

## **THYMUS HERBA-BARONA SUBSP. BIVALENS, A NEW ENDEMIC TAXON FROM THE BALEARIC ISLANDS**

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**RESUMEN:** Se describe un nuevo taxon (*Thymus herba-barona* subsp. *bivalens*) de la zona montañosa de Mallorca que se distingue del tipo por ser diploide ( $2n=28$ ), presentar hojas glabras (con algunos tricomas pluricelulares en el haz), dientes inferiores del cáliz menores y la longitud del tubo mayor que los dientes calicinales.

**SUMMARY:** A new diploid subspecies of *Thymus herba-barona* is described from Mallorca. It differs from the typical subspecies by a different indument on the leaves and several calyx features.

### **INTRODUCTION**

The western Mediterranean basin is the main centre of diversification of the genus *Thymus* (MORALES, 1997). There, over 200 species, belonging to 7 out of 8 sections in which the genus has been divided (JALAS, 1971), have been recorded. In contrast to the high specific diversity present in the Iberian peninsula (MORALES, 1989) few taxa are known from the Balearic islands, viz *T. herba-barona* Loisel. (Mallorca), *T. richardii* Pers. subsp. *richardii* (Mallorca), *T. richardii* subsp. *ebusitanus* (Font Quer) Jallas (Ibiza) and *T. vulgaris* L. subsp. *aestivus* (Reut. ex Willk.) A. Bolós & O. Bolós (Ibiza).

*Thymus herba-barona* and *T. nitens* Lamotte are the only members of the western Mediterranean endemic subsect. *Pseudopiperellae* (sect. *Serpyllum*). *Thymus nitens* is restricted to S France (MORALES, 1997), and *T. herba-barona* has an insular distribution in Corsica, Sardinia and Mallorca islands (MAYOL & al.,

1990). The only known population of *T. herba-barona* from the Balearic archipelago is diploid ( $2n=28$ ; MAYOL & al., 1990), whereas Corsican and Sardinian plants are tetraploid ( $2n=56$ ; CONTANDRIOPOULOS, 1962) and hexaploid ( $2n=84$ ; DIANA-CORRIAS, 1980), respectively. A close inspection of *T. herba-barona* from the whole area has shown subtle, but constant, morphological differences between the Balearic plants and those inhabiting Corsica and Sardinia islands. The morphological discontinuities are associated with a different chromosome number and a precise geographical range. Therefore, the recognition of the Balearic plants at the infraspecific level seemed justified.

### **RESULTS**

***Thymus herba-barona* Loisel. subsp. *bivalens* Mayol, L. Sáez & Rosselló subsp. nova** (fig. 1)

A *Thymo herba-barona* subsp. *herba-barona* similis sed calyce minore (2.7-4.3 mm, nec 3.7-5.5 mm), cum dentibus labii

inferioris brevioribus, pedicellis brevioribus tubo calycis longitudine dentes aequante vel superante, foliis fere glabris non nisi aliquot pillis pluricellularibus supra munitis, numero chromosomatico  $2n=28$ .

**DERIVATIO NOMINIS:** bivalens-bivalentis, two times, aluding to the diploid nature of the new subspecies.

**HOLOTYPUS:** Insulae Balearicae, Majorica, serra d'Alfàbia, Bunyola, 31SDD 7699, 950 msm., die 8-VIII-1989, *J. Grardaille, M. Mayol, M. Mus & J.A. Rosselló* legerunt, BC 808332 (Isotypi: MA 486823; Herb. L. Sáez; BCF).

**MATERIAL EXAMINED:** **Th. herba-barona** subsp. **bivalens**. MAJORICA: Serra d'Alfàbia, Bunyola, 31SDD7699, 950 msm., 29.7.1989, *M. Mayol & I. Vives* (L. Sáez herb. pers.); Ibidem, 1-IX-1997, *M. Mayol & L. Sáez* (L. Sáez herb. pers.).

