Hepática noble[4,7]. Anémone hépatique[5]	Vulnerary[4,5,6,7,8,9]. Astringent[4,5,6]. Tonic[5,6]
Angelica archangelica L. (Apiaceae) BC-FXBolòs945161	–. Alpibus Lapponia. –	–. Angélica[6,7,8]. Angélique[10]	Antivenomous[4]. Diaphoretic[5,6]. Carminative[5,6,7]. Stomachic[5,7,8]. Emmenagogue[5,6,7]. Antihysteric[7]
Angelica sylvestris L. (Apiaceae) BC-FXBolòs945162	–*. –. –	–. Angélica. Angélique	Antivenomous. Diaphoretic[6,9]. Carminative[6,7]. Stomachic[7]. Emmenagogue[6,7]
Anthriscus cerefolium (L.) Hoffm. (Apiaceae) BC-FXBolòs945159	–*. –. –	Cerfull[6,8]. Perifollo[6,8]. Cerfeuil	Against sexual transmission illness. Appetizer[6,8]. Against dropsy. Galactofugue
Anthyllis vulneraria L. (Fabaceae) BC-FXBolòs945288	–*. –. –	–. –. Vulnéraire	Vulnerary[4,7,8,9]
Apium graveolens L. (Apiaceae) BC-FXBolòs945154	–. –. –	Àpit[1,6,7,9]. Apio[6,7,8,9]. Céléri	Appetizer[6,7,8,9]. Resolutive[1,8]. Diaphoretic[5]. Galactofugue. Carminative[1,6]
Apium nodiflorum (L.) Lag. (Apiaceae) BC-FXBolòs945160	–*. –. –	–. –. –	Against scurvy. Against sexual transmission illness. Diuretic. Emmenagogue. Resolutive
Aquilegia vulgaris L. (Ranunculaceae) BC-FXBolòs945209	–*. –. –	–. Aguileña común[6,7,8], pajarilla[6,7,8]. Ancolie[5]	Appetizer[4,6,7]. Emmenagogue[5]. Diuretic[4,5,6,7]. Diaphoretic[4,5,6,7]. Against scurvy[4,5,7]
Arctium lappa L. (Asteraceae) BC-FXBolòs945317	–*. –. –	Repalassa[6,7,8]. Bardana[2,4,6,7,8]. Bardane[10]	Diuretic[4]. Diaphoretic[4,6]. Antisyphilitic. Antiarthritic. Antinephritic
Aristolochia rotunda L. (Aristolochiaceae) BC-FXBolòs945373	–. –. –	Perria. Aro manchado. Pied de veau	Emmenagogue[5,6]. Tonic[5]
Armoracia rusticana P.Gaertn., B.Mey. & Scherb. (Brassicaceae) BC-FXBolòs945269	–. –. –	–. –. –	Against scurvy[7]. Diuretic. Against dropsy[7]. Renal lithotriptic
Arnica montana L. (Asteraceae) BC-FXBolòs945347	La Garrotxa, la Vall d'en Bas, Santa Magdalena del Mont*.	–. –. Arnique[5,10], bezoine de montagne	Resolutive[4]. Narcotic. Sternutatory[4,6,9]. Emetic[4,7]. Antiepileptic

	Pyrenaeis. –		
Artemisia abrotanum L. (Asteraceae) BC-FXBolòs945341	–. –. –	–. –. –	Antihelminthic[5,9]. Emmenagogue[7,9]. Appetizer[5]. Against sexual transmission illness[5]. Against tinea
Artemisia absinthium L. (Asteraceae) BC-FXBolòs945340	–*. –. –	–. Ajenjo común. Absinthe vulgaire	Stomachic[6,7,8,9]. Antacid. Febrifuge[7,9]. Antihelminthic[6,7,8,9]
Artemisia vulgaris L. (Asteraceae) BC-FXBolòs945339	–*. –. –	–. Artemisa oficinal[4,6,7,8]. Armoise[5,10]	Analeptic. Reinforcing. Against tertian fevers. For uterine troubles[4]. Antihysteric[5]. Emmenagogue[4,5,6,7,8,9]
Arum maculatum L. (Araceae) BC-FXBolòs945374	–*. –. –	Perria. Aro manchado[6]. Pied de veau[10]	Against sexual transmission illness[4]. Expectorant[4,6]. Antiasthmatic[4]
Asparagus officinalis L. (Asparagaceae) BC-FXBolòs945168	–*. –. –	Espàrrecs[1,2,6,7,9]. Esparraguera común[2,6,7,8]. Asperge[2,5,10]	Appetizer[5,6,7,8]. Diuretic[1,2,3,5,6,7,8,9]. Aphrodisiac
Asperula cynanchica L. (Rubiaceae) BC-FXBolòs945116	–*. –. –	–. –. –	Astringent[5,9]
Asperula tinctoria L. (Rubiaceae) BC-FXBolòs945117	–. –. –	–. –. Aspérule des teinturiers[5]	Astringent[5,6]
Asphodelus ramosus L. (Asphodelaceae) BC-FXBolòs945174	–. –. –	–. Gamón ramoso. Asphodèle[5]	Detersive. Appetizer. Emmenagogue[6]
Asplenium ruta-muraria L. (Aspleniaceae) BC-FXBolòs945418	–*. –. –	–. –. Doradille des murs[5], sauve-vie	Pectoral[5,6,8]. Appetizer[5,8]
Asplenium scolopendrium L. (Aspleniaceae) BC-FXBolòs945416	–*. –. –	–. –. Doradille cétérach	Pectoral[4,7,8]. Astringent[2,4,7,8]
Asplenium scolopendrium L. (Aspleniaceae) BC-FXBolòs945415	–*. –. –	–. Lengua de ciervo[7,8,9]. Doradille scolopendre	Pectoral[4,7,8]. Astringent[2,4,7,8]. Vulnerary[4,7,8]
Asplenium trichomanes L. (Aspleniaceae) BC-FXBolòs945417	–*. –. –	–. –. Doradille polytric[5]	Appetizer[5]. Bechic[5,9]
Astragalus gypsophilus Rouy (Fabaceae) BC-FXBolòs945306	–. –. –	–. –. –	Diuretic. Haemostatic

Astragalus pelecinus (L.) Barneby (Fabaceae) BC-FXBolòs945307	–. –. –	–. Serradilla. Double-scie pelecine[5]	Diuretic. Digestive
Atractylis cancellata L. (Asteraceae) BC-FXBolòs945327	–. –. –	–. Atractilis baja. –	Appetizer. Diaphoretic
Atractylis humilis L. (Asteraceae) BC-FXBolòs945326	–*. –. –	–. Atractilis baja. –	Appetizer. Diaphoretic. Antivenomous
Atriplex littoralis L. (Amaranthaceae) BC-FXBolòs945392	–*. –. –	–. –. Arroche des rives[5]	Humectant. Refreshing. Emollient
Atropa belladonna L. (Solanaceae) BC-FXBolòs945065	–. –. –	–. Belladona vulgar[6,7,8]. –	Refreshing. Narcotic[6,7,8]. Resolutive[8]
Avena sativa L. (Poaceae) BC-FXBolòs945105	–. –. –	Civada[3,6,7,8,9]. Avena común[6,7,8]. Avoine[5,10]	Demulcent. Emollient[7]
Ballota nigra L. (Lamiaceae) BC-FXBolòs945246	–*. –. –	–. Marrubio negro[6,7,8]. Marrube puant	Resolutive[2,5,8]. Abstergent. Antiulcerous. Antalgic
Bellis annua L. (Asteraceae) BC-FXBolòs945349	–. –. –	–. –. Paquerette annuelle	Refreshing. Vulnerary[7]. Antidysenteric. For vision
Beta vulgaris L. (Amaranthaceae) BC-FXBolòs945085	–. –. –	Bleda[1,2,3,7,8,9]. Remolacha[7]. Poirée[2]	Emollient[7]. For vision. For headache
Bituminaria bituminosa (L.) C.H.Stirt. (Fabaceae) BC-FXBolòs945308	–*. –. –	–. –. –	Anticarcinomatous[9]. Against paralisis
Borago officinalis L. (Boraginaceae) BC-FXBolòs945140	–*. Europa et Aleppo. –	Borraina[6,7,8,9]. Borraja oficinal[2,4,6,7,8]. Bourrache[5,10]	Expectorant[4,5,9]. Against sexual transmission illness. Antipleuritic[4]. Antipneumonic[4,9]
Brassica napus L. (Brassicaceae) BC-FXBolòs945274	–. –. –	–. –. –	Carminative[1]. Pectoral[5,7]. Antituberculous
Brassica nigra (L.) K.Koch (Brassicaceae) BC-FXBolòs945276	–. –. –	–. Mostaza[6,8]. Moutarde[10]	Aphrodisiac. Against paralisis[3]. Diaphoretic[9]. Vesicant[7,8]
Bryonia cretica L. subsp. *dioica* (Jacq.) Tutin (Cucurbitaceae) BC-FXBolòs945413	–*. –. –	–. Brionia, nueza blanca. Bryone[10], couleuvrée	Resolutive. Antihelminthic. Against dropsy. Antiscrofulous. Antiepileptic
Bupleurum rotundifolium L. (Apiaceae) BC-FXBolòs945170	–*. –. –	–. Bupleuro de los sembrados. Percefeuille	Vulnerary[5,6]. Astringent[5]

Buxus sempervirens L. (Buxaceae) BC-FXBolòs945384	–*. –. –	Boix[3,6,7,8,9]. Boj[4,7,9]. Buis arborescent[5,10]	Desiccant[5]. Astringent[5]. Diaphoretic[4,5,6,9]. Cathartic[5,6,9]
Calendula arvensis M.Bieb. (Asteraceae) BC-FXBolòs945361	–*. –. –	–. Maravilla silvestre[4,8]. –	Emmenagogue[4,5,6,7,8,9]. Diaphoretic[6,7]. Appetizer[4]. Against sexual transmission illness. Antivenomous
Campanula rapunculus L. (Campanulaceae) BC-FXBolòs945148	–*. –. –	Repunxons. Rapónchigo[7,8]. Raiponce	–
Canna indica L. (Cannaceae) BC-FXBolòs945038	–. Asia, America. –	–. Canacoro[6], caña de cuentas[6]. Canne d'Inde	Diuretic. Detersive[4]
Cannabis sativa L. (Cannabaceae) BC-FXBolòs945370	–. –. –	–. Cáñamo[2,4,6,7,8,9]. Chanvre[5,10]	Antiicteric[4]. Narcotic[5,7,8]. Antiaphrodisiac[2,8]. Antigonorrhoeal[7]
Capparis spinosa L. (Capparaceae) BC-FXBolòs945199	–. –. –	Tàperes[2,3,9]. –. –	Diuretic[1,2,5,6,7,8,9]. Emmenagogue[2,5,8]. Appetizer[3,5,6,7,8]. For spleen troubles[1,2,3,8]. Tonic[9]
Capsella bursa-pastoris (L.) Medik. (Brassicaceae) BC-FXBolòs945267	–*. –. –	–. Bolsa de pastor[4,6,7,8,9]. Boursette, tabouret	Vulnerary[4]. Refreshing[4]. Astringent[4,6,9]. Antidiarrhoeal[4,9]. Antigonorrhoeal[4]. Antiischaemia
Capsicum annuum L. (Solanaceae) BC-FXBolòs945074	–. America merid. –	Pebrot[6,9]. Pimiento común[4,6,8,9]. Poivre de Guinèe[10]	–
Cardamine pentaphyllos (L.) Crantz (Brassicaceae) BC-FXBolòs945270	–*. –. –	Canuguera. –. Dentaire	–
Cardiospermum halicacabum L. (Sapindaceae) BC-FXBolòs945185	–. –. –	–. Farolillo de jardín. Ballon à gaz	–
Carduus acanthoides L. (Asteraceae) BC-FXBolòs945319	–. –. –	–. –. Chardon acanthin[5]	Pectoral. Appetizer. Resolutive. Vesicant. Antipleuritic. Against dropsy
Carduus nutans L. (Asteraceae) BC-FXBolòs945318	–. –. –	–. –. Chardon penché[5]	–
Carlina acaulis L. (Asteraceae) BC-FXBolòs945324	–*. –. –	–. –. –	Diaphoretic. Stomachic[8]. Antiicteric. Against itch
Carlina corymbosa L. (Asteraceae) BC-	–*. –. –	–. Carlina amacetada[9]. Carline	Diaphoretic. Appetizer. Antivenomous.

