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## ***Teucrium francoi* M. Seq., Capelo, J.C. Costa & R. Jardim, a new species of *Teucrium* gr. *scorodonia* (Lamiaceae) from Madeira**

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The species formerly recognized as *Teucrium scorodonia* in Madeira is here described as new: ***Teucrium francoi*** M. Seq., Capelo, J.C. Costa & R. Jardim. Morphologically close to species of *Teucrium* gr. *scorodonia* [*T. scorodonia* L., *T. pseudoscorodonia* Desf., *T. siculum* (Raf.) Guss. and *T. kotschyannum* Poech], it exhibits, nonetheless, some distinct diagnostic characters. The indumentum density and type of hairs of ***T. francoi*** are clearly distinct from those of related species, as are the shape and dimensions of the leaves and bracts, calyx, and corolla, which are all taken as taxonomically significant diagnostic features. A diagnosis and a distribution map are presented for this new species. Morphology, ecology, biogeography, and conservation issues are discussed. ***Teucrium francoi***, which is an endemic from Madeira (Portugal), is to be found mostly in the scope of the association *Teucrio francoi-Origanetum virentis* J.C. Costa, Capelo, Jardim, Sequeira, Lousã & Rivas-Martínez, but also occurs in somewhat humid habitats, such as open stands of *Rosa mandonii* Déségl. associated with small streams. © 2008 The Linnean Society of London, *Botanical Journal of the Linnean Society*, 2008, 156, 639–647.

ADDITIONAL KEYWORDS: Labiatae – *Teucrium abutiloides* – *Teucrium betonicum* – *Teucrium heterophyllum* – *Teucrium scorodonia*.

### INTRODUCTION

Recently, several specimens of putative *Teucrium scorodonia* L. plants have been collected. They present a striking yellow colour given by a dense indumentum that covers all parts of the plant, including the calyx.

On review, by laboratory examination, of several specimens of *T. scorodonia* included in the MA (Real Jardín Botánico, Madrid, Spain) and MADJ (Jardim Botânico da Madeira, Portugal) herbaria, collected in the mountains of Madeira, the presence of uncommon long glandular hairs was consistently revealed.

Moreover, the shapes of the bracts and leaves were suggestive of a taxonomic distinction between the plants in Madeira and those recognized as *T. scorodonia* L. in continental Europe. *Teucrium francoi*, a new name encompassing the Madeiran populations, is now proposed.

Menezes (1914) and Hansen & Sunding (1993) referred to four species of *Teucrium* in Madeira, including *T. scorodonia*, with no further comment on their distinct morphologies. The same number of species was recognized by Press (1994), corresponding to *T. abutiloides* L'Hér., *T. betonicum* L'Hér., *T. heterophyllum* L'Hér., and *T. scorodonia*. For *T. scorodonia*, Press (1994) also stated: 'Rare and rather scattered in the central mountains of Madeira and damp, shady

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places in deep ravines in the north; also known from near Monte (...) Madeiran plants do not readily fall within any of the currently recognized subspecies'. Kästner (1989) recognized three subsections in section *Scorodonia*, including subsection *Scorodonia* Kästner with *T. scorodonia*, *T. asiaticum* L., *T. massiliense* L., *T. salviastrum* Schreb., and *T. kotschyianum* Poech. According to Kästner (1989), subsection *Scorodonia* has flowers in racemes and yellowish to pale pink corollas, although species such as *T. siculum* (Raf.) Guss., *T. pseudoscorodonia* Desf., and *T. oxylepis* Font Quer are not mentioned. The same author proposed a link between the distribution of species included in subsection *Scorodonia* and hardwood forests around the Mediterranean area. The other two subsections are *Stachyobotrys* (Benth.) Kästner and *Canadensia* Kästner.

Navarro & El Oualidi (2000b) recognized 14 species in section *Scorodonia*, and the section *Teucriopsis* Benth. – the latter being endemic to Madeira and the Canary Islands and including three species.

Recently, von Gaisberg (2000) recognized the Canarian plants of *T. heterophyllum* as *T. heterophyllum* ssp. *brevipilosum* Gaisberg and *T. heterophyllum* ssp. *hierrense* Gaisberg, the typical subspecies occurring only on Madeira and so also being endemic there.