**Th. herba-barona** subsp. **herba-barona**. CORSICA: Bastia, rochers de la glacière di Pigno, 1000 m, 19-VI-1868, *O. Debeaux* (BC651127). Ad rupes a 1000 m pr. Bastia, 14-VI-1869, *O. Debeaux* (BC 672222). Montagne di Christinache, 22-VI-1885, *Reverchon* (MA 106131). Versant N du col de Capronale (au-desus de la forêt du Fango), 800 m, 16-VI-1978, *J. Duvigneaud & al.* (MA 256940). Coll de Bovella, roquissars, 29-IX-1981, *L. Llorens* (UIB). Coll de Vecchio, roquissars, 29-IX-1981, *L. Llorens* (UIB). Bocca di San Giovanni (crête du cap Corse entre Sisco et Olcani), 960 m, 4-VI-1985, *J. Lambidon* (MA 392420). Restoina gorge, above treeline, 7-6-1994, *E. Emanuelsson* (MA 577869). Cojcione in Corsica, s.d., *Viviani* (RO). SARDINIA: Prov. Nuovo, Mont Tonneri, environs de la maison forestière Montarbu, 900 m, 23-V-1985, *S. Pignatti & F. Luchesse* (BC 699944). Nuovo, 1150 m, 2-VII-1963, *I. Segelberg* (MA 523795). Genargentu, VIII-1886, *Lozzato* (RO). Mon-

te Limbana (da Tiempo Pausania, Valliciola, 1000 m), 30-V-1964, s.r. (RO).

**DESCRIPTION:** perennial plant, woody, with ascending to erect-ascending stems (up to 8 cm), highly branched, covered by retrorse hairs. leaves 2.4-4.5 x 0.7-2 mm, ovate to ovate-lanceolate, shortly petiolate, glabrous, with sphaeroidal glandular hairs and few pluricelular hairs (up to 8 cells long) up to 1 mm long. inflorescence 4-6 flowered. bracts resembling the leaves, but shorter; bracteolas linear 0.6-1 mm long. pedicels 0.7-3 mm, covered by retrorse hairs. calyx (2.7)3.1-3.8(4.3) mm long, glabrescent or hairy, with sphaeroidal yellowish-redish glands; lower teeth 1.1-2.1 mm, upper teeth 0.5-0.9 mm; calyx tube 1.7-2.3 mm. corola 6-7 mm de longitud, whitish to pale rose.

The morphological differences between the new subspecies and plants from Corsica and Sardinia are depicted in table 1. When compared to the typical subspecies, *Thymus herba-barona* subsp. *bivalens* shows a shorter length of pedicels, calyces and lower calyx teeth. The calyx tube is longer than the teeth in the later, whereas the reverse is true (sometimes the length of the tube and the teeth is similar) in *T. herba-barona* subsp. *herba-barona* plants. The indument of leaves differs in both taxa. The Balearic plants are always glabrous with few long (up to 1 mm) pluricelular hairs in the adaxial surface. On the contrary, the leaves of plants from Corsica and Sardinia populations are usually pubescent (with short unicelular hairs) but individuals with glabrous leaves can be found. In this case, the leaves lack the long pluricelular hairs on the adaxial blade (ocasionally, pluricelulars hairs are present at the base or the midrib in the abaxial surface).

**ECOLOGY AND DISTRIBUTION:** Nowadays, *Thymus herba-barona* subsp. *bivalens* is known from a single population from north Mallorca (Serra d'Alfà-

bia). The new taxon grows on sunny places of northern exposure on calcareous soils. Associated species noted were *Ampelodesmos mauritanica* (Poiret) Durand & Schinz, *Brachypodium retusum* (Pers.) Beauv., *Cistus albidus* L., *Fumana ericifolia* Wallr., *Ononis minutissima* L., *Teucrium marum* L. subsp. *occidentale* Mus et al. and *Thymelaea velutina* (Pouret) Endl. *Thymus herba-barona* subsp. *bivalens* is very rare and only 40 individuals have been detected; however, the population could have declined in the last years as a consequence of human disturbances made in the vicinities. All attempts made until now to locate new populations in similar habitats in the majorcan mountains have failed.

### ACKNOWLEDGEMENTS

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	<i>T. herba-barona</i> subsp. <i>bivalens</i>	<i>T. herba-barona</i> subsp. <i>herba-barona</i>
Leaves	glabrous, with some pluricelular hairs on the adaxial surface	pubescent or rarely glabrous, without pluricelular hairs on the adaxial surface
Pedicel length (mm)	0.7-3	1.5-4.6
Calyx (mm)	(2.7)3.1-3.8(4.3)	(3.7)4.2-5(5.5)
Lower teeth (mm)	1.1-2.1	2-3.5
Tube length	> teeth length	≤ teeth length
Chromosome number	2n=28	2n=56, 84

Table 1. Main diagnostic characters between *T. herba-barona* subsp. *bivalens* and *T. herba-barona* subsp. *herba-barona*.