FXBolòs945325		corymbière[5]	Antihelminthic. Emmenagogue. For the pest
Carthamus lanatus L. (Asteraceae) BC-FXBolòs945329	–*. –. –	–. Cardohuso. Carthame laineux[5]	Febrifuge[5,9]. Diaphoretic[5,9]
Carthamus tinctorius L. (Asteraceae) BC-FXBolòs945328	–. –. –	Safranó[6,7,8]. Alazor[6,7,8], azafrán romí[6,7,8]. Safran bâtard[8]	Cathartic[6,8]
Castanea sativa Mill. (Fagaceae) BC-FXBolòs945396	–*. –. –	–. Castaño[4,6,7,8]. Châtaignier	Carminative[7]. Demulcent. Against excoriation
Celtis australis L. (Cannabaceae) BC-FXBolòs945401	–*. –. –	Lledoner[6,7,8,9]. Almez[2,4,6,7,8]. Micocoulier austral[5]	Astringent[2,4,6,7,8]. Antihaemorrhoidal
Centaurea benedicta (L.) L. (Asteraceae) BC-FXBolòs945359	–. –. –	–. Cardo Santo[4,6,7,8]. Chardon bénit	Diaphoretic[4,6,7,8]. Antihelminthic[3]. Antivenomous[4,7]
Centaurea calcitrapa L. (Asteraceae) BC-FXBolòs945360	–*. –. –	–. Trepacaballos encarnada[6,7,8]. Chausse-trape	Febrifuge[6,7,8,9]. Vulnerary[8]. Diuretic[8]. Antinephritic[6,8]
Centaurium erythraea Rafn (Gentianaceae) BC-FXBolòs945092	–*. –. –	Flor de Santa Margarida[7,9]. Centaura menor[4,7]. Petitte centaurée[10]	Tonic[7]. Stomachic[7,9]. Antiicteric[4]. Against tertian fevers
Ceratonia siliqua L. (Fabaceae) BC-FXBolòs945404	–. –. –	Garrofes[1,8,9]. Algarrobo[4,6,7,8,9]. Caroubier[10], carouger	Astringent[1,4,7,8,9]. Bechic[9]. Laxative[1,4,5,8,9]
Ceterach officinarum Willd. (Aspleniaceae) BC-FXBolòs945419	–*. –. –	–. –. Doradille noire	Pectoral[6,7,9]. Appetizer[7]
Chelidonium majus L. (Papaveraceae) BC-FXBolòs945201	–*. –. –	–. Celidonia mayor[8]. Grande chélidoine	Diuretic[5,7]. Diaphoretic[5,7]. Hepatoprotective[5,9]. Against dropsy[5]. For warts[5,6,7,8,9]. For incipient cataracts[1,3,4,6,7]
Chenopodium bonus-henricus L. (Amaranthaceae) BC-FXBolòs945082	–. Pyrenaeis.–	Sarrons[4,6,7,9]. Ceñiglo untuoso[6,7]. Bon Henri	Refreshing. Antalgic[4]. Antihaemorrhoidal. Hypouricemiant[4]
Chenopodium vulvaria L. (Amaranthaceae) BC-FXBolòs945084	–. Europa. Cultis	–. Jardinera. Arroche puante	Antihysteric[6,7]
Cicer arietinum L. (Fabaceae) BC-FXBolòs945292	–*. –. –	Ciuró[1,2,3,6,7,9]. Garbanzo[4,6,7,8]. Lepon chiche	–
Cichorium intybus L. (Asteraceae) BC-	–*. –. –	–. Achicoria oficinal[7,8].	Dysobstruent[9]. Antiicteric[8]. Anticachectic[8].

FXBolòs945337		Chicorée[5,10]	Stomachic[5,7,8,9]. Antimelancholic. Antihypochondriac
Cirsium arvense (L.) Scop. (Asteraceae) BC-FXBolòs945330	–*. –. –	–. –. Serrette	Vulnerary[9]. Abstergent. Cicatrising. Resolutive[5]. Antihaemorrhoidal[4,6]
Cirsium eriophorum (L.) Scop. (Asteraceae) BC-FXBolòs945321	–*. –. –	–. –. –	Anticarcinomatous
Cirsium palustre (L.) Coss. ex Scop. (Asteraceae) BC-FXBolòs945320	–*. –. –	–. –. Chardon, cirse des marais[5]	–
Citrullus colocynthis (L.) Schrad. (Cucurbitaceae) BC-FXBolòs945399	–. –. –	–. Tuera oficinal[7,8]. Coloquinte[2,10]	Antiphlegmatic in respiratory[1,2], nervous[1] and musculoskeletal[1,2] systems
Citrullus lanatus (Thunb.) Matsum. & Nakai (Cucurbitaceae) BC-FXBolòs945409	–. –. –	–. Zandia[7,9]. Citrouille	–
Clematis vitalba L. (Ranunculaceae) BC-FXBolòs945279	–*. –. –	–. Muermera[7,8]. Herbe aux gueux, viorne des pauvres	Vesicant[5,6,7,8]
Clinopodium nepeta (L.) Kuntze subsp. *glandulosum* (Req.) Govaerts (Lamiaceae) BC-FXBolòs945253	–*. –. –	–. Calamento[2,6,7,8], calaminta oficinal[7,8]. –	Resolutive. Expectorant. Stomachic[8,9]. Antiasthmatic[7]
Cochlearia officinalis L. (Brassicaceae) BC-FXBolòs945268	–. –. –	–. Coclearia oficinal[6,7,8]. Herbe aux cuilliers	Against scurvy[5,6,7,8]. Dysobstruent
Conium maculatum L. (Apiaceae) BC-FXBolòs945166	–*. –. –	–. Cicuta[7,8]. Cigue[10]	Resolutive[7,9]. Antiscrofulous[7,9]. Anticancerous[6,8,9]. Hypouricemiant[4]. Antirheumatic
Consolida regalis Gray (Ranunculaceae) BC-FXBolòs945208	–. –. –	–. –. Dauphin des blés, pied d'alouette	Vulnerary
Convolvulus arvensis L. (Convolvulaceae) BC-FXBolòs945146	–*. –. –	Corretjoles[6,7,8,9]. Correhuela de campos. Petit liseron	Resolutive. Antalgic[9]
Convolvulus scammonia L. (Convolvulaceae) BC-FXBolòs945147	–. –. –	–. Escamonea. –	Antihysteric
Corema album (L.) D.Don (Ericaceae) BC-FXBolòs945366	–. Lusitania. –	–. Camariñera blanca. Camarigne blanche	Refreshing[8]. For vision

Coriaria myrtifolia L. (Coriariaceae) BC-FXBolòs945380	–*. –. –	Rodor[4,6,7,8,9]. Ruido. Redoul	–
Coris monspeliensis L. (Primulaceae) BC-FXBolòs945056	–*. –. –	–. Yerba pincel[6,7,8,9]. Coris de Montpellier[5]	Emetic[6,8]. Antisyphilitic[6,7,8,9]
Cornus sanguinea L. (Cornaceae) BC-FXBolòs945128	–*. –. –	–. Cornejo encarnado[8]. Cornouiller sanguin[5]	Astrigent. Antidysenteric
Corylus avellana L. (Betulaceae) BC-FXBolòs945397	–*. –. –	–. Avellano[4,6,7,8]. Noisettier[10]	Laxative. Antihelminthic[4]
Crithmum maritimum L. (Apiaceae) BC-FXBolòs945165	–. –. –	–. –. Criste marine[5]	Appetizer[4,5,6,8]. Diuretic[2,4,5,6,7,8,9]
Cruciata laevipes Opiz (Rubiaceae) BC-FXBolòs945390	–*. –. –	–. Valancia cruzada. Croisette	Astringent. Vulnerary
Cucumis melo L. (Cucurbitaceae) BC-FXBolòs945412	–*. –. –	–. Melón[4,7,8]. Melon	Demulcent[4,6]. Refreshing[7]. For putrid fevers. Antihypnotic. Antinephritic. Diuretic
Cucurbita pepo L. (Cucurbitaceae) BC-FXBolòs945400	–. –. –	–. Pastelara. Bonnet d'électeur	–
Cucurbita pepo L. (Cucurbitaceae) BC-FXBolòs945411	–. –. –	–. Calabaza común[6,7]. Courge[2]	–
Cuscuta europaea L. (Convolvulaceae) BC-FXBolòs945131	–*. –. –	–. Cuscuta oficinal[7]. Cuscute filiforme[5], épithyme	Appetizer[4]. Laxative[4,6]
Cyanus segetum Hill. (Asteraceae) BC-FXBolòs945358	–*. –. –	–. Aciano[4,7,8]. Bleuet[9,10]	For vision[6,7,8,9]. Refreshing. Astringent
Cyclamen purpurascens Mill. (Primulaceae) BC-FXBolòs945141	–. –. –	–. Arránita, pan porcino[7]. Pain de pourceau	Purgative[7]. Emmenagogue[7]. Resolutive[7]. Cathartic[7]
Cydonia oblonga Mill. (Rosaceae) BC-FXBolòs945217	–*. –. –	Codonyer[3,7,8,9]. Membrillo[2,7,9]. Cognassier	Astrigent[1,2,3,7,8,9]. Reinforcing
Cymbalaria muralis P.Gaertn., B.Mey. & Scherb. (Plantaginaceae) BC-FXBolòs945260	–. –. –	Cimbalària. –. Cymbalaire	Astrigent. Vulnerary
Cynara cardunculus L. (Asteraceae) BC-	–*. –. –	–. Cardo de comer[6,7,8]. –	Diuretic[7,9]

FXBolòs945323			
Cynodon dactylon (L.) Pers. (Poaceae) BC-FXBolòs945102	–*. –. –	–. Grama oficinal[7,8]. Chiendent	Refreshing[7,8]. Appetizer[7,8]. Stomachic
Cynoglossum officinale L. (Boraginaceae) BC-FXBolòs945136	–*. –. –	–. Cinoglosa oficinal[7,8]. Cynoglosse[5,10]	Astringent[8]. Narcotic[5,7]
Cyperus longus L. (Cyperaceae) BC-FXBolòs945055	–*. –. –	–. Juncia larga[7]. Souchet long[5]	Diuretic[5,7]. Emmenagogue[5,6,7]. Stomachic[5,6,7]. Detersive[5]
Daphne gnidium L. (Thymelaeaceae) BC-FXBolòs945183	–. –. –	–. Torvisco[6,7,8,9]. Garou[10], laureste paniculée[5]	Vesicant[5,6,8]
Daphne laureola L. (Thymelaeaceae) BC-FXBolòs945182	–*. –. –	–. Laureolas[2,6,7,8]. –	Purgative[4,5,6,8,9]
Daphne mezereum L. (Thymelaeaceae) BC-FXBolòs945181	–. –. –	–. –. –	Purgative[6,8,9]
Datura stramonium L. (Solanaceae) BC-FXBolòs945060	–*. –. –	Herba trampera. Higuera loca[6,7,8]. Stramonium	Emollient. Anticancerous[4]
Delphinium staphisagria L. (Ranunculaceae) BC-FXBolòs945207	–. –. –	–. –. –	Emetic[2,6,7,8,9]. Pediculicide[2,5,7,8,9]. Against acari. Abstergent. Sialagogue
Dianthus caryophyllus L. (Caryophyllaceae) BC-FXBolòs945194	–. –. –	Clavell[3,8,9]. Clavel[8]. Oeillet[5,10]	–
Digitalis lutea L. (Plantaginaceae) BC-FXBolòs945262	–*. –. –	–. Dedalera amarilla. Digitale jaune	Emetic. Antiulcerous
Digitalis purpurea L. (Plantaginaceae) BC-FXBolòs945261	–. –. –	–. –. –	Emetic[4,5]. Antiepileptic. External antiscrofulous
Dipsacus fullonum L. (Caprifoliaceae) BC-FXBolòs945113	–*. –. –	–. –. Cardère sauvage[5]	Diuretic[4,5,6,7,8,9]
Dipsacus sativus (L.) Honck. (Caprifoliaceae) BC-FXBolòs945121	–. –. –	Cardot[7,9]. Cardencha común[2,4,7,8]. Chardon à foulon	–
Doronicum pardalianches L. (Asteraceae) BC-FXBolòs945348	–*. –. –	–. Dorónico oficinal[6,7]. Doronic	Antivertiginous. For colics

