

**TEUCRIUM FERRERIANUM SP. NOV. (SECT. POLIUM, LAMIACEAE),  
A NEW SPECIES FOR THE IBERIAN FLORA**

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**ABSTRACT:** A new taxon with species rank is proposed, *Teucrium ferrerianum*, from Quintos de Mora (Los Yébenes, Toledo, Spain). Illustrations and a table with the main diagnostic characters are provided to differentiate this taxon from *T. capitatum* subsp. *capitatum*. **Keywords:** Spain; *Labiatae*; taxonomy; subsect. *Polium*.

**RESUMEN:** *Teucrium ferrerianum* sp. nov. (sect. *Polium*, *Lamiaceae*), una nueva especie para la flora ibérica. Se propone un nuevo taxón con rango de especie, *Teucrium ferrerianum*, de Quintos de Mora (Los Yébenes, Toledo, España). Se proporcionan ilustraciones y una tabla con los principales caracteres diagnósticos para diferenciar este taxón de *T. capitatum* subsp. *capitatum*. **Palabras clave:** España; *Labiatae*; taxonomía; subsect. *Polium*.

## INTRODUCTION

The Quintos de Mora Mountains, belonging to Los Yébenes (Toledo, Spain), is a 100% public ownership property, which is part of Montes de Toledo mountain system. Its relief is made up of a series of mountainous alignments, oriented east-west with altitudes between 1.000 and 1.200 meters above sea level, mountain ranges that reach Extremadura to the west and even penetrate Portugal. From a geological point of view, acid outcrops (gneiss, quartzite and slate) dominate. Thanks, among others, to the works of GÓMEZ M. (1988), BAONZA & al. (2010), and RIVAS MARTINEZ (2011a, 2011b) we currently have a detailed knowledge of its flora and vegetation. From the floristic point of view, we will highlight that the territory is rich in mediterranean flora, the catalog is made up of more than 800 taxa and two vulnerable taxa are part of it [*Betula pendula* subsp. *fontqueri* var. *parvibracteata* (Peinado, G. Moreno & A. Velasco) G. Moreno & A. Velasco, and *Utricularia australis* R. Br.] (BAONZA & al., 2010).

A few years ago, some of us described a local endemic species, *Sideritis calduchii* Cirujano & al. (see CIRUJANO & al., 1994), from a specimen collected in Quintos de Mora in 1986 by Gómez Manzanque, and preserved in the MA herbarium, and for those of the team that did not have direct knowledge of the place, this botanical visit was a must. Our desire for this occasion was first of all to get to know *S. calduchii* and its cohort of accompanying plants in its habitat. But there was also another reason such as our interest in the study ‘*in situ*’ of certain Iberian ‘zamarillas’ of the genus *Teucrium* L. (*Lamiaceae*), particularly those belonging to the section *Polium* (Mill.) Schreb.

In the case of the Quintos de Mora district, of the five *Teucrium* species indicated by the authors of the floristic catalog for that area (BAONZA & al., 2010), only two belong to sect. *Polium*: *T. haenseleri* Boiss. and *T. capitatum* L. subsp. *capitatum*. In this work we propose a new taxon (*T. ferrerianum*) that shares endemism with *S. calduchii*, and

that together with it, represents a notable increase in the originality and interest of the flora of this place.

The vegetation of Quintos de Mora is varied and complex (see RODRÍGUEZ & PÉREZ, 2000), and in general terms forest formations belonging to several vegetation series have been described: series of the Lusitano-Extremadurensis holm oak with iberian pears trees (the driest), *Pyro bourgaeanae-Quercus rotundifoliae sigmetum*; gall-oak series (somewhat wetter) *Pyro bourgaeanae-Quercus broteri sigmetum*; series of the pyrenean oak from shady places in various streams, *Arbuto unedoni-Quercus pyrenaicae sigmetum*, mesomediterranean, and the *Sorbo torminalis-Quercus pyrenaicae sigmetum* series, supra-mediterranean.

From the biogeographical point of view, these mountains are part of the Mediterranean region, Western Mediterranean subregion, Western Iberian Mediterranean province, Luso-Extremadurensis subprovince, Toledo-Tagano sector, Oretano subsector, Montitoletano district. (see RIVAS-MARTÍNEZ, 2011a, 2011b).