The morphological variability of hairs in the genus *Teucrium* has already been mentioned by several authors (Manzanares, Gómez-Campo & Tortosa, 1983; Cantino, 1990; Antunes & Sevinat-Pinto, 1991; Bini Maleci & Servettaz, 1991; Antunes *et al.*, 1997). Studies of these characters and their importance to the taxonomy of the genus have recently been published by Navarro & El Oualidi (2000a). These studies are of paramount importance in order to compare the indumentum of *T. francoi* with that of other species of the genus, mainly *Teucrium* gr. *scorodonia* (Greuter, Burdet & Long, 1986): *T. scorodonia* (south Europe; Navarro & El Oualidi, 2000b), *T. pseudoscorodonia* (= *T. baeticum* Boiss. & Reuter, west Mediterranean; Navarro & El Oualidi, 2000b), *T. siculum* (= *Teucrium euganeum* Vis., west Mediterranean; Navarro & El Oualidi, 2000b), and *T. kotschyianum* (east Mediterranean; Navarro & El Oualidi, 2000b).

## MATERIAL AND METHODS

Several field collections of the new proposed species were studied and added to the MA and MADJ herbaria. In addition, specimens issuing from loans from MADJ [including specimens from MADS (Museu do Seminário)] and MADM (Museu Municipal do Funchal, Portugal) herbaria were studied.

A complete list of specimens examined is given in the Appendix.

Macroscopic analysis and photography were performed using a binocular microscope (Zeiss model SV 11 APO).

The stem and leaf indumentum were photographed using a scanning electron microscope (JEOL-TSM T330A) after preparation according to the 'critical point' method.

The denomination of the types of hairs follows the work of Navarro & El Oualidi (2000a).

The distribution is based on geographical coordinates of the studied specimens plotted with the application QUIKMAP for Windows Version 1.02.

## RESULTS AND DISCUSSION

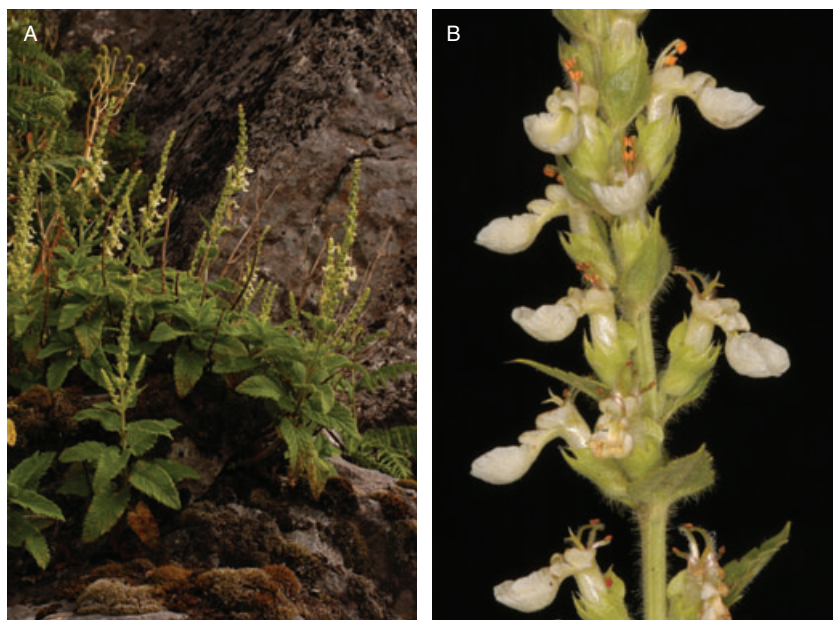
Like *T. oxylepis*, *T. pseudoscorodonia*, and *T. kotschyianum*, the plants studied are rhizomatous chamaephytes (*T. scorodonia* and *T. siculum* are hemicryptophytes) sometimes over 1 m tall, but mostly smaller, not more than 40 cm, including the inflorescence (Figs 1A, 2).

They have a dense indumentum, composed of sessile glands, and also exhibit several sizes of glandular trichome (Fig. 3A, B). The larger of these are unknown in *Teucrium* gr. *scorodonia* (Figs 2, 3A) and do not match any of the types of trichome described by Manzanares *et al.* (1983) or Navarro & El Oualidi (2000a). Indeed, according to the work of Navarro & El Oualidi (2000a), glandular hairs in *Teucrium* have a stalk with no more than seven cells. The largest glandular trichomes were reported by Antunes *et al.* (1995, 1997) for the Madeiran endemics *T. abutiloides* and *T. heterophyllum* ssp. *heterophyllum*, having five to seven stalk cells. However, in *T. francoi*, the largest hairs have seven to ten stalk cells (denominated as type A3). Several types of glandular trichome are present on almost all plant parts (B, A1, A2, and A3).

Table 1 summarizes the information on hair type and distribution in *T. francoi*, *T. scorodonia*, and *T. pseudoscorodonia*.