Drimia maritima (L.) Stearn. (Asparagaceae) BC-FXBolòs945173	–. Hispania, Sicilia. Littoris arenosis	Ceba marina[2,6,7,8,9]. Cebolla albarrana[2,6,7,8,9]. –	Vesicant. Diuretic[2,6,7,8,9]
Dryopteris filix-mas (L.) Schott (Dryopteridaceae) BC-FXBolòs945422	–*. –. –	–. –. Polypode fougère-mâle	Appetizer. Against dropsy. Antihelminthic[8]
Dysphania ambrosioides (L.) Mosyakin & Clemants (Amaranthaceae) BC-FXBolòs945083	–*. Hispania. –	–. –. Ambroisie du thé du Mexique[10], anserine du Mexique	Diaphoretic. Diuretic. Emmenagogue. Carminative[4]. Stomachic[5,6,7,8,9]
Ecballium elaterium (L.) A.Rich. (Cucurbitaceae) BC-FXBolòs945398	–*. –. –	Cogombres d'Àsia. Cohombrillo amargo[2,4,6,7,8]. Concombre d'âne	Purgative[1,6,7,8,9]. Emmenagogue. Abortive. Hydragogue[1,2,4,8]. Against dropsy[2,8]. Resolutive[1]
Elaeagnus angustifolia L. (Elaeagnaceae) BC-FXBolòs945129	–. –. –	Cinamom. Árbol del paraíso[7,9]. –	–
Elymus repens (L.) Gould (Poaceae) BC-FXBolòs945111	–*. –. –	–. –. Chiendent, froment rampant	Diuretic. Refreshing. Appetizer
Equisetum arvense L. (Equisetaceae) BC-FXBolòs945407	–. –. –	–. Cola de caballo oficinal[2,6,7,8]. Prêle des champs[5]	Detersive[9]. Astringent[4,5,6,7]. Vulnerary[4,8,9]
Equisetum hyemale L. (Equisetaceae) BC-FXBolòs945408	–*. –. –	–. Cola de caballo de invierno. Prêle d'hiver[5]	Astringent[5,6,7]
Equisetum palustre L. (Equisetaceae) BC-FXBolòs945406	–. –. –	–. –. Prêle des marais[5]	Astringent[5,7]
Eruca vesicaria (L.) Cav. (Brassicaceae) BC-FXBolòs945275	–*. –. –	–. Oruga de flor blanca. Roquette	Stomachic[8]. Diuretic[8]. Against scurvy[8,9]. Aphrodisiac[8,9]. Antiapoplectic[8]. Against lingual paresthesia. Rubefacient[8]
Eryngium campestre L. (Apiaceae) BC-FXBolòs945093	–*. –. –	Espinacal[6,7,9]. Cardo corredor[4,6,7,8,9]. Panicaut[5,10]	–
Euonymus europaeus L. (Celastraceae) BC-FXBolòs945075	–*. –. –	Matapoll. Bonetero[4,6,7,8]. Fusain	Cathartic[6,7,8]. Emetic[6,7]. External detersive
Eupatorium cannabinum L. (Asteraceae) BC-FXBolòs945332	–*. –. –	–. Eupatorio de hojas de cáñamo[7]. Eupatoire	Vulnerary[4,5,8]. Reinforcing. Dysobstruent[5]. Antioedematous. Anticachectic[4]. Against

			dropsy[4]
Euphorbia lathyris L. (Euphorbiaceae) BC-FXBolòs945098	–*. –. –	–. Tártago[2,4,6,7,8]. Épurge[2,10]	Purgative[2,4,6,7,8,9]. For amygdalitis. For warts
Euphrasia stricta D. Wolff (Orobanchaceae) BC-FXBolòs945258	–. –. –	–. –. Euphraise officinale	Vesicant. Tonic. For headache. For vision[6,7,8,9]
Fagopyrum esculentum Moench (Polygonaceae) BC-FXBolòs945184	–. –. –	Fajol[3,6,7,9]. Trigo negro[6,7], trigo sarracénico[6,7]. Blé noir, sarrasin	–
Ficaria verna Huds. (Ranunculaceae) BC-FXBolòs945280	–*. –. –	–. Celidonia menor[4,6,7,8]. Ranuncule ficaire[5]	Against scurvy[4,5,7,8,9]. Antihaemorrhoidal[4,5,6,8,9]
Ficus carica L. (Moraceae) BC-FXBolòs945405	–. –. –	–. –.	Hepatoprotective. Antitussive [3,4,8,9]
Filago pyramidata L. (Asteraceae) BC-FXBolòs945362	–. –. –	–. –. Cotonnière commune	Vulnerary. Astringent
Filipendula ulmaria (L.) Maxim. (Rosaceae) BC-FXBolòs945220	–*. –. –	–. Ulmaria[4,7,8]. Reine des prés[9]	Astringent[7,9]. Antidysenteric. For hernia. Diaphoretic
Filipendula vulgaris Moench (Rosaceae) BC-FXBolòs945219	–. –. –	–. Filipéndula oficinal[4,7]. Filipendule	Vulnerary. Astringent[4,7]. Antileucorrhoeal. Antidysenteric. For hernia
Foeniculum vulgare Mill. (Apiaceae) BC-FXBolòs945157	–*. –. –	Fonoll[1,2,3,6,7,8,9]. Hinojo oficinal[2,4,6,7,8,9]. Fenouill[2,10]	Appetizer[4,6,7,8,9]. Diuretic[1,2,6,7,8,9]. Stomachic[4,8,9]. Carminative[3,6,7,8,9]. For vision[1,2,3,4,8,9]
Frangula alnus Mill. (Rhamnaceae) BC-FXBolòs945088	–*. –. –	–. –. Bourgène	Emetic[4,5]. Cathartic[4,5,6,7,8,9]. Against dropsy[4,6]. Against itch[4,6]
Fraxinus ornus L. (Oleaceae) BC-FXBolòs945403	–*. –. –	Freixa[3,8]. Fresno de flor[6,7,8,9]. –	Cathartic[5,7,8,9]. Hydragogue. Antiasthmatic
Fumaria officinalis L. (Papaveraceae) BC-FXBolòs945284	–*. –. –	Fumaria[6,7,8,9]. Fumaria oficinal[6,7,8]. Fumeterre officinale[2,5,10]	Against sexual transmission illness[5]. Appetizer[5]. For viscerae[7]. Reinforcing[1.] Anticachectic. Antihypochondriac[7]
Galium aparine L. (Rubiaceae) BC-FXBolòs945119	–*. –. –	–. Amor de hortelano[4,6,7,9]. Grateron	Detersive. Resolutive[4]. Diaphoretic

Galium mollugo L. (Rubiaceae) BC-FXBolòs945118	–*. –. –	–. Cuajaleche blanco. Caillelait blanc[5,10]	Desiccant[5]. Astringent[5,6]
Galium uliginosum L. (Rubiaceae) BC-FXBolòs945123	–*. –. –	–. Cuajaleche de los pantanos. Caillelait couché[5]	–
Galium verum L. (Rubiaceae) BC-FXBolòs945120	–*. –. –	–. Cuajaleche verdadero[4]. Caillelait jaune[5]	Antidysenteric. Antiepileptic[5]
Genista tinctoria L. (Fabaceae) BC-FXBolòs945286	–*. –. –	–. Hiniesta de los tintoreros. –	Diuretic[5,7,8]. Hydragogue[5,8]. Against dropsy[8]. Appetizer[5]
Gentiana lutea L. (Gentianaceae) BC-FXBolòs945091	Sta. Magdalena del Mont, la Garrotxa, la Vall d'en Bas*. Pyrenaeis. –	–. Genciana[4,7,8]. –	Tonic[1,5,6,7,8,9]. Stomachic[1,2,5,8,9]. Antihelminthic[4,6,9]. For intermittent fevers[5,6,7,9]
Geranium robertianum L. (Geraniaceae) BC-FXBolòs945301	–*. –. –	–. –. Bec de grue robertin[5]	Vulnerary[4,5,6,7,8]. Astringent[4,5,6,7,8]
Geum urbanum L. (Rosaceae) BC-FXBolòs945226	–*. –. –	–. Cariofilata oficinal[6,7,8]. Benoite[10]	Diaphoretic[8]. Anticatarrhal. Against smallpox. Astringent[6,7,8,9]. Antidysenteric
Glebionis segetum (L.) Fourr. (Asteraceae) BC-FXBolòs945351	–. –. –	–. –. Chrysanthème des blés[5]	Vulnerary[5]
Glechoma hederacea L. (Lamiaceae) BC-FXBolòs945241	–*. –. –	Heura terrestre[7]. Yedra terrestre[7,8]. Lierre terrestre[10]	Vulnerary[5,7,8]. Abstergent. For headache. Antitussive[7]. Antiulcerous
Globularia alypum L. (Plantaginaceae) BC-FXBolòs945112	–. –. –	–. Siempre-enjuta[7,9]. –	Purgative[4,5,6,7,8,9]
Glycyrrhiza glabra L. (Fabaceae) BC-FXBolòs945293	–. –. –	Regalèssia[6,7,9]. Orozuz oficinal[4,6,7,8]. Réglisse[2,5,10]	Bechic[4,8,9]. Antitussive[4,8,9]. Antinephritic[4,5]. Antidysuric[5]. Antirheumatic
Gossypium herbaceum L. (Malvaceae) BC-FXBolòs945305	–. –. –	Cotó[8]. Algodón herbáceo[4]. –	–
Gratiola officinalis L. (Plantaginaceae) BC-FXBolòs945043	–. Lusazia Gallia Rc. Humidisculis	–. Graciola[6,7,8]. Herbe au pauvre homme	Cathartic[5,7,8]. Against dropsy[5]

Hedera helix L. (Araliaceae) BC-FXBolòs945077	–*. –. –	Heura[6,7,8,9]. Yedra arborea[7,8]. Lierre[2]	Vulnerary[4,5,9]. Astringent[5]
Helianthemum nummularium (L.) Mill. (Cistaceae) BC-FXBolòs945204	–*. –. –	–. Yerba turmera. –	Astringent. Vulnerary. Antidiarrhoeal
Helichrysum stoechas (L.) Moench (Asteraceae) BC-FXBolòs945342	–*. –. –	–. Perpetuas de monte[7,8,9]. Perlière citrine	Vesicant. Appetizer. Vulnerary[9]. Antihelminthic
Heliotropium europaeum L. (Boraginaceae) BC-FXBolòs945133	–*. –. –	–. Hierba verrugera[4,6,7,8,9]. Heliotrope, herbe aux verrues	Abstergent. Antiulcerous[4,6,8]. Antiherpetic. For warts[2,4,6,7,8,9]
Herniaria glabra L. (Caryophyllaceae) BC-FXBolòs945081	–*. –. –	–. Yerbaturca lampiña. Herniaire glabre[5]	Astringent[5,6,9]. For hernia[4,5,6,7]. Diuretic[5,6,7,8,9]. Renal lithotriptic[5,6,9]
Hordeum vulgare L. (Poaceae) BC-FXBolòs945108	–.* –. –	Ordi[1,2,3,6,7,8,9]. Cebada común[4,6]. Orge[2,5,10]	Refreshing[1,4,5,8,9]. Demulcent[1]. Emollient[2,4]
Humulus lupulus L. (Cannabaceae) BC-FXBolòs945371	–*. –. –	–. Hombrecillo[4,6,7], lúpulo[4,6,7,8,9]. Houblon[10]	Stomachic[8]. Appetizer. Diuretic[4,6,8]. For spleen troubles[4]. Tonic
Hyoscyamus albus L. (Solanaceae) BC-FXBolòs945061	–. –. –	–. Beleño blanco[6,7,8,9]. Jusquiame[2,10]	–
Hyoscyamus niger L. (Solanaceae) BC-FXBolòs945062	–*. –. –	Herba cagalera. Beleño negro[6,7,8]. Jusquiame[2,10]	Resolutive[5,6]. Antihaemorrhoidal. Antalgic extern[4,5,7,8]
Hyssopus officinalis L. (Lamiaceae) BC-FXBolòs945234	–*. –. –	–. Hisopo oficinal[2,4,6,8,9]. Hÿssope[2,5,10]	Antiasthmatic[2,4,9]. Diaphoretic[9]. Expectorant[1,2,4,5,8,9]. Stomachic[7]
Ilex aquifolium L. (Aquifoliaceae) BC-FXBolòs945132	–*. –. –	–. –. Houx épineux	Emollient[7]. Resolutive[6,7]. Cathartic[6,7,8,9]
Impatiens balsamina L. (Balsaminaceae) BC-FXBolòs945364	–. –. –	Nyanyo[6,7]. Nicaragua[4,6,7]. Balsamine	Vulnerary[4]. Detersive[4]. Reinforcing[4]
Inula helenium L. (Asteraceae) BC-FXBolòs945346	–*. –. –	–. Enula campana[4,6,7,8]. Aunée[2,10]	Tonic[5,6,7,8]. Antivenomous[2,4]. Stomachic[4,5,8]. Vesicant. Antihelminthic[4,7]. Emmenagogue[2,4,6,7,8]
Iris ×*germanica* L. BC-FXBolòs945052	–*. –. –	–. Lirio cardeno[2,8]. Iris germanique[5]	Cathartic[5,6,8]. Diuretic[5]. Against dropsy[5]. Sternutatory[4,5]
Iris pseudacorus L. (Iridaceae) BC-	–*. –. –	–. –. Iris jaune[5]	Astringent[4,5,7,8]. Desiccant[4,5]