## MATERIALS AND METHODS

The visit to the area and the field work, were carried out during a couple of days in mid-June 2022. For the identification of the plants, we consulted the floristic catalog of BAONZA & al. (2010) and *Flora iberica* (<http://www.floraiberica.es/>). The material collected is currently preserved at VAL Herbarium of the University of Valencia, Spain. Acronyms of the cited herbaria according to THIERS (2024).

The nomenclature that has been followed is the same used by the authors of the floristic catalog (BAONZA & al., 2010), with few exceptions: *Salvia rosmarinus* Schleid. (vs. *Rosmarinus officinalis* L.), *Sideritis paulii* susp. *calduchii* (Cirujano et al.) Roselló et al. (vs. *S. calduchii* Cirujano et al.), *Quercus ilex* subsp. *rotundifolia* (Lam.) T. Morais (vs. *Q. ilex* L. subsp. *ballota* (Desf.) Samp).

## RESULTS AND DISCUSSION

After a brief tour of the holm oaks in the area, we found some ‘zamarrillas’ that stood out among the vegetation of the forest clearing like whitish bushes, which after a provisional examination seemed to us that they could be identified as *T. capitatum*. However, despite the fact that the type of this species is from the surroundings of Madrid (a place not far from there) the identification of this zamarrilla as *T. capitatum* subsp. *capitatum* did not quite satisfy us. It seemed to us that important details that were appreciated in those plants such as their clothing, branching, size of the flowers, etc., did not fit into the Linean taxon, so we finally decided to propose their treatment as a new species:

***Teucrium ferrerianum*** J.B. Peris, R. Roselló & Gómez Nav., **sp. nov.**

**HOLOTYPE:** Spain, Toledo, Los Yébenes, (ETRS89) 30SVJ 16958 62735, 1042 m, R. Roselló, J.B. Peris, S. Cirujano, G. Stübing, 15-6-2022, VAL 252416. **Isotypi:** VAL 252417, MA, BC, SALA. **Paratypi:** Spain, Toledo, Los Yébenes, (ETRS89) 30SVJ 21122 68520, 875 m, R. Roselló, J.B. Peris, S. Cirujano, G. Stübing, 14-6-2022, VAL 252418 (espécimen montado en dos pliegos de herbario), ALBA, MA, BC, SALA.

**Diagnosis:** *Teucrium ferrerianum* differs from *T. capitatum* s.l. by its highly branched (generally forming an acute angle  $< 90^\circ$ ) and more flexible stems, covered in lanuginous indument, sometimes tomentous, with long and flexuous branching hairs (0.4-1.3 mm); by its secondary stems often filiform; by its subflat leaves; by the often very long lower branches of the inflorescence; by the bracteoles that are longer than the flowers; and by its larger flowers, with a 3.5-4 (4.5) mm calyx, and a 4.5-5 mm corolla (see Figs. 1 and 2).

**Eponymy:** We dedicate this plant to our friend and colleague, the botanist Dr. Pedro Pablo Ferrer Gallego, a great taster and knowledgest of the genus *Teucrium*.

**Description:** Sufrutex 5-35 cm long, flowering stems 9-30 cm tall, not as rigid as in *T. polium*, the main ones 1-1.5 mm wide, the oldest reaching up to 2 mm wide at the base, whitish or greyish-green in color due to its lanuginous or tomentose indumentum made up of 0.4-1.3 mm branched and flexuous hyaline hairs, even longer on the sterile shoots; thinner secondary stems, 0.6-1 mm long, often threadlike in appearance, with yellow or pink epidermis visible between the hairs on said stems; main stems very branched from the middle, ascending, erect, flexible, decumbent at the end. Leaves 7-16  $\times$  1.6-3(4) mm, opposite, subflat, with indument similar to that of the stem, denser on the underside, lanceolate-linear, oblong-linear, rarely ovate, cuneate or long cuneate, crenate from the upper half or third with 3-6 pairs of lobes, generally with axillary shoots, leaves of the sterile summer shoots, linear and with a revolute edge. Bracts similar to the leaves, although smaller, not as long attenuated as the normal leaves, so that their greatest width is usually towards the base. The bracts at the base of the floral glomeruli exceed these in length. Bracteoles linear-lanceolate and subpetiolate, longer than the flowers. Inflorescences of 2-18 cm, made up of flowers grouped in glomeruli of 7-10  $\times$  5-8 mm, grouped in ramified paniculiform inflorescences,