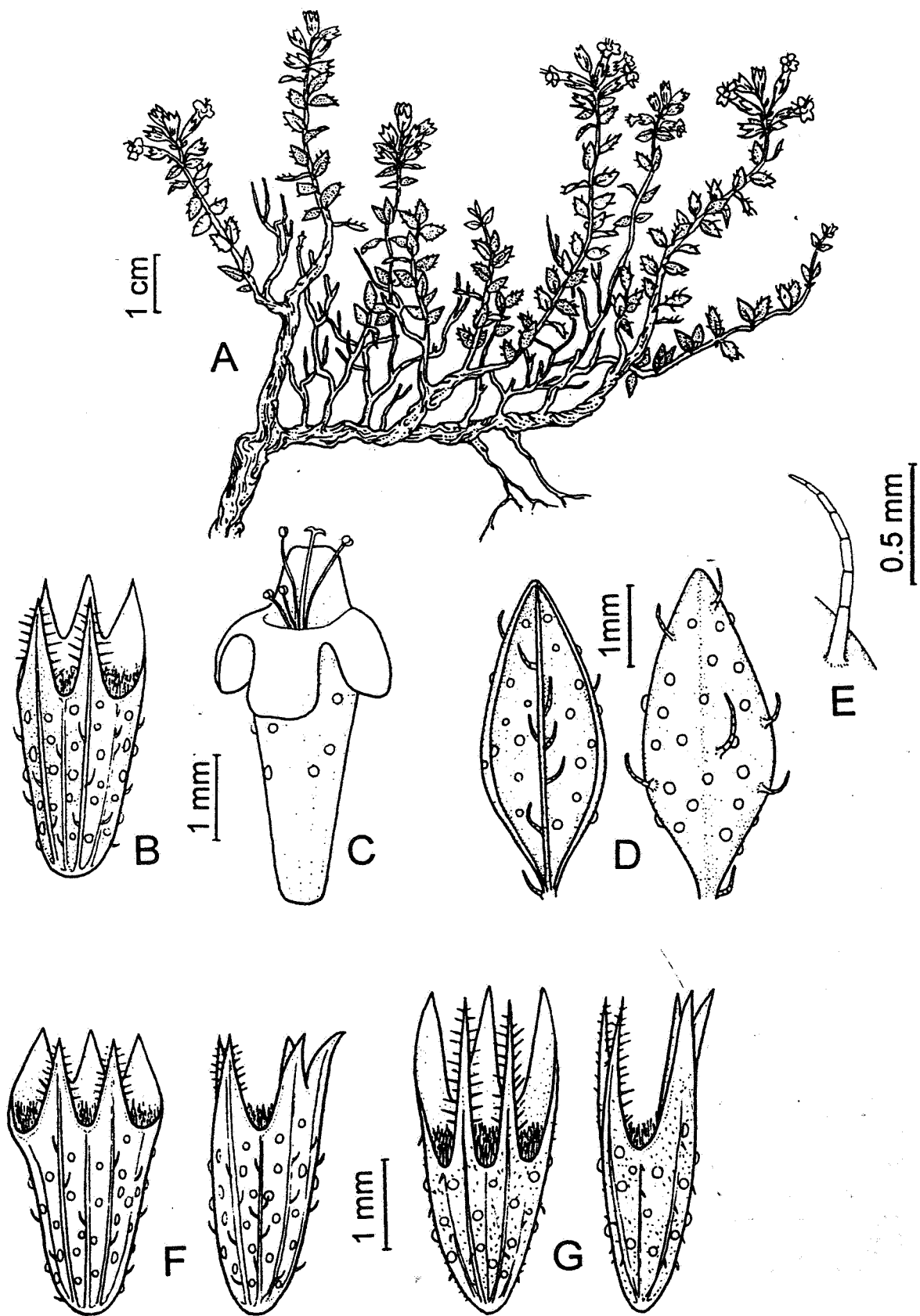


Fig. 1. *Thymus herba-barona* subsp. *bivalens*. A: habit; B: calyx; C: corolla; D: leaves (abaxial surface, left; adaxial surface, right); E: hair detail; F: calyx, (ventral view, left; lateral view, right). *T. herba-barona* subsp. *herba-barona*. G: calyx, (ventral view, left; lateral view, right).

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