FXBolòs945053			
Iris tuberosa L. (Iridaceae) BC-FXBolòs945054	–. Oriente. –	–. –. –	Vesicant. Cathartic[1]
Jacobaea vulgaris Gaertn. (Asteraceae) BC-FXBolòs945344	–*. –. –	–. Yerba de Santiago[7,8,9]. Séneçon jacobé[2,5]	Appetizer. Vulnerary[7,8,9]. Emollient[7]. Detersive. Resolutive[7]
Jasminum grandiflorum L. (Oleaceae) BC-FXBolòs945063	–. Malabaria. –	Englantina[7]. –. –	–
Jasminum officinale L. (Oleaceae) BC-FXBolòs945042	–*. India. –	Gessamí[6,7,9]. Jazmín blanco oficinal[7]. Jasmin commun[5]	–
Juglans regia L. (Juglandaceae) BC-FXBolòs945394	–*. –. –	Noguer[3,6,7,8,9]. Nogal común[6,7,8,9]. Noyer commun[5,10]	Emetic[5,6]. Cathartic[5,6]. Diuretic[5]
Juniperus communis L. (Cupressaceae) BC-FXBolòs945381	–*. –. –	–. Enebro común[4,6,7,8]. Genévrier vulgaire[5,10]	Stomachic[5,7]. Carminative[5,8,9]. Antivenomous[2,9]. Antihelminthic[9]. Diuretic[4,5,6,7,8,9]
Juniperus phoenicea L. (Cupressaceae) BC-FXBolòs945382	–*. –. –	Savina[1,2,6,7]. Cedro de fruto encarnado, sabino suave español[6,7]. Genévrier phénicien[5]	Emmenagogue[6,7]. Diuretic[2,6]. Antihelminthic[6,7]. Antiseptic[2]. Detersive[2]
Kickxia spuria (L.) Dumort. (Plantaginaceae) BC-FXBolòs945259	–. –. –	–. –. Muflier bâtard	Emollient. Resolutive
Knautia arvensis (L.) Coult. (Caprifoliaceae) BC-FXBolòs945115	–*. –. –	Escabiosa[6,9]. Escabiosa oficinal[8]. Escabieuse	Diaphoretic[6,8,9]. Vulnerary[8]. Abstergent[8]
Lactuca sativa L. (Asteraceae) BC-FXBolòs945297	–*. –. –	–. Lechuga común[2,4,7]. Laitue[2,7]	Refreshing. Antalgic[2]. Depurative. Galactofugue. Antiaphrodisiac[2,7]
Lagenaria siceraria (Molina) Standl. (Cucurbitaceae) BC-FXBolòs945410	–. –. –	–. Calabaza vinatera[7]. Calebasse	Demulcent. Refreshing[7]. For putrid fevers. Antihypnotic. Antinephritic. Diuretic
Lamium album L. (Lamiaceae) BC-FXBolòs945243	–. –. –	–. Ortiga muerta[4,8]. Ortie morte	Antileucorrhoeal[8]
Lamium maculatum (L.) L. (Lamiaceae) BC-FXBolòs945244	–. –. –	–. Lamio manchado. Lamion taché[5]	Dysobstruent[5]

Lamium purpureum L. (Lamiaceae) BC-FXBolòs945242	–*. –. –	–. –. Lamion pourpré[5]	Antileucorrhoeal
Lapsana communis L. (Asteraceae) BC-FXBolòs945336	–*. –. –	–. Lapsana común[4,8]. –	Refreshing[4]. Emollient[4]. Vulnerary[4,8]. Antiherpetic
Lathyrus sativus L. (Fabaceae) BC-FXBolòs945289	–*. Hispania, Gallia. –	Guixa[6,9]. Guija[6]. –	–
Lathyrus tingitanus L. (Fabaceae) BC-FXBolòs945290	–. Mauritania. –	–. –. –	Laxative. Appetizer
Laurus nobilis L. (Lauraceae) BC-FXBolòs945188	–. –. –	–. Laurel[2,4,6,7,8,9]. Laurier[2,10]	Stomachic[7,8]. Emmenagogue[4,8]. Carminative[4,7,8,9]. Antalgic[8,9]
Lavandula angustifolia Mill. (Lamiaceae) BC-FXBolòs945236	–*. –. –	–. –. –	Nervous tonic[5,7]. For headache[5]. For uterine troubles. Against paralisis[7]
Lavandula stoechas L. (Lamiaceae) BC-FXBolòs945237	–*. –. –	–. Cantueso[4,6,7,8,9]. Lavande stéchade[5]	Cardiotonic[4,5]. For headache[4,5,9]. Vesicant[4,5]. Emmenagogue[4,5]
Lemna minor L. (Araceae) BC-FXBolòs945375	–*. –. –	–. –. Lentille d'eau	Refreshing[8]. Anti-inflammatory[8]. For erysipelas. Antihaemorrhoidal
Lepidium latifolium L. (Brassicaceae) BC-FXBolòs945265	–. –. –	–. Lepidio de hoja ancha[8]. Passerape	Appetizer[5,8]. Vesicant[5]. Diuretic[5,7,8]. Stomachic[5,8]. Against scurvy[5,6,7,8]. Antihypochondriac
Lepidium sativum L. (Brassicaceae) BC-FXBolòs945266	–. –. –	–. –. –	Appetizer[8]. Against sexual transmission illness. Diuretic[8]. Against scurvy[6,7,8]. Antiasthmatic[8]. Disinfectant[7]. Against tinea
Levisticum officinale W.D.J.Koch (Apiaceae) BC-FXBolòs945164	–*. –. –	–. Levístico oficinal[6,7]. Iveche	Antivenomous. Carminative[4,6,7]. Antihysteric[6]
Lilium candidum L. (Liliaceae) BC-FXBolòs945171	–. Palestina. –	Lliri blanc[2,6,7,8,9]. Azucena común[6,7,8,9]. –	Emollient[4,5,6,7,8]. Antalgic[4,5,7,9]. Ripening[2,4,5,6,7,9]
Linum catharticum L. (Linaceae) BC-FXBolòs945150	–*. –. –	–. –. –	Purgative[4,5,6,7,8]. Hydragogue[5,6,7]
Lithospermum officinale L. (Boraginaceae) BC-FXBolòs945134	–*. –. –	–. –. Gremil[5], herbe aux perles[2]	Astringent. Diuretic[2,4,5,6,8,9]

Lonicera periclymenum L. (Caprifoliaceae) BC-FXBolòs945058	–*. –. –	–. Madreselva de Virginia. Chevrefeuille	Vulnerary. Disinfectant. For vision
Lonicera splendida Boiss. (Caprifoliaceae) BC-FXBolòs945057	–*. –. –	Xuclamel. Madreselva[6]. Chevrefeuille	Vulnerary. For vision. Buccal and pharyngeal anti-inflammatory
Lotus corniculatus L. (Fabaceae) BC-FXBolòs945314	–*. –. –	–. –. Lotier pied-d'oiseau	Vulnerary[6]. Abstergent
Lotus ornithopodioides L. (Fabaceae) BC-FXBolòs945313	–. –. –	–. –. Lotier pied-d'oiseau[5]	Detersive. Appetizer. Vulnerary[6]
Lysimachia vulgaris L. (Primulaceae) BC-FXBolòs945143	–*. –. Humidis	–. –. Corneille, charsebosse	Astringent[4,5,6,7,8]. Vulnerary[4,5,6,7,8]
Lythrum salicaria L. (Lytrhaceae) BC-FXBolòs945095	–*. –. –	Salicària[6,7,8]. Salicaria oficinal[6,7,8]. Salicaire	Astringent[6,7,8,9]. Antidysenteric[6,7,8]. Antidiarrhoeal[6,7,8,9]
Malus domestica Borkh. (Rosaceae) BC-FXBolòs945218	–*. –. –	Pomer[3,8,9]. Manzano[7,8]. Poirier pommier[5]	Refreshing[8]. Carminative
Malva alcea L. (Malvaceae) BC-FXBolòs945303	–*. –. –	–. –. –	Emollient[5,6]. Demulcent. Laxative[5,6]
Malva neglecta Wallr. (Malvaceae) BC-FXBolòs945304	–*. –. –	Malves[1,2,3,9]. Malva oficinal de hoja redonda. Mauve à feuilles rondes	Emollient. Demulcent. Laxative[9]. Anti-inflammatory[9]. Antalgic. Antinephritic
Mandragora officinalis Mill. (Solanaceae) BC-FXBolòs945064	–. Hispania, Italia, Creta. –	–. –. –	Resolutive[2]. Antalgic. Aphrodisiac
Marrubium vulgare L. (Lamiaceae) BC-FXBolòs945247	–*. –. –	Malroges[8]. –. Marrube commun[5]	Vesicant[5]. Appetizer[4,5,8]. Emmenagogue[4,5,6,8]. Detersive[5,9]
Matricaria chamomilla L. (Asteraceae) BC-FXBolòs945353	–. –. –	Camamilla[6,7,8,9]. Manzanilla[6,7,8,9]. Camomille[10]	Febrifuge[7,9]. For colics. Anticardialgic. Renal lithotriptic. Antiemetic[9]
Medicago sativa L. (Fabaceae) BC-FXBolòs945316	–. –. –	–. Alfalfa[2,4,6,8], mielga[2,4,6,8]. Luzerne cultivèe	Diuretic. Antihypertensive[9]
Melilotus officinalis (L.) Pall. (Fabaceae) BC-FXBolòs945309	–*. –. –	–. –. –	Emollient[5,7,8]. Resolutive[5,6,7]. Carminative[7]
Melissa officinalis L. (Lamiaceae) BC-	–*. –. –	–. Torongil[4,6,7,8,9]. Mélisse[5,10]	Resolutive. Emmenagogue[4,5,7].

FXBolòs945252			Cardiotonic[1,4,5,9]. For headache[4,5]. Antidysenteric. Antimelancholic[1,3]
Melittis melissophyllum L. (Lamiaceae) BC-FXBolòs945254	–*. –. –	–. –. Mélisse de montagne	Vulnerary[6,8]. Antiischuric[4,8]
Mentha ×*gentilis* L. (Lamiaceae) BC-FXBolòs945238	–. –. –	–. Sándalo[4]. Menthe des jardins	Stomachic. Antiemetic. Antispasmodica. Antihysteric. Resolutive. Carminative. For sterilty
Mentha ×*verticillata* L. (Lamiaceae) BC-FXBolòs945239	–*. –. –	–. –. –	Stomachic. Diuretic. Antihelminthic
Mentha longifolia (L.) L. (Lamiaceae) BC-FXBolòs945240	–. –. –	–. Yerbabuena silvestre[2]. Menthe sauvage[2]	Diuretic
Menyanthes trifoliata L. (Menyanthaceae) BC-FXBolòs945142	Capcir, Formiguères. –. –	–. Arránita, pan porcino. Pain de pourceau	Reinforcing. Diuretic. Against dropsy. Against scurvy[5,6,7]. Hypouricemiant
Mercurialis annua L. (Euphorbiaceae) BC-FXBolòs945379	–*. –. –	–. Mercurial medicinal[2,6,7,8,9]. Mercuriale annuelle[5,10]	Emollient[5]. Laxative[2,5,6,7,8,9]
Mespilus germanica L. (Rosaceae) BC-FXBolòs945216	–*. –. –	Nespler[3,6,7,9]. Níspero[6,7]. Neflier germanique[5]	Astringent[5,6,7,9]
Molopospermum peloponnesiacum (L.) W.D.J.Koch (Apiaceae) BC-FXBolòs945163	–. Pÿrenaeis. –	Coscolls[9]. –. –	–
Nasturtium officinale R.Br. (Brassicaceae) BC-FXBolòs945271	–*. –. –	–. Berro[4,6,7,9]. Cresson d'eau	Diuretic[2,4,8,9]. Dysobstruent[4]. Against scurvy[4,6,8,9]. Pectoral[4,8]
Nepeta cataria L. (Lamiaceae) BC-FXBolòs945235	–*. –. –	–. Hierba gatera[4,6,7,8]. Herbe au chat	Emmenagogue[4,5,7]. Antihysteric[5,6,7]. Antihelminthic. For headache
Nicotiana rustica L. (Solanaceae) BC-FXBolòs945066	–. –. –	–. –. –	Purgative. Antiapoplectic[4]. Antalgic[5]. External detersive
Nicotiana tabacum L. (Solanaceae) BC-FXBolòs945067	–. China, ad Caput b. spei. –	–. Tabaco de la China. –	Detersive extern[5,9]. Antiapoplectic[4]. Emetic[5,7]. Against dropsy
Nigella arvensis L. (Ranunculaceae) BC-	–*. –. –	–. –. Nielle des champs[5]	Vesicant[5]. Emmenagogue[5,7]. Diuretic[5]