often forming an acute angle  $< 90^\circ$ , in a raceme of racemes, or racemes of double racemes that can start below the middle of the stem, long more rarely condensed into a simple terminal head (pseudocorimb) of 10-15(20)  $\times$  8-11 mm. Peduncles of the glomeruli of 0.5-2(3) cm. Calyx 3.5-4(4.5) mm, tubular, glandular, lanuginous, densely covered with flexuous branched hairs up to 1 mm long, interspersed with some simple hair. Calyx teeth flat, triangular acute, sometimes the central one cuspidated, wider than tall but not always; hairs on the edge of the teeth similar to those on the rest of the calyx, flexuous, up to 1 mm long, not very strongly branched, with some simple hairs. Interior of the calyx lined with simple hairs. Corolla 4.5-5 mm, white with a yellow throat, glandular pubescent (simple hairs), with ciliated posterior lobes (table 1, fig. 2).

*Teucrium ferrerianum* is part of the silicicolous series of the holm oak with iberian pears trees, and is found under the holm oaks or forming part of their substitution stages (madronnials, rockfose-lavender spanish or giant esparto formations), always preferring subsciophilous or somewhat shaded ecotopes (relatively thin stems and flexuous, leaves subflat). In these formations it lives with *Cistus ladanifer* L., *Paeonia broteri* Boiss. & Reut., *Sideritis paulii* subsp. *calduchii* (Cirujano & al.) Roselló & al., *Erica scoparia* L., *Thymus mastichina* (L.) L., *Salvia rosmarinus* Schleid., *Genista hirsuta* Vahl, *Erica australis* L., *Lavandula stoechas* L., etc. On the shady slopes and hollows, the vegetation is enriched with *Cistus populifolius* L., *Erica australis* L., *Erica umbellata* Loeffl. ex L., *Calluna vulgaris* (L.) Hull., *Polygala microphylla* L., etc.

To complete the vision of ecological preferences of *T. ferrerianum*, we present an inventory with the floristic cohort that accompanies the new taxon, carried out in a mixed holm oak clearing (inventoried area about 50 m<sup>2</sup>, Quintos de Mora (Toledo, Spain) 30S 416958, 4362735, 1042 masl, on 15-VI-2022) which seems to be one of the preferential habitats for this plant. (The signs and/or numbers at the end of each name correspond to the abundance index (BRAUN-BLANQUET, 1928) that is used in phytosociological inventories).

*Quercus ilex* subsp. *rotundifolia* (Lam.) T. Morais (index: 2); and (with index: +): *Quercus faginea* subsp. *broteroi* (Cout.) A. Camus; *Juniperus oxycedrus* subsp. *badia* (H. Gay) Deveaux; *Arbutus unedo* L.; *Pistacia terebinthus* L.; *Cistus ladanifer* L.; *Salvia rosmarinus* Schleid.; *S. paulii* subsp. *calduchii* (Cirujano et al.) R. Roselló, P.P. Ferrer, J. Fabado, J. Gómez, E. Laguna & J.B. Peris; *Lonicera perichlymenum* subsp. *hispanica* (Boiss. & Reuter) Nyman; *Lavandula pedunculata* (Mill.) Cav.; *Centaurea beturica* E. López & Devesa; *Klasea monardii* (Duf.) J. Holub; *Dianthus toletanus* Boiss. & Reuter; *Iberis ciliata* subsp. *contracta* (Pers.) Moreno; *Thymus mastichina* (L.) L.; *Th. vulgaris* L.; *Teucrium chamaedrys* L.; *Centaureum erythraea* Rafn.; *Linum suffruticosum* L.; *Carlina corymbosa* subsp. *hispanica* (Lam.) O. Bolòs & J. Vigo; *Scorzonera angustifolia* L.; *Stipa gigantea* Lag.; *Aira caryophyllea* L.; *Lomelosia simplex* (Desf.) Raf.

**Acknowledgements:** Thanks to our colleagues and friends Santos Cirujano and Gerardo Stübing, for accompanying us and providing the means that made it possible for this excursion to have the desired success. Thanks to Jesús Riera and Javier Fabado the help in the study of the herbarium sheets at VAL.