The vegetative stems are covered with a dense spreading glandular indumentum (Figs 2, 3A, B), which is a unique characteristic when compared with other species of the group. According to Devesa (1987), both *T. scorodonia* and *T. pseudoscorodonia* do not have any kind of glandular trichome, except for the inflorescence axis.

The leaves are large, 60–110 × 25–40 mm, cordate (Figs 1A, 2A), and larger than those of the close species *T. scorodonia* and *T. pseudoscorodonia*, plants present in the south of the Iberian Peninsula and Morocco (Navarro & El Oualidi, 1997, 2002), according to the dimensions referred to by Franco (1984), Devesa (1987), and Bayón (1990). The abaxial lamina (Fig. 2D) is covered with sessile glands [B1 and B2



**Figure 1.** *Teucrium francoi*: A, habitat; B, detail of the inflorescence (Madeira: Bica da Cana, M. Sequeira, 26.vi.2005).

**Table 1.** Distribution and types of hair in *Teucrium francoi*, *T. scorodonia*, and *T. pseudoscorodonia*. Types of hair modified from Navarro & El Oualidi (2000a)

	Vegetative stems	Abaxial surface of leaves	Abaxial surface of bracts	Base calyx tube
<i>T. francoi</i>	B, A1, A2, and A3	B, A1, A2, and A3	B, A1, A2, and A3	B, A1, A2, and A3
<i>T. scorodonia</i>	G3 (F5), E, D, B	G3 (F5), E, D, B	E, D, B	E, D, B
<i>T. pseudoscorodonia</i>	G3, B	G3, B	G3, E, D, B	G3, D (E) (A1), B

types; or Types I and II according to the denomination proposed by Antunes & Sevinat-Pinto (1991), or capitate and peltate according to Antunes *et al.* (2004) and long glandular spreading hairs (slightly antrorse) on the veins [not referred to by Antunes & Sevinat-Pinto (1991) for *T. scorodonia* plants; also not included in the description given by Navarro & El Oualidi (1997) for any of the species of *Teucrium* section *scorodonia*; also not referred to by Servettaz, Pinetti & Bini Maleci (1994) for *T. siculum*]. These long glandular hairs are of types A1, A2, and A3. The adaxial face (Fig. 2E) has the opposite distribution of trichome types, with sessile glands along the veins and glandular spreading (slightly antrorse) hairs (types A1, A2, and A3) on the lamina. *Teucrium francoi* plants have a quite distinct indumentum. Indeed, *T. scorodonia* (only F5, eglandular; B, sessile gland; Navarro & El Oualidi, 2000a), *T. pseudoscorodonia* (G1, short glandular; F5, eglandular; B2, sessile gland; Navarro & El Oualidi, 2000a), and