FXBolòs945210			
Ocimum basilicum L. (Lamiaceae) BC-FXBolòs945255	–. –. –	–. –. –	Emmenagogue[1]
Olea europaea L. (Oleaceae) BC-FXBolòs945039	–. Europa australi. –	Olivera[1,2,6,7,8,9]. Olivo[2,6,7,8]. Olivier[2,5,10]	Laxative[3,8,9]. Antihelminthic[7,9]
Ononis spinosa L. (Fabaceae) BC-FXBolòs945287	–*. –. –	–. –. Arrête-boeuf	Appetizer[4,6,7]. Diuretic[2,4,6,8,9]
Onopordum acanthium L. (Asteraceae) BC-FXBolòs945322	–. –. –	–. Toba común[6,7]. Épine blanche, pet d'âne	Appetizer. Diuretic. Stomachic. Carminative. Resolutive
Ophioglossum vulgatum L. (Ophioglossaceae) BC-FXBolòs945414	–. –. Humidis	–. –. Ophioglosse vulgaire[5]	Vulnerary[4,5,6,8]
Opuntia maxima Mill. (Cactaceae) BC-FXBolòs945100	–. –. –	Figuera de moro. –. Cactier aux raquettes	Antalgic[8]. Refreshing[4]
Origanum dictamnus L. (Lamiaceae) BC-FXBolòs945249	–. –. –	–. Díctamo crético[6]. –	Stomachic. Cardiotonic. Nervous tonic. For headache. Emmenagogue
Origanum majorana L. (Lamiaceae) BC-FXBolòs945248	–*. –. –	Moraduix[3,6,7,8,9]. Mejorana[4,6,7,8,9]. Marjolaine[10]	Resolutive[1,9]. Nervous tonic[4]. For headache[9]. Antiepileptic[4]. Sternutatory[4,6,7]. Stomachic[4,8,9]
Origanum vulgare L. (Lamiaceae) BC-FXBolòs945250	–*. –. –	Orenga[2,3,6,7,8,9]. Orégano oficinal[2,4,6,7,8,9]. Origan commun[5,10]	Tonic[5,7,8,9]. Stomachic[1,4,5,7,8,9]. Emmenagogue[4,5,6]. Diuretic[1,4,5]
Orobanche elatior Sutton (Orobanchaceae) BC-FXBolòs945263	–*. –. –	–. Yerba tora[4]. Orobanche majeure	Astringent. For colics. Vulnerary
Paeonia officinalis L. (Paeoniaceae) BC-FXBolòs945205	La Garrotxa, Bassegoda. –. –	–. Peonia oficinal[2,3,7,8]. Pivoine[5,10]	Emmenagogue[2,4,7]. Antispasmodic[4,5,6,7]. Antiepileptic[4,5,6,7,8]. Antihysteric
Paliurus spina-christi Mill. (Rhamnaceae) BC-FXBolòs945089	–*. –. –	Espinavessa[7]. Paliuro[7]. Paliure	Diuretic[4]. Expectorant[4]
Pallenis spinosa (L.) Cass. (Asteraceae) BC-FXBolòs945357	–*. –. –	–. –. Buphtalme épineux, oeil de boeuf	Detersive. Vulnerary[9]. Emollient. Resolutive

Papaver rhoeas L. (Papaveraceae) BC-FXBolòs945203	–*. –. –	Rosella[2,6,7,8,9]. Ababol[7,8], amapola[2,4,6,7,8,9]. Pavot coquelicot[2,5]	Antalgic[4,5,9]. Diaphoretic[1,5,6,7,9]. Pectoral[1,4,5,7,8]
Papaver somniferum L. (Papaveraceae) BC-FXBolòs945202	–*. –. –	Cascall[2,6,7,8,9]. Adormidera oficinal[2,6,7,8,9]. Pavot somnifère[2]	Antispasmodic[9]. Narcotic[1,2,6,7,9]. Antalgic[1,2,7,8,9]
Parietaria officinalis L. (Urticaceae) BC-FXBolòs945391	–*. –. –	Blets[6,7,9], morella roquera[6,7,8,9]. Parietaria oficinal[4,6,7,8,9]. Pariétaire officinale[5,10]	Emollient[5,6,7,9]. Refreshing[4,5,7]. Diuretic[5,6,7,8,9]
Pastinaca sativa L. (Apiaceae) BC-FXBolòs945158	–. –. –	Paravia. Chirivía de huerta[4]. Panais[5]	Carminative. Aphrodisiac[2,6,7]
Pelargonium coriandrifolium (L.) L.'Hér. Harv. (Geraniaceae) BC-FXBolòs945299	–. –. –	–. –. Bec de grue	Detersive. Astringent. Vulnerary
Pelargonium odoratissimum (L.) L'Hér. (Geraniaceae) BC-FXBolòs945300	–. –. –	Malves d'olor. Geranio olorosísimo. –	–
Petasites hybridus (L.) G. Gaertn., B.Mey. & Scherb. (Asteraceae) BC-FXBolòs945343	–*. –. –	–. Sombrerera oficinal[2,4,6,7]. Tussilage pétasite	Diaphoretic[4,6]. Antivenomous[4]. Antiasthmatic[4]. Emmenagogue[6]
Petroselinum crispum (Mill.) Fuss (Apiaceae) BC-FXBolòs945155	–. –. –	Julivert[2,3,7,8,9]. Perejil[2,3,4,7,8,9]. Persil[2,3]	Appetizer[4,7,8]. Emmenagogue[4,8]. Galactofugue[3]. Diaphoretic[7,9]
Philadelphus coronarius L. (Hydrangeaceae) BC-FXBolòs945101	–. –. –	Xeringuilla[6,9]. Jeringuilla de jardines[6]. –	–
Phragmites australis (Cav.) Trin. ex Steud. (Poaceae) BC-FXBolòs945106	–*. –. –	–. Carrizo[7]. Roseau commun	Detersive. Diuretic. Emmenagogue
Physalis alkekengi L. (Solanaceae) BC-FXBolòs945068	–*. –. –	–. –. –	Antinephritic[4]. Lithotriptic[4,8]
Phytolacca americana L. (Phytolaccaceae) BC-FXBolòs945198	–. Virginia. –	–. –. –	Antalgic[4]. Anticarcinomatous
Pilosella officinarum Vaill. (Asteraceae) BC-FXBolòs945335	–*. –. –	–. Pelosilla oficinal[4,6,7,8]. Épervière piloselle[5]	Astringent[5,6,7,8]. Vulnerary[4,5,6]. Detersive[4,5]
Pimpinella saxifraga L. (Apiaceae) BC-	–. –. –	–. –. Bouquetine	Against sexual transmission illness. Diuretic[4].

FXBolòs945156			Emmenagogue[4]. Diaphoretic. Stomachic.
Pinguicula vulgaris L. (Lentibulariaceae) BC-FXBolòs945044	–. Pyrenaeis. –	–. Grasilla, tiraña[4]. Grassette vulgaire[5]	Vulnerary[4,5,9]. Cicatrising[4]. Cathartic[4,5]
Pistacia lentiscus L. (Anacardiaceae) BC-FXBolòs945368	–*. –. –	Llentrisca[7,8,9]. Lentisco[4,6,7,8]. Lentisque[10]	Astringent[4,5,6,7,9]. Antiseptic gingival[4,6,7,8,9]. Reinforcing[4,9]. Stomachic[5]. Antiodontalgic[8,9]
Pistacia vera L. (Anacardiaceae) BC-FXBolòs945369	–. –. –	–. Alfónsigo verdadero[4,6,7,8]. –	Pectoral[4,6]. Appetizer[4]. Humectant
Plantago afra L. (Plantaginaceae) BC-FXBolòs945126	–. Europa. Inter segetes	–. –. Herbe aux puces	Refreshing. For vision. Antihemoptoic
Plantago major L. (Plantaginaceae) BC-FXBolòs945125	–*. –. –	Plantatge[1,2,3,6,7,8,9]. Llantén de hoja ancha[2,6,7,8,9]. Plantain[2,10]	Astringent[6,7,8,9]. Vulnerary[9]. Antiulcerous[8]. For vision
Platanthera bifolia (L.) Rich. (Orchidaceae) BC-FXBolòs945354	–*. –. –	–. Satirión oficinal[6]. –	Demulcent. Antidysenteric. For sterilty. Hematocathartic. Aphrodisiac[6]. Analeptic
Plumbago europaea L. (Plumbaginaceae) BC-FXBolòs945145	–. –. –	–. Velera. Dentelaire[5]	Antiodontalgic[6,7]
Polygala calcarea F.W.Schultz (Polygalaceae) BC-FXBolòs945282	–*. –. –	–. –. –	Antipleuritic. Expectorant[7]. Resolutive
Polygala vulgaris L. (Polygalaceae) BC-FXBolòs945283	–*. –. –	–. Polígala vulgar[4]. –	Resolutive. Expectorant[4,5,7]. Antipleuritic[4,6]. Antipneumonic[6]
Polygonatum odoratum (Mill.) Druce (Asparagaceae) BC-FXBolòs945169	–*. –. –	–. Sello de Salomón[4,6,7,8]. Sceau de Salomon[10]	Vulnerary[2,4,6]. Astringent[7]. For hernia[4]
Polypodium vulgare L. (Polypodiaceae) BC-FXBolòs945421	–*. –. –	–. Polipodio oficinal[2,4,6,7,8,9]. Polypode commun[5,10]	Appetizer[4,5]. Hepatoprotective[4,5,8,9]
Populus nigra L. (Salicaceae) BC-FXBolòs945378	–*. –. –	Pollangre[7,8,9]. Álamo negro[2,4,6,7,8], chopo[6,7,8]. Peuplier noir[5,10]	–
Portulaca oleracea L. (Portulacaceae) BC-FXBolòs945094	–*. –. –	–. Verdolaga[2,6,7,8]. Pourpier potager[2,5]	Refreshing[2,4,5,6]. Demulcent. Against scurvy[4,5,6,7,9]. Antihelminthic[2,4,5,7]
Potentilla anserina L. (Rosaceae) BC-FXBolòs945224	–. –. –	–. Plateada[6]. Argentine commune[10]	Vulnerary[4]. Astringent[4,6]. Desiccant[4]

Potentilla erecta (L.) Raeusch. (Rosaceae) BC-FXBolòs945225	–*. –. –	–. Tormentilla oficinal[7,8]. Tormentille	Astringent[7,8,9]. Antidiarrhoeal[7,8,9]. Antileucorrhoeal. Antiischaemia
Potentilla reptans L. (Rosaceae) BC-FXBolòs945223	–. –. –	–. –. –	Astringent[5,6,7,8]. Antidiarrhoeal[5,6,8]. Antiischaemia
Prunella laciniata (L.) L. (Lamiaceae) BC-FXBolòs945257	–*. –. –	–. –. –	Vulnerary. Astringent. For amygdalitis
Prunella vulgaris L. (Lamiaceae) BC-FXBolòs945256	–*. –. –	–. Brunela oficinal[7,8]. Prunelle	Vulnerary[7,8,9]. Detersive[9]. Cicatrising
Prunus cerasus L. (Rosaceae) BC-FXBolòs945212	–*. –. –	–. Cerezo, guindo. Cerisier[5,10]	Refreshing[4,5]. Febrifuge[4]
Prunus domestica L. (Rosaceae) BC-FXBolòs945213	–*. –. –	Pruner[3,6,7,9]. Ciruelo[2,6,7,8]. Prunier[5,10]	Laxative[1,2,3,5,6,7,8,9]. Refreshing[5]. Humectant
Pseudorchis albida (L.) Á.Löve & D.Löve (Orchidaceae) BC-FXBolòs945355	–. –. –	–. –. Satirion blanchâtre	Aphrodisiac
Pulmonaria affinis Jord. (Boraginaceae) BC-FXBolòs945138	–*. –. –	–. Pulmonaria oficinal[8]. Pulmonaire	Vulnerary. Cicatrising. Demulcent. Bechic[8]. Antituberculous[8]
Pulmonaria longifolia (Bastard) Boreau (Boraginaceae) BC-FXBolòs945137	–*. –. –	–. Pulmonaria oficinal. Pulmonaire	Vulnerary. Cicatrising. Demulcent. Bechic. Antituberculous
Punica granatum L. (Lytrhaceae) BC-FXBolòs945211	–*. –. –	Malgraner[3,6,7,8,9]. Granado[4,6,7,8,9]. –	Refreshing[1,5,8]. Astringent[1,5,6,7,9]
Quercus ilex L. (Fagaceae) BC-FXBolòs945395	–*. –. –	Alzina[2,3,6,7,8,9]. Encina[2,6,7,8]. Chêne vert[5,10]	–
Ranunculus acris L. (Ranunculaceae) BC-FXBolòs945281	–*. –. –	–. –. Ranuncule acre[5]	–
Reseda luteola L. (Resedaceae) BC-FXBolòs945097	–. –. –	–. Gualda de tintes. Réséda jaunissant[5]	Appetizer[5]
Rhamnus cathartica L. (Rhamnaceae) BC-FXBolòs945090	–*. –. –	Leprú. Espino cerval[6,7,8]. Nerprun[5,10]	Cathartic[4,5,6,7,8]. Dysobstruent[7,8]
Rheum compactum L. (Polygonaceae) BC-FXBolòs945187	–. Tartaria, China. –	–. Riubarbo. Rhubarbe	Resolutive. Astringent. Antihelminthic. Stomachic