## REFERENCES

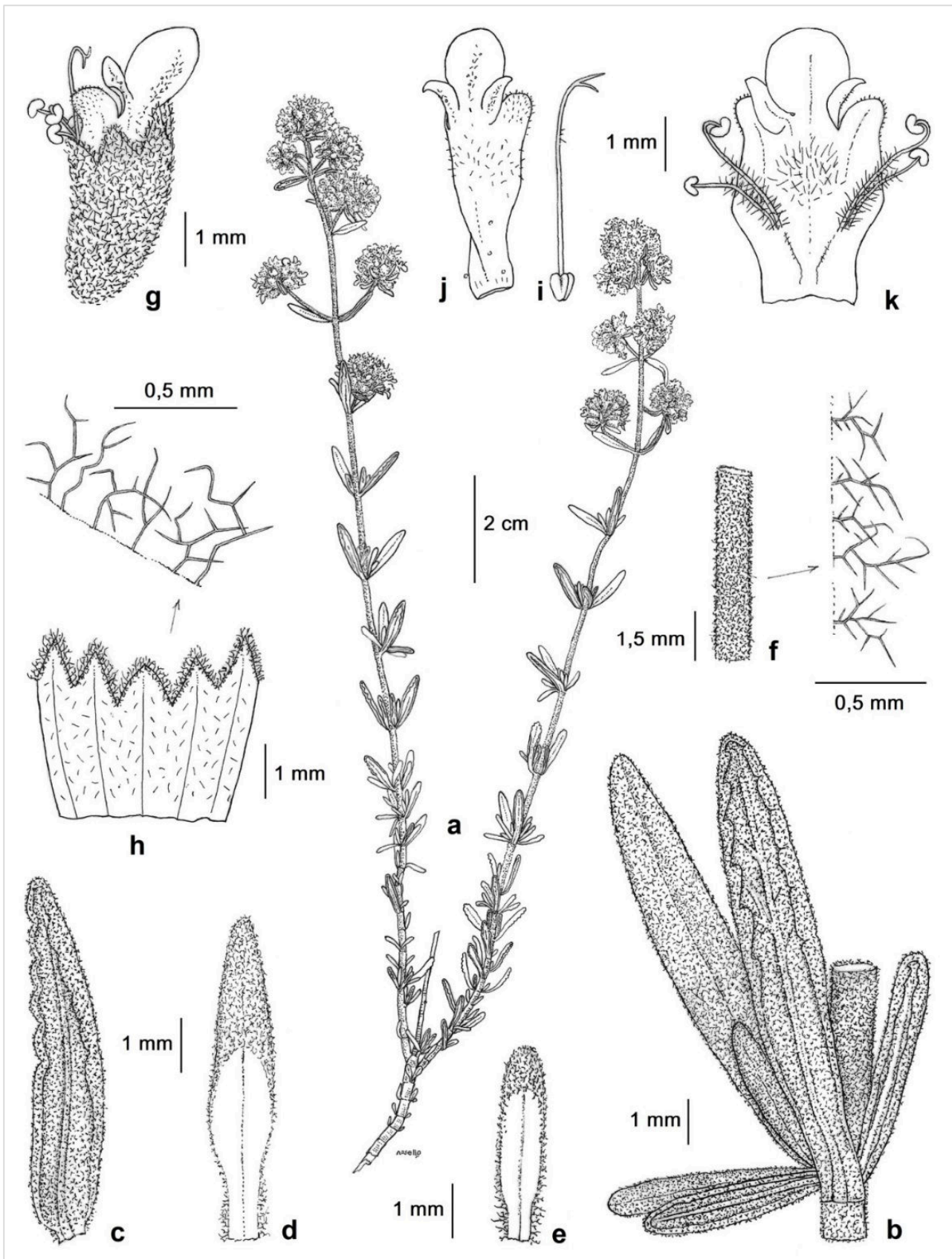
- BAONZA, J., R.N. CAPARRÓS, F. GARCÍA, & F. MARTÍNEZ GÓMEZ (2010). Flora vascular de los Quintos de Mora (Los Yébenes, Toledo). *Ecología* 23: 39-58.
- BRAUN-BLANQUET, J. (1928). *Pflanzensoziologie. Grundzüge der Vegetationskunde*. Biologische Studienbücher 7. 1. Ed. Berlin. x + 330 pp.
- CIRUJANO, S., R. ROSELLÓ, J.B. PERIS & G. STÜBING (1994). *Sideritis calduchi*, sp. nov. (Labiatae), endemismo ibérico. *Anales Jard. Bot. Madrid* 52(1): 109-111.
- GÓMEZ MANZANEQUE, F. (1988). La cubierta vegetal de los Montes de Mora (Los Yébenes, Toledo). *Ecología* 2: 111-130.
- NAVARRO, T. (1995). Revisión del género *Teucrium* L. sección *Polium* (Mill.) Schreb. (*Lamiaceae*) en la Península Ibérica y Baleares. *Acta Bot. Malacitana* 20:173-265.
- NAVARRO, T. & B. CABEZUDO (1995). La inflorescencia en las especies del género *Teucrium* L. (*Lamiaceae*) presentes en la Península Ibérica y Baleares. *Acta Bot. Malac.* 20: 165-171.
- RODRÍGUEZ MARZAL, J.L. & C. PÉREZ CARRAL (2000). Adiciones al catálogo florístico de los Quintos de Mora (Los Yébenes, Toledo). *Ecología* 14: 159-164.
- NAVARRO, T. (2010) *Teucrium* L. in R. Morales & al. (eds.), *Flora iberica* 12: 30-166. Real Jardín Botánico, CSIC. Madrid.
- RIVAS-MARTÍNEZ, S. (2011a). Mapa de series, geoseries y geopermaseries de vegetación de España (Memoria del mapa de vegetación potencial de España) parte II(1). *Itin. Geobot.* 18(1): 5-424.
- RIVAS-MARTÍNEZ, S. (2011b). Mapa de series, geoseries y geopermaseries de vegetación de España (Memoria del mapa de vegetación potencial de España) parte II(2). *Itin. Geobot.* 18(2): 425-800.
- ROSELLÓ, R., P. P. FERRER GALLEGO, J. FABADO, J. GÓMEZ, E. LAGUNA & J.B. PERIS (2019). Consideraciones acerca de algunas *Sideritis* L. (*Lamiaceae*) de la mitad centro-occidental de la Península Ibérica. *Flora Montib.* 74: 119-127.
- THIERS, B. (2024+). *Index Herbariorum: A global directory of public herbaria and associated Staff*. New York Botanical Garden's Virtual Herbarium. Available from: <http://sweetgum.nybg.org/ih/>. (Consultada 5/1/2024).

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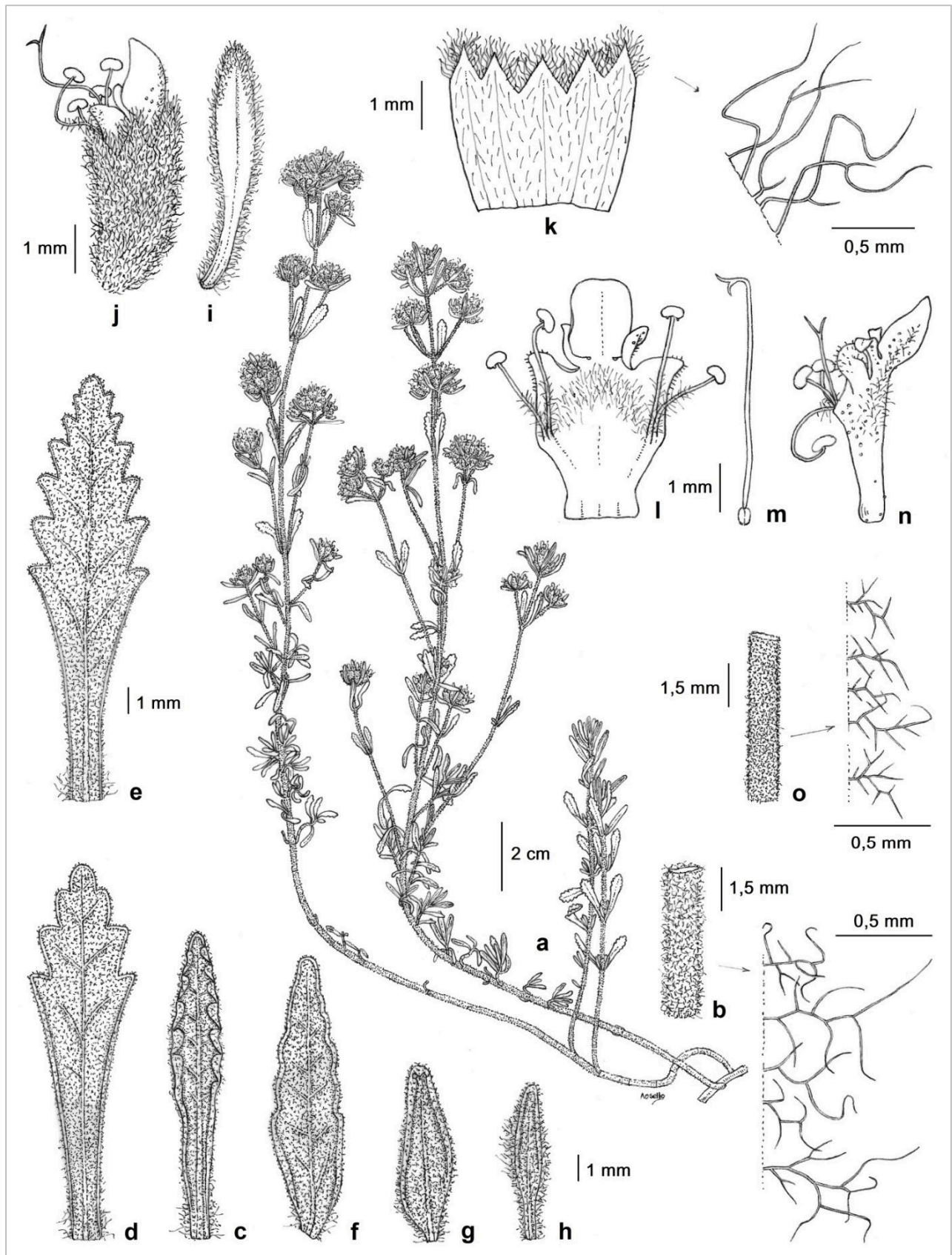
**Table 1.** Main diagnostic characters between *Teucrium capitatum* subsp. *capitatum* and *T. ferrerianum* (data extracted from NAVARRO, 1995, 2010 and NAVARRO & CABEZUDO, 1995) and personal observations.