Ribes rubrum L. (Grossulariaceae) BC-FXBolòs945076	–*. –. –	–. Grosellero[6,7,8]. Groseillier rouge[5,10]	Refreshing[4,5,7,8]. Anti-inflammatory[8]. Tranquilliser. Antiseptic
Ricinus communis L. (Euphorbiaceae) BC-FXBolòs952492	–. India, Africa et Europa. –	–. Higuera infernal[2,4,6,7,8,9], palma christi[6,7,8]. Ricin commun[10]	Antihelminthic[4,9]
Rosmarinus officinalis L. (Lamiaceae) BC-FXBolòs945046	–*. –. –	Romaní[2,3,6,7,8,9.] Romero[2,4,6,7,8,9]. Romarin officinal[2,5,10]	Tonic[2,5,6,8,9]. Cardiotonic[2,5,9]. For headache[4,5,9]. Nervous tonic[2,4,5,9]. Antiasthmatic[5,9]
Rubia tinctorum L. (Rubiaceae) BC-FXBolòs945124	–*. –. –	Gransa[6,8]. Rubia[2,4,6,7,8], granza[4,6,7,8]. Garance[2,10]	Astringent[5,6]. Diuretic[1,2,4,5,6,8]. Emmenagogue[5]. Antirachitic
Rubus caesius L. (Rosaceae) BC-FXBolòs945222	–*. –. –	Romeguera. Zarza común . Ronce frutescente	Astringent[6]. Detersive. Desiccant. Refreshing
Rubus idaeus L. (Rosaceae) BC-FXBolòs945221	–*. –. –	Gerds[6,8,9]. Sangueso[6,7,8]. Ronce framboisière[5,10]	Refreshing[4]
Rumex acetosa L. (Polygonaceae) BC-FXBolòs945176	–*. –. –	Agrella. Acedera común[2,6,7,8,9]. Oreille[10]	Appetizer[8]. Refreshing[6,7,8]
Rumex longifolius DC. (Polygonaceae) BC-FXBolòs945175	–*. –. –	–. Romaza acuática . –	Laxative. Appetizer. Astringent
Rumex scutatus L. (Polygonaceae) BC-FXBolòs945177	–. –. –	–. Acedera hortense redonda[7]. Oseille ronde ou dès jardins	Refreshing[6,7]. Against rot. Against scurvy[7]. For bilious fevers
Ruscus aculeatus L. (Asparagaceae) BC-FXBolòs945383	–*. –. –	Boix marí[6,8,9]. Brusco[2,4,7,8,9]. Houx piquant[2,5]	Appetizer[4,5,6,7,8,9]. Diuretic[4,5,7,8,9]. Emmenagogue[2,5]
Ruta graveolens L. (Rutaceae) BC-FXBolòs945192	–*. –. –	Ruda[1,2,3,8,9]. Ruda de jardín. Rue des jardins[5]	Resolutive[2,5]. Antivenomous[2,3,4,5,6,7]. Antihelminthic[2,5,8]. Carminative[1,2,4,5,6]. Antihysteric[5,6,7]
Salix viminalis L. (Salicaceae) BC-FXBolòs945365	–*. –. –	–. Mimbrera[6]. Saule à feuilles longues[5]	Astringent[6]. Refreshing
Salvia officinalis L. (Lamiaceae) BC-FXBolòs945047	–*. –. –	Salvia[1,3,6,7,8,9]. Salvia oficinal[6,7,8]. Sauge[5,10]	For headache[5,9]. Nervous tonic[5,8,9]. Tonic[5,6,8,9]. Stomachic[5,6,7,8,9]. Astringent[5,8]
Salvia pratensis L. (Lamiaceae) BC-FXBolòs945048	–*. –. –	–. Salvia de prados[6,7,8]. Sauge dès prés[5]	Antiulcerous[5,7,8]

Salvia sclarea L. (Lamiaceae) BC-FXBolòs945049	–*. –. –	–. Amaro[6,7,8,9]. Toutte bonne	Antispasmodic[6,7]. Antihysteric[5]. Antiulcerous[5,7]
Sambucus ebulus L. (Adoxaceae) BC-FXBolòs945151	–*. –. –	Èvols[6,7,8,9]. Yezgo[2,4,6,7,8,9]. Hieble[2,10]	Purgative[5,6,7,8,9]. Narcotic. Against dropsy[4,5,8]. Resolutive[1,4,5,7,8]. Antioedematous[5]
Sambucus nigra L. (Adoxaceae) BC-FXBolòs945152	–*. –. –	Saüc[2,3,6,7,8,9]. Sahuco[2,6,7,8,9]. Sureau[2,5,10]	Antalgic[1,3,9]. Diaphoretic[5,6,8,9]. Against dropsy[3,5,7,8]. Resolutive[1,5,7,9]. For erysipelas[5,6,7,8,9]
Sanguisorba minor Scop. (Rosaceae) BC-FXBolòs945388	–*. –. –	–. Espán, pimpinela menor[6,9]. –	Tonic[6]. Vulnerary[3]. Diuretic. Antiischaemia
Sanguisorba officinalis L. (Rosaceae) BC-FXBolòs945127	–. –. –	–. –. Pimprenelle	Astringent[6,7,8]. Tonic[6]. Antidysenteric[7]
Sanicula europaea L. (Apiaceae) BC-FXBolòs945149	–*. –. –	–. –. Sanicle[5]	Resolutive[4]. Astringent[4,5,6,7,8]. Vulnerary[4,5,6,7,8]. Abstergent[4,5,6,7,8]
Satureja hortensis L. (Lamiaceae) BC-FXBolòs945233	–*. –. –	Senyorida[9]. Ajedrea de jardín[4,7]. Sarriette de jardins[5]	Stomachic[5,7,9]. Diuretic[5]. Emmenagogue[5]
Saxifraga granulata L. (Saxifragaceae) BC-FXBolòs945186	–*. India. –	–. Saxifraga granugienta. –	Diuretic[5]
Scabiosa atropurpurea L. (Caprifoliaceae) BC-FXBolòs945122	–*. –. –	Viuda[6,7]. Escobilla morisca. –	–
Scorzoneroides autumnalis (L.) Moench. (Asteraceae) BC-FXBolòs945298	–*. –. –	–. –. –	Detersive. Appetizer. Hematocathartic
Secale cereale L. (Poaceae) BC-FXBolòs945107	–*. –. –	Sègle[6,7]. Centeno común[4,6,7,8]. Seigle[5,10]	–
Sedum acre L. (Crassulaceae) BC-FXBolòs945196	–*. –. –	–. Siempreviva picante[6,7,8]. Orpin brulant[5]	Emetic[5,6,7,8]. Cathartic[5,6,7,8]. Against dropsy[5]. Against itch
Sedum album L. (Crassulaceae) BC-FXBolòs945197	–*. –. –	Arròs de bruixa. Siempreviva menor[6,8]. –	–
Sedum telephium L. (Crassulaceae) BC-FXBolòs945195	–*. –. –	–. –. –	Refreshing[4,5,6]. Anti-inflammatory[9]. Antalgic[5,6]. Vulnerary[4,5,6,8,9]
Sempervivum tectorum L. (Crassulaceae)	–*. –. –	Matafoc[6,7,8,9]. Siempreviva de	Refreshing[4,5,8,9]. Astringent. Antalgic[5,9]

BC-FXBolòs945099		los tejados. Joubarbe[2,5]	
Senna alexandrina Mill. (Fabaceae) BC-FXBolòs945190	–. –. Cultivat a Pineda.	Senet[1,7.] Sen[6]. –	Cathartic[6,7]
Senna italica Mill. (Fabaceae) BC-FXBolòs945191	–. –. –	Senet[7,9]. –. –	–
Serapias lingua L. (Orchidaceae) BC-FXBolòs945356	–*. –. –	–. –. Helléborine à languette[5]	Aphrodisiac
Setaria italica (L.) P.Beauv. (Poaceae) BC-FXBolòs945103	–*. –. –	Panís. Panizo cultivado. Panis	–
Sisymbrium officinale (L.) Scop. (Brassicaceae) BC-FXBolòs945272	–*. –. –	–. Erisimo oficinal[7,8,9]. Tortelle[10], velar[10]	Against sexual transmission illness. Expectorant[6,7,8,9]. Abstergent. Antiasthmatic. For hoarseness[6,8,9]. Antiischuric
Smilax aspera L. (Smilacaceae) BC-FXBolòs945372	–*. –. –	Arítjols[6,7,8,9]. Zarzaparrilla común[2,4,6,8,9]. –	Diaphoretic[4,8,9]
Solanum americanum Mill. (Solanaceae) BC-FXBolòs945069	–*. –. –	Metzines bordes. Yerba mora[2,6,8,9]. Morelle noire[2,5]	Antalgic[5,6,9]. Refreshing
Solanum dulcamara L. (Solanaceae) BC-FXBolòs945070	–*. –. –	–. Solano dulciamargo[7]. Douce-mère[10]	Disinfectant[8,9]. Diuretic[4]. Antiicteric. Antirheumatic[4,8]. Antipleuritic. Antiasthmatic[8]
Solanum lycopersicum L. (Solanaceae) BC-FXBolòs945072	–. Africa, Asia, America. –	Tomates[6,7,8,9]. Tomatera[6,7,8]. Pomme d'amour	–
Solanum melongena L. (Solanaceae) BC-FXBolòs945073	–. –. –	Albergínies[3,6,9]. Berenjena[4,6,7,9]. Melongene	–
Solanum tuberosum L. (Solanaceae) BC-FXBolòs945071	–. America calidiore. –	Trumfes. Patata de la Mancha[4]. Pomme de terre[10]	Antalgic[6,9]
Solidago virgaurea L. (Asteraceae) BC-FXBolòs945345	–*. –. –	–. Vara de oro oficinal[6,7,8,9]. Verge d'or	Vulnerary[6,7,9]. Diuretic[6,7,8]. Renal lithotriptic. Dysobstruent. Against dropsy. Antiulcerous
Sonchus arvensis L. (Asteraceae) BC-FXBolòs945296	–*. –. –	–. Cerraja oficinal[2]. Lairron des champs[5]	Humectant. Refreshing. Appetizer
Sorbus aucuparia L. (Rosaceae) BC-FXBolòs945214	–. Pyrenaeis. –	–. Serbal de cazadores[4,6,7,8]. Sorbier sauvage	Astringent[2,4,6,7,8]