	<i>T. capitatum</i> subsp. <i>capitatum</i>	<i>T. ferrerianum</i>
<b>Stem</b>	stiff	more flexible, sometimes even swaying
indument	tomentose, powdery, grayish, sometimes yellowish	lanuginous or tomentose, whitish, greyish-green
hairs	dendritic hairs up to 0.5 mm	flexuous branching hairs up to 1.3 mm
bearing	stiff, upright	arched-erect or decumbent
<b>Leaves</b> flowering stems (mm)	(4)7(17) × (1)2.5 (4)	7-16 × 1.6-3 (4)
leaf edge	scrambled edge	subflat
<b>Inflorescence</b>	located from the upper half of the stem. Lower branches of the inflorescence short, sometimes sessile	sometimes starts from the middle of the stem. Lower branches of the inflorescence are often long
<b>Bracts</b>	surpass the glomeruli	surpass the glomeruli
<b>Bracteoles</b>	do not exceed the flowers	surpass the flowers
<b>Inflorescence (cm)</b>	3-15	2-18
<b>Calyx (mm)</b>	(2)3-3.5(4)	3.5-4 (4.5)
hair clothing	tomentose	woolly or almost
tooth edge clothing	no simple hairs	with some simple hair
<b>Corolla (mm)</b>	3.5-4.5	4.5-5
<b>Edaphic behavior</b>	heliophile, calcicolous	subsciophile, silicicolous



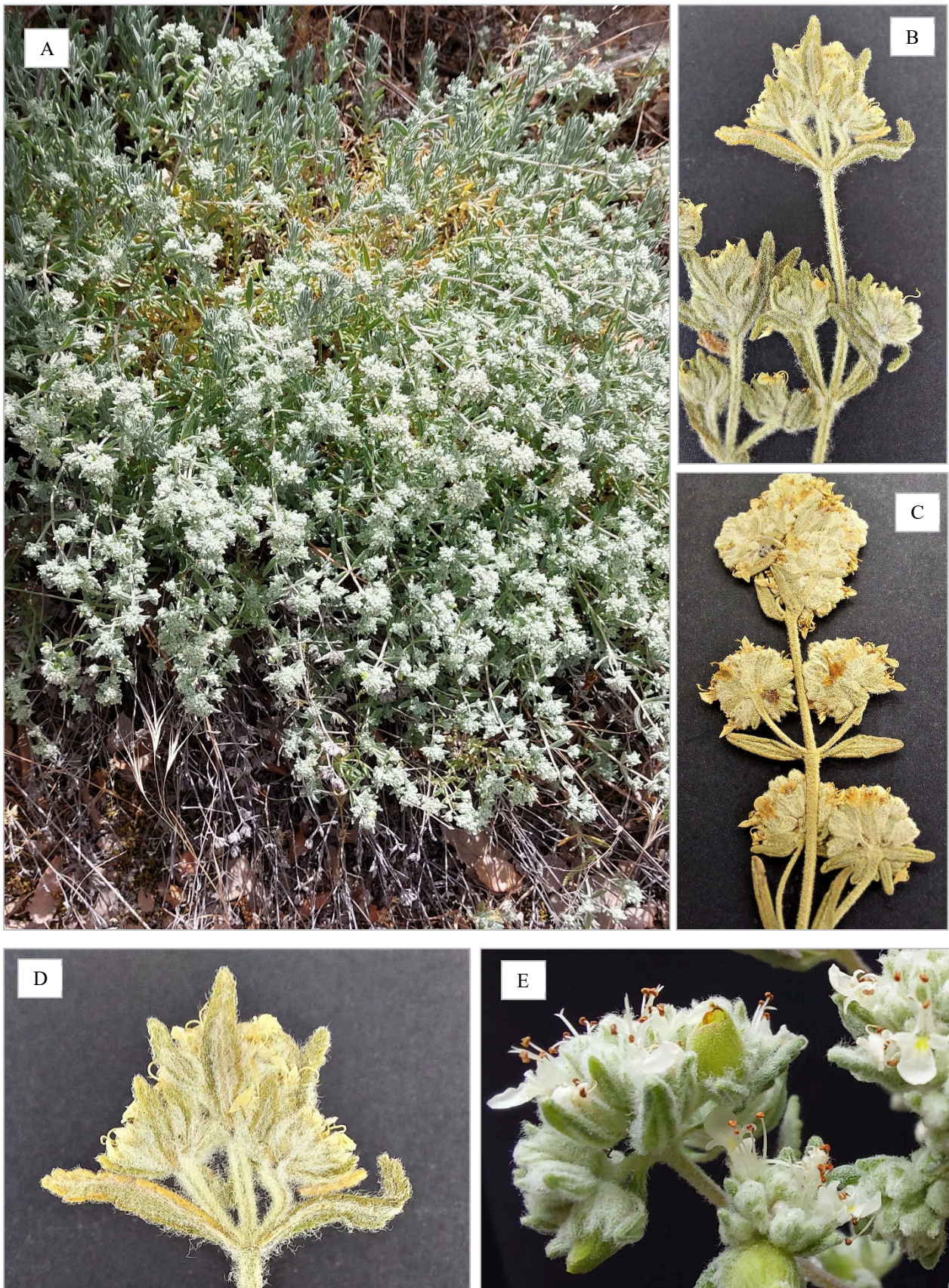
**Figure 1.** *Teucrium capitatum* subsp. *capitatum*, San Martín de la Vega (Madrid, Spain) MA 527812: a) floriferous branch; b) node with stem leaves; c) lower bract, seen from the abaxial side; d) upper bract, seen from the adaxial side; e) bracteole, seen from the adaxial side; f) part of a stem with detail of its hairs; g) flower; h) open calyx showing its interior and detail of the hairs on the edge of the teeth; i) gynoceium; j) corolla; k) open corolla with stamens. (Drawing: R. Roselló).





**Figure 2.** *Teucrium ferrerianum*, sp. nov., Quintos de Mora, Los Yébenes (Toledo, Spain) VAL 252416, holotypus: a) floriferous branch; b) part of a stem with detail of its hairs; c-e) cauline leaves; f) bract; g, h) bracteoles; i, j) bracteole and flower; k) calyx open ventrally and detail of the hairs on the edge of the teeth; l) corolla open ventrally; m) gynoecium; n) flower devoid of calyx. *T. capitatum* subsp. *capitatum*, San Martín de la Vega (Madrid, Spain) MA 527812: o) part of a stem with detail of its hairs. (Drawing: R. Roselló).





**Figure 3.** *Teucrium ferrerianum* in the clearing of an oak grove (A); inflorescence and terminal head detail of *T. ferrerianum* (B, E, and D); and inflorescence and terminal head detail of *T. capitatum* subsp. *capitatum* (C). (Photos: R. Roselló).





Figure 4. Holotype of *Teucrium ferrerianum*, VAL 252416. Image courtesy of the herbarium VAL, reproduced with permission.