Sorbus domestica L. (Rosaceae) BC-FXBolòs945215	–*. –. –	–. Serbal cultivado[4,6,7]. Sorbier domestique[5]	Astringent[4,5,6,7,9]
Spartium junceum L. (Fabaceae) BC-FXBolòs945285	–*. –. –	–. Retama de flor[2,7,9]. Genêt joncier[2]	Cathartic[6,7,8,9]. Appetizer. Diuretic[3,9]
Stachys officinalis (L.) Trevis. (Lamiaceae) BC-FXBolòs945245	–*. –. –	–. Betónica oficinal[8]. Betonie[10]	For headache. Nervous tonic. Tonic. Sternutatory
Stipa tenacissima L. (Poaceae) BC-FXBolòs945104	–. –. –	Esparc[9]. Esparto. –	–
Succisa pratensis Moench (Caprifoliaceae) BC-FXBolòs945114	–*. –. –	–. Escabiosa mordida[8]. Mors du diable, scabieuse succise	Antivenomous[4]. Diaphoretic[7]. Vulnerary[7,8]
Symphytum officinale L. (Boraginaceae) BC-FXBolòs945139	–*. –. –	–. Consuelda oficinal[2,4,7,8,9]. Consolde[5,10]	Cicatrising[6,8]. Vulnerary[4,5,6,7,8,9]. Astringent[4,5,6]. Antihemoptoic[4]. Antidysenteric[4,5,7]
Tagetes erecta L. (Asteraceae) BC-FXBolòs945350	–. –. –	Clavells de moro. Clavelón de Indias. Oeillet d'Inde	Detersive extern. Vesicant. Resolutive
Tanacetum balsamita L. (Asteraceae) BC-FXBolòs945338	–. –. –	–. Yerba de Santa María[4,7,8,9]. Coq des jardins[10]	Antivenomous[4]. Antihelminthic[4,5,7,8,9]. Emmenagogue[8]
Tanacetum parthenium (L) Sch.Bip. (Asteraceae) BC-FXBolòs945352	–. –. –	–. Matricaria oficinal[4,9]. Matricaire odorante	Stomachic. Emmenagogue[4,9]. Antihysteric[4]. Antihelminthic
Teucrium chamaedrys L. (Lamiaceae) BC-FXBolòs945230	–*. –. –	–. Camedrio[6,7,8,9], encinillo[4,6,7,8,9]. Germandrée officinale[2]	Tonic[7,8,9]. Stomachic[4,9]. Febrifuge[4]. Vesicant. Emmenagogue[2,4,7]
Teucrium polium L. (Lamiaceae) BC-FXBolòs945228	–*. –. –	–. Polio de flor blanca. Polium blanc	Tonic[6,7,8,9]. Antiicteric[9]. Antihelminthic
Teucrium scordium L. (Lamiaceae) BC-FXBolòs945231	–*. –. –	–. –. –	Diaphoretic[4]. Antivenomous[7]. Antihelminthic[4,6]. Antigangrenous[4,7]
Thymus vulgaris L. (Lamiaceae) BC-FXBolòs945251	–*. –. –	Farigola[3,6,7,8,9]. Tomillo oficinal[4,6]. Thym commun[2,5,10]	Tonic[4,5,6,7,8,9]. Cardiotonic[4,5,9]. Stomachic[4,8,9]. Vesicant[5]
Tilia ×*europaea* L. (Malvaceae) BC-FXBolòs945206	–. –. –	Tell[8]. –. Tilleul	Antalgic[4]. For headache[4]. Antiepileptic[4]. Antivertiginous[4]. Antihysteric
Tordylium officinale L. (Apiaceae) BC-	–*. –. –	–. –. –	Vesicant[5]. Antiasthmatic. Emmenagogue[5].

FXBolòs945167			Diuretic[5,6]
Tragopogon pratensis L. (Asteraceae) BC-FXBolòs945295	–*. –. –	–. Barba cabruna de prados[4,7]. Barbe de bouc	Diuretic[4,5,6,7]. Renal lithotriptic[4,5]. Antiherpetic. Antitussive[4,5]
Trifolium arvense L. (Fabaceae) BC-FXBolòs945312	–*. –. –	–. –. Pied de lièvre, trèfle des champs[5]	Detersive. Humectant. Refreshing
Trifolium incarnatum L. (Fabaceae) BC-FXBolòs945310	–*. –. –	Fenc[3,6,7,9]. –. Trèfle incarnat[5]	–
Trifolium pratense L. (Fabaceae) BC-FXBolòs945311	–*. –. –	–. Trébol de prados[2,4,6,8]. Trèfle des prés[2,5]	Detersive. Humectant. Refreshing
Trigonella foenum-graecum L. (Poaceae) BC-FXBolòs945315	–. –. –	Fenigrecs[6,7,8,9]. Alholva oficinal[4,6,7,8]. Fenugrec[5,10]	Emollient[4,5,7,8]. Antalgic[4,5]. Resolutive[1,4,6]. Ripening[1,2,5,6,7,8]. For vision. Antacid
Triticum aestivum L. (Poaceae) BC-FXBolòs945109	–*. –. –	–. Trigo tremesino[4]. –	Emollient[1,5,7,9]. Demulcent[1,9]. Refreshing
Triticum aestivum L. (Poaceae) BC-FXBolòs945110	–*. –. –	Blat[3,6,7,8,9]. Trigo candeal[6,7]. –	–
Tulipa sylvestris L. (Liliaceae) BC-FXBolòs945172	–. –. –	Tulipa. Tulipa común[4]. Tulipe sauvage[5]	–
Ulmus minor Mill. (Ulmaceae) BC-FXBolòs945086	–*. –. –	Om[2,3,9]. Olmo[2,9]. Orme des champs[2,5]	Vulnerary[5]. Astringent[5]
Urospermum picroides (L.) Scop. ex F.W.Schmidt (Asteraceae) BC-FXBolòs945294	–. –. –	–. –. Salsifix picride	Appetizer. Stomachic. Pectoral. Vulnerary. Cicatrising
Vaccinium myrtillus L. (Ericaceae) BC-FXBolòs945180	–. –. –	–. Arándano[4,6,7,8]. Airelle myrtille[5,10]	Astringent[4,5,6,7,8,9]. Antidysenteric[4,5,6,7]
Valeriana officinalis L. (Caprifoliaceae) BC-FXBolòs945051	–*. –. –	Valeriana[1,3,8,9]. Valeriana silvestre[4,6,7,8]. Valériane officinale[5,10]	Antiepileptic[5,7]. Antihysteric[5,7]. Diaphoretic[5,7]. Diuretic[5,6]. Emmenagogue[5,7]
Valeriana phu L. (Caprifoliaceae) BC-FXBolòs945050	–. –. –	–. Valeriana de jardín[4,7]. Valériane des jardins[5]	Antispasmodic[5,6]. Diuretic[4,5,6]. Emmenagogue[5,7]. For headache[5,6]

Veratrum album L. (Melanthiaceae) BC-FXBolòs945389	La Garrotxa, la Vall d'en Bas, Santa Magdalena del Mont*. –. –	–. Vedegambre blanco[2,4,7]. Hellébore blanc[2,10]	Purgative[4,5,6,7]. Sternutatory[2,4,5,6]. Against itch[4,9]
Verbascum thapsus L. (Scrophulariaceae) BC-FXBolòs945059	–. –. –	Santjoan. Gordolobo oficinal[2,4,6,7,8,9]. Bouillon blanc male[2,10]	Emollient[5,6]. Antalgic[4,5,7]. Antihaemorrhoidal[4,8,9]
Verbena officinalis L. (Verbenaceae) BC-FXBolòs945045	–*. –. –	–. Verbena[2,4,6,7,8,9]. Verveine[2,5,10]	Vulnerary[4,5,7,9]. For vision[4,9]. Resolutive[4,5,9]
Veronica beccabunga L. (Plantaginaceae) BC-FXBolòs945040	–*. –. –	–. Becabunga oficinal[4,6,8]. –	Against scurvy[4,5,6 ,8]
Veronica officinalis L. (Plantaginaceae) BC-FXBolòs945041	–*. –. –	–. –. –	Diaphoretic[4]. Vulnerary[5,6,8]. Diuretic[4,5]
Viburnum lantana L. (Adoxaceae) BC-FXBolòs945153	–*. –. –	–. Viburno común[4]. Viorne cotonneuse	Refreshing[5]. Astringent[4,5,6]
Vicia ervilia (L.) Willd. (Fabaceae) BC-FXBolòs945291	–. –. –	–. Alcarceña, yero[6] . Ers ervilier[5]	Resolutive[5,6]. Ripening[5,6]
Vinca minor L. (Apocynaceae) BC-FXBolòs945078	–*. –. –	Vinca pervincla[6,7,8,9]. Yerba doncella mayor[6,7,8] . Pervenche[10]	Astringent[6]. Buccal and pharyngeal anti-inflammatory[7,6,9]
Vinca minor L. (Apocynaceae) BC-FXBolòs945079	–*. –. –	Vinca pervincla[6,7,8,9]. Yerba doncella mayor[6,7,8] . Pervenche[10]	Astringent[6]. Buccal and pharyngeal anti-inflammatory[6,9]
Vincetoxicum hirundinaria Medik. (Apocynaceae) BC-FXBolòs945080	–*. –. –	–. Vencetósigo[7,8]. Dompte venin[10]	Antivenomous[4,7]. Against dropsy[4]
Viola odorata L. (Violaceae) BC-FXBolòs945363	–*. –. –	–. –. –	Antalgic[4,5,7]. Demulcent[9]. Refreshing[5,9]. Against vesicles. Emollient[4,5,6,7,8,9]. Diuretic[4,5,9]. Purgative[4,5,6,7,9]. Cathartic[4,6,7,9]
Viscum album L. (Santalaceae) BC-	–. –. –	–. Muérdago[4,6,7,8,9], visco[4,7,8].	Antispasmodic[4,6,7,9]. Antiepileptic[4,5,6,7].

FXBolòs945367		Gui de chêne[2]	Antivertiginous
Vitex agnus-castus L. (Lamiaceae) BC-FXBolòs945264	–. –. –	–. –. –	Antiaphrodisiac[2,3,4,6,7,9]
Zea mays L. (Poaceae) BC-FXBolòs945376	–*. –. –	Blat de moro[6,7,8,9]. Maíz[4,6,7,8], trigo de Indias[4,6,7,8]. Blé de Turquie	Appetizer. Diuretic[8,9]
Ziziphus jujuba Mill. (Rhamnaceae) BC-FXBolòs945087	–. –. –	Ginjoler[3,6,7,8,9]. Azufaifo[2,4,6,7,8,9]. Jujubier[10]	Expectorant[1,2,4,7,8,9]. Antitussive [1,2,4,8]

*Specimens with a Greek cross symbol in the label and so collected from Olot area (the place where Bolòs lived).

Cyphers in superindexes indicate the coincidences in names and uses with the sources of the comparison set as follows: [1]Wafid 11th century (Faraudo, 1943), [2]Laguna (1566), [3]Agustí (1617), [4]Quer & Gómez Ortega (1695-1764), [5]Lamarck (1778), [6]Bassagaña (1859), [7]Texidor (1871), [8]Font (1961), [9]ethnobotanical database (www.etnobotanica.cat, 20th and 21st centuries), [10]Codex medicamentarius (1884).

Table 3

List of plants in Francesc Bolòs' herbarium with food uses, all of them quoted as nutritious.

Taxon, family and herbarium voucher
Avena sativa L. (Poaceae) BC-FXBolòs945105
Ficus carica L. (Moraceae) BC-FXBolòs945405
Hordeum vulgare L. (Poaceae) BC-FXBolòs945108
Lathyrus tingitanus L. (Fabaceae) BC-FXBolòs945290
Pastinaca sativa L. (Apiaceae) BC-FXBolòs945158
Secale cereale L. (Poaceae) BC-FXBolòs945107
Solanum tuberosum L. (Solanaceae) BC-FXBolòs945071
Triticum aestivum L. (Poaceae) BC-FXBolòs945109
Triticum aestivum L. (Poaceae) BC-FXBolòs945110

Table 4

Plants in Francesc Bolòs' herbarium with indication of toxicity.

Taxon, family and herbarium voucher	**Toxicity**
Actaea spicata L. (Ranunculaceae) BC-FXBolòs945200	Venomous
Arnica montana L. (Asteraceae) BC-FXBolòs945347	Narcotic
Arum maculatum L. (Araceae) BC-FXBolòs945374	Corrosive
Atropa belladona L. (Solanaceae) BC-FXBolòs945065	Narcotic
Cannabis sativa L. (Cannabaceae) BC-FXBolòs945370	Narcotic. Giving confusion of head (inebriating). Corrosive
Capsicum annuum L. (Solanaceae) BC-FXBolòs945074	Irritating. Vigour reducer
Clematis vitalba L. (Ranunculaceae) BC-FXBolòs945279	Caustic
Cynoglossum officinale L. (Boraginaceae) BC-FXBolòs945136	Narcotic
Daphne laureola L. (Thymelaeaceae) BC-FXBolòs945182	Inflammatory
Daphne mezereum L. (Thymelaeaceae) BC-FXBolòs945181	Inflammatory
Datura stramonium L. (Solanaceae) BC-FXBolòs945060	Inebriating. Hallucinogenic. Stupefacient
Delphinium staphisagria L. (Ranunculaceae) BC-FXBolòs945207	Venomous. Inflammatory
Doronicum pardalianches L. (Asteraceae) BC-FXBolòs945348	Corrosive
Euphorbia lathyris L. (Euphorbiaceae) BC-FXBolòs945098	Corrosive
Humulus lupulus L. (Cannabaceae) BC-FXBolòs945371	Giving confusion of head (inebriating)
Hyoscyamus albus L. (Solanaceae) BC-FXBolòs945061	Inebriating. Hallucinogenic. Venomous
Hyoscyamus niger L. (Solanaceae) BC-FXBolòs945062	Inebriating. Hallucinogenic
Papaver somniferum L. (Papaveraceae) BC-FXBolòs945202	Narcotic
Plumbago europaea L. (Plumbaginaceae) BC-FXBolòs945145	Caustic
Ranunculus acris L. (Ranunculaceae) BC-FXBolòs945281	Caustic
Sambucus ebulus L. (Adoxaceae) BC-FXBolòs945151	Narcotic
Satureja hortensis L. (Lamiaceae) BC-FXBolòs945233	Vigour reducer
Solanum tuberosum L. (Solanaceae) BC-FXBolòs945071	Stupefacient

Table 5

Similarities between data in Francesc Bolòs' herbarium (18^{th}-19^{th} centuries) and the comparison set (with sources ranging from 11^{th} to 21^{st} centuries).