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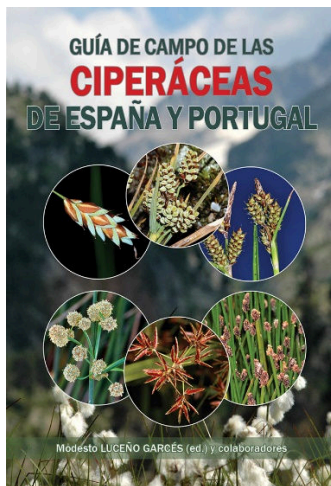
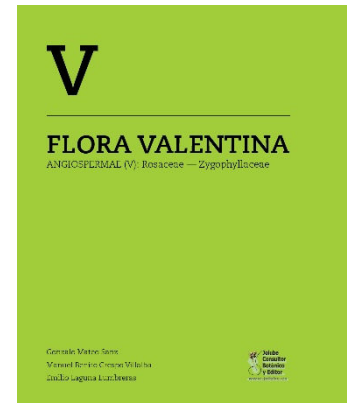
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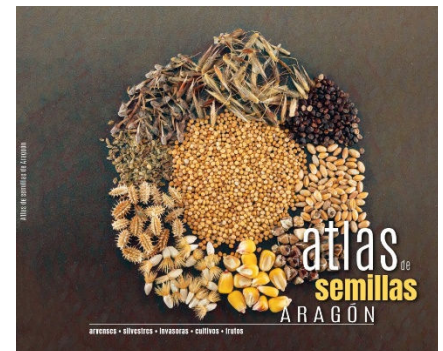
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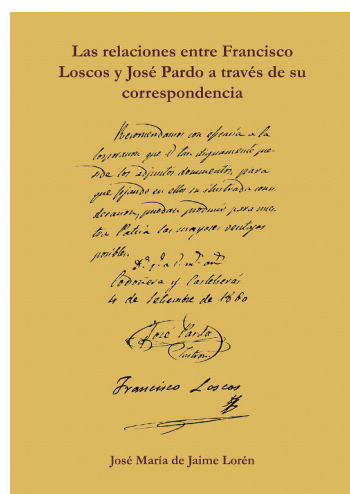
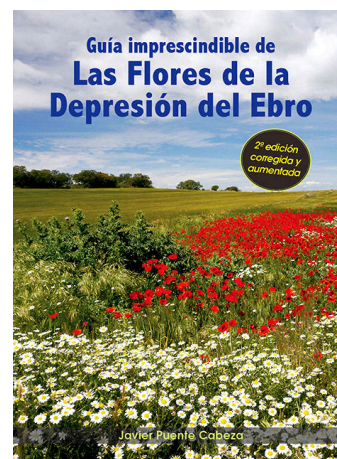
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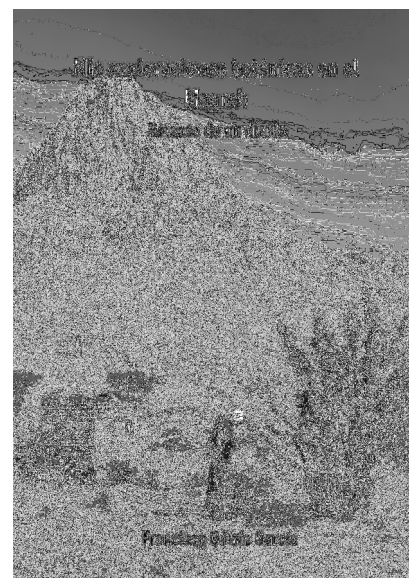
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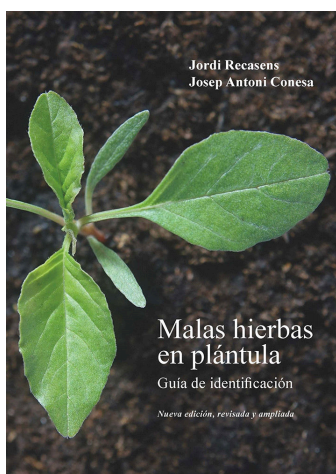
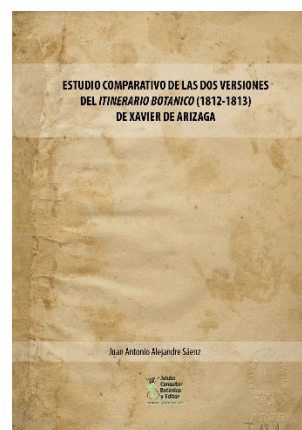
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Fecha lanzamiento: **octubre de 2022**

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PVP: 12,50€ + envío