	Wafid (Faraudo, 1943), 11^{th} c.	Laguna (1566), 16^{th} (1^{st}) c.	Agustí (1617), 17^{th} c.	Quer & Gómez Ortega (1695-1764)	Lamarck (1778)	Basagaña (1859), 19^{th} c.	Texidor (1871), 19^{th} c.	Font (1961), 20^{th} c.	DB etnobotanica.cat, 20^{th} and 21^{st} c.
NI	293 (85.4%)	251 (73.2%)	299 (87.2%)	168 (49.0%)	188 (54.8%)	95 (27.7%)	92 (26.8%)	119 (34.7%)	127 (37.0%)
DI	16 (4.7%)	44 (12.8%)	26 (7.6%)	29 (8.5%)	12 (3.5%)	77 (22.4%)	75 (21.9%)	61 (17.8%)	76 (22.2%)
CS	34 (9.9%)	48 (14.0%)	18 (5.2%)	146 (42.6%)	143 (41.7%)	171 (49.9%)	176 (51.3%)	163 (47.5%)	140 (40.8%)
CU	52 (4.7%)	69 (6.2%)	21 (1.9%)	290 (26.2%)	312 (28.2%)	258 (23.3%)	278 (25.1%)	265 (23.8%)	226 (20.4%)

NI: no information (no information on herbarium's plants in the comparison source); DI: different information (information on herbarium's plants in the comparison source, but different from that recorded in the herbarium labels); CS: coincidental specimens (herbarium specimens with one or several coincidences in use with the comparison source); CU: coincidental uses (number of coincidental uses between herbarium's plants and the comparison source). c: century or centuries. Figures are given in absolute values with the percentages between parentheses.

Table 6. List of the alien taxa included in Francesc Bolòs' herbarium, with information regarding their native area and invasion stage, both at global (entire world) and local (Garrotxa district, Catalan Countries and the rest of the Iberian Peninsula) level. When the alien status of a given taxon is disputed, we have considered it to be native and thus it is not included in this table.

Taxon	**Native area**[1]	**Invasion stage for the Garrotxa district**[2]	**Invasion stage for the Catalan Countries**[2]	**Invasion stage for the rest of the Iberian Peninsula**[2]	**Invasion stage at global level**[3]
Acacia farnesiana	N America & S America	---	CC, I	CC, N	WC, WI
Acmella oleracea	S America	---	---	---	WC, WN
Aesculus hippocastanum	Europe (SE Europe)	CC, N	CC, CS	CC, N	WC, WN
Amaranthus tricolor	Tropical Asia	---	CC	CC, CS	WC, WN
Angelica archangelica	Temperate Asia & Europe	---	---	CS	WC, WN
*Anthriscus cerefolium**	Temperate Asia & Europe	---	CC, CS	CC, CS	WC, WN
Armoracia rusticana	Europe (Moldova)	CC, CS	FC, CS	FC, CS	WC, WN
Artemisia abrotanum	Temperate Asia & Europe	CC	CC, CS	CC, CS	WC, WN
Avena sativa	Temperate Asia (Turkey)	CC, CS	CC, CS	CC, CS	WC, WN
Beta vulgaris subsp. *vulgaris*	Unknown	CC	CC, N	CC, CS	WC, WN
Brassica napus	Unknown	CC, CS	CC, CS	CC, N	WC, WI
Brassica nigra	Africa, Temperate Asia & Europe	FC, CS	CC, N	CC	WC, WI
Canna indica	N America (Mexico) & S America	CC, CS	CC, N	CC, N	WC, WI

Cannabis sativa	Temperate Asia	CC	CC, CS	CC, CS	WC, WI
Capsicum annuum	N America & S America	CC	CC, CS	CC, CS	WC, WN
Cardiospermum halicacabum	Africa, Temperate Asia, Tropical Asia, N America (Mexico), S America & Pacific (Fiji)	---	CS	CS	WC, WI
Carthamus tinctorius	Temperate Asia (W Asia)	---	CC, CS	CC, N	WC, WN
*Castanea sativa**	Africa (N Africa), Temperate Asia & Europe	CC, N	CC, N	CC, N	WC, WN
*Cicer arietinum**	Temperate Asia (W Asia)	CC, CS	CC, CS	CC, CS	WC
Citrullus colocynthis	Africa, Temperate Asia, Tropical Asia & Europe	---	CC, CS	CC, N	WC, WI
Citrullus lanatus	Africa	CC, CS	CC, CS	CC, CS	WC, WI
Convolvulus farinosus	Africa	---	---	N	WN
*Cucumis melo**	Africa, Temperate Asia, Tropical Asia, Australasia & Pacific	CC, CS	CC, CS	CC, CS	WC, WN
Cucurbita pepo	N America	CC	CC, CS	CC, CS	WC
Cyclamen purpurascens	Europe	---	---	---	---
*Cydonia oblonga**	Temperate Asia	CC, N	CC, N	CC, CS	WC, WN
*Datura stramonium**	N America (Mexico)	CC, CS	CC, I	CC, I	WC, WI
*Dysphania ambrosioides**	N America & S America	CC, CS	FC, I	FC, I	WC, WI
Elaeagnus angustifolia	Temperate Asia, Tropical Asia (Indian subcontinent)	---	CC, N	CC, I	WC, WI

	& Europe (E Europe)				
*Euphorbia lathyris**	Temperate Asia (China) & Europe	CC, CS	CC, N	CC, N	WC, WI
Fagopyrum esculentum	Temperate Asia (China)	CC, CS	FC, CS	CC, CS	WC, WN
Gossypium herbaceum	Africa	---	CC, CS	CC, CS	WC
*Hordeum vulgare**	Africa (N Africa), Temperate Asia, Tropical Asia (Indian subcontinent) & Europe (SE Europe)	CC, CS	CC, CS	CC, CS	WC, WN
Impatiens balsamina	Tropical Asia	---	CC, CS	CC, CS	WC, WI
*Inula helenium**	Temperate Asia & Europe	CC, N	FC, N	FC, CS	WC, WN
Iris germanica var. *florentina**,[4]	Unknown	CC	CC	CC	WC
Iris tuberosa	Temperate Asia (W Asia)	---	---	CC, N	---
Jasminum grandiflorum	Africa, Temperate Asia (Arabian Peninsula) & Tropical Asia (Indian subcontinent)	---	CC, CS	CC	WC, WN
*Jasminum officinale**	Temperate Asia & Tropical Asia (Indian subcontinent)	CC, CS	CC, CS	CC, N	WC, WN
*Juglans regia**	Temperate Asia, Tropical Asia (Indian subcontinent) & Europe	CC, N	CC, N	CC, N	WC, WN
*Lactuca sativa**	Temperate Asia (W Asia)	CC	CC, CS	CC, CS	WC, WN
Lagenaria siceraria	Africa (Zimbabwe)	---	CC	CC, CS	WC, WN
*Lathyrus sativus**	Europe (SE Europe)	FC	CC, CS	CC, CS	WC, WN
Lepidium	Africa, Temperate Asia &	---	CC, N	CC, CS	WC, WI

sativum	Tropical Asia (Pakistan)				
*Levisticum officinale**	Temperate Asia (W Asia)	FC	N	N	WC, WN
Lilium candidum	Temperate Asia (W Asia) & Europe (SE Europe)	CC, CS	CC, N	CC, N	WC, WN
*Melissa officinalis**	Africa, Temperate Asia, Tropical Asia (Pakistan) & Europe	CC, N	CC, N	CC, N	WC, WI
Mentha ×gentilis	Temperate Asia & Europe	---	CC	CC	WC
*Mespilus germanica**	Temperate Asia & Europe	CC, N	CC, N	CC, N	WC, WN
Nicotiana rustica	S America	---	CC, CS	CC, N	WC, WN
Nicotiana tabacum	S America	CC, CS	CC, CS	CC, CS	WC, WI
Ocimum basilicum	Africa	CC	CC, CS	CC	WC, WI
Opuntia maxima	N America (Mexico)	CC	CC, I	CC, I	WC, WI
Origanum dictamnus	Europe (Greece)	---	FC	FC	WC
*Origanum majorana**	Temperate Asia (W Asia)	CC, CS	CC, CS	CC, CS	WC, WN
Pelargonium myrrhifolium	Africa (S Africa)	---	---	CC	WC
Pelargonium odoratissimum	Africa (S Africa)	---	---	CC	WC
Petroselinum crispum	Europe	CC, N	CC, N	CC, N	WC, WI
Philadelphus coronarius	Temperate Asia (W Asia) & Europe	CC, CS	CC, CS	CC, CS	WC, WN
Phytolacca americana	N America	CC, N	FC, I	FC, N	WC, WI

Pistacia vera	Temperate Asia	CC	CC, CS	CC, CS	WC
*Prunus cerasus**	Eurasia	CC	CC, N	CC, CS	WC, WI
*Prunus domestica**	Eurasia	CC	CC, N	CC, CS	WC, WI
*Punica granatum**	Temperate Asia & Tropical Asia (Indian subcontinent)	CC, N	CC, N	CC, N	WC, WN
Rheum sp.[5]	---	---	---	---	---
Ricinus communis	Africa	CC, N	CC, I	CC, I	WC, WI
*Rubia tinctorum**	Africa (N Africa), Temperate Asia & Europe	FC	FC, I	FC, N	WC, WN
*Ruta graveolens**	Europe	CC, CS	CC, CS	CC, CS	WC, WN
*Salix viminalis**	Temperate Asia & Europe	CC	CC	CC, CS	WC, WN
*Satureja hortensis**	Temperate Asia (Turkey) & Europe	CC, CS	CC, CS	FC, CS	WC
*Secale cereale**	Temperate Asia, Tropical Asia (Pakistan) & Europe (E Europe)	CC, CS	CC, CS	CC, CS	WC, WN
Senna alexandrina	Africa, Temperate Asia & Tropical Asia (Indian Subcontinent)	---	---	---	WN
Senna italica	Africa, Temperate Asia & Tropical Asia (Indian subcontinent)	---	FC	FC	WC
*Setaria italica**	Africa (N Africa), Temperate Asia, Tropical Asia (Indian Subcontinent) & Europe	CC, CS	CC, N	CC, CS	WC, WI
Solanum lycopersicum	S America	CC, CS	CC, N	CC, CS	WC, WN
Solanum	Temperate Asia (China) &	CC	CC	CC, CS	WC, WN

melongena	Tropical Asia (Indian subcontinent)				
Solanum tuberosum	S America	CC, CS	CC, CS	CC, CS	WC
Tagetes erecta	N America & S America	---	CC	CC	WC, WI
Tanacetum balsamita	Temperate Asia	---	CC, N	CC	WC, WN
Tanacetum parthenium	Temperate Asia & Europe	CC, N	CC, N	CC, N	WC, WI
Trifolium incarnatum subsp. *incarnatum**	Europe (Bulgaria)	CC, CS	CC, CS	CC, N	WC, WN
Trigonella foenum-graecum	Temperate Asia & Europe (E Europe)	CC, CS	CC, CS	CC, N	WC, WN
*Triticum aestivum**	Temperate Asia (W Asia)	CC, CS	CC, CS	CC, CS	WC, WN
Valeriana phu	Temperate Asia (W Asia)	---	FC	CC	---
*Zea mays**	N America (Mexico) & S America (Guatemala)	CC, CS	CC, CS	CC, CS	WC
Ziziphus jujuba	Temperate Asia (China)	CC, CS	CC, N	CC, N	WC, WN

[1] When a given taxon is present in a single region (of any level) within one of the nine main world areas defined by Brummit (2001), it is indicated. A taxon is considered widespread if it occurs in a minimum of five world areas.

[2] CC, cultivated, FC, formerly cultivated; CS, casual; N, naturalized, I, invasive.

[3] WN, widely naturalized taxa; WI, widely invasive taxa; WC, widely cultivated taxa.

According to The Plant List, *Iris germanica* var. *florentina* should be treated as a synonym of *I. germanica*. However, the information included in this table corresponds to the variety of white corolla (that is recognized at the varietal rank in the regional and local floras).

[5] We have been unable to determine the taxon given the poor conservation of the specimen. We have not included *Rheum* sp. in any of the analyses.

*Taxa that Francesc Bolòs observed in his hometown or surroundings (which correspond to those marked with the Greek cross symbol on the specimen's label).