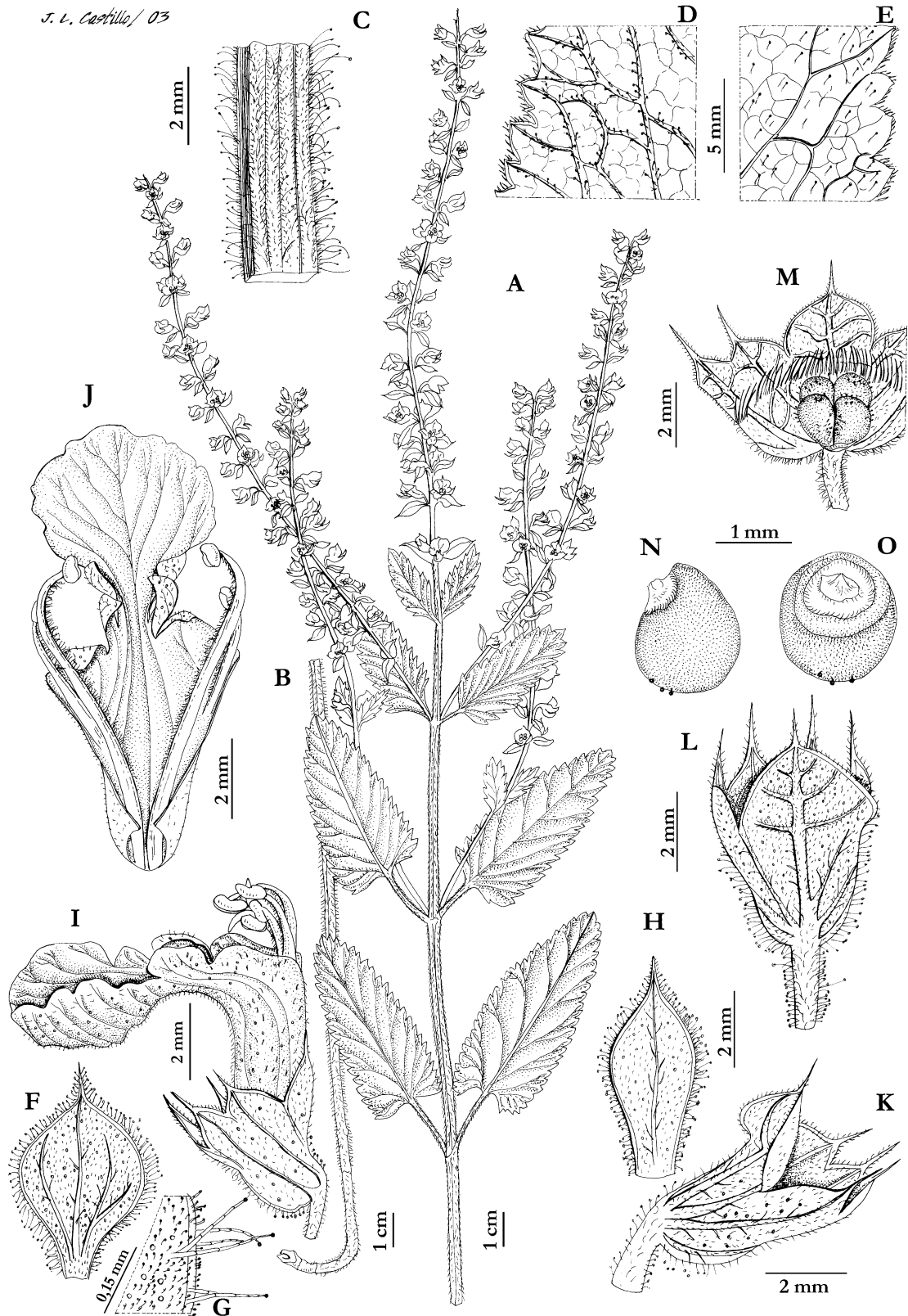
*T. siculum* (Servettaz *et al.*, 1994) do not have long glandular hairs of any kind.

The inflorescence is also covered with the same types of glandular hair; however, the long glandular hairs (A3) are not as numerous, unlike the sessile glands that are very dense.

The bracteoles are quite distinct when compared with those of *T. scorodonia*, *T. pseudoscorodonia*, *T. kotschyannum*, and *T. oxylepis*. They are large (6–10 mm, equalling or longer than the calyx) and deltoid (almost as large as long; Figs 2F–H, 3C) with a large spinose apex. Those of other species of *Teucrium* gr. *scorodonia* are smaller and lanceolated [in *T. siculum* they are of various shapes (Servettaz *et al.*, 1994), but never deltoid or as large; *T. pseudoscorodonia* has ovate bracts with a crenulated apex according to Navarro & El Oualidi (2002)].

The calyx (Figs 1B, 2K, L) is 4–7.5 mm long, covered with yellow glands, sessile and short to long spreading slightly retrorse hairs (tube and lobes),





**Figure 2.** *Teucrium francoi* [Bica da Cana, vereda do Mouro, 25.ix.2001, M. Sequeira & R. Jardim (Holotype MA 726527)]. A, B, Entire plant with inflorescence. C, Detail of lower part of stem with glandular hairs. D, Detail of abaxial face of a leaf. E, Detail of adaxial face of a leaf. F, Deltoid bract with glandular hairs. G, Enlarged portion of bract margin with sessile glands, short and long glandular hairs. H, Upper bract. I, Flower, lateral view. J, Superior view of the lip, with lobes and stamen. K, Lateral view of the calyx with glandular hairs and setose lobes. L, Back view of the posterior lobe of the calyx. M, Open calyx, view of the nucula. N, Lateral view of a mericarp with few short glandular hairs. O, Detail of nutlet showing scar.

being more dense to the base of the tube (types A1, A2, A3). The calyx, including lobes and spiny teeth, is larger than that of *T. scorodonia* and *T. pseudoscorodonia*; the lobes lack long glandular hairs (A3) like *T. scorodonia* and *T. pseudoscorodonia*, but have glandular trichomes of type A1 (present in all species of *Teucrium* gr. *scorodonia* except *T. kotschianum*) and A2 [only present in *T. francoi* according to available data on *T. scorodonia* and *T. pseudoscorodonia* (Servettaz *et al.*, 1994; Navarro & El Oualidi, 2000a) and *T. siculum* (Servettaz *et al.*, 1994)].

The corolla tube (Figs 1B, 2I) is large (7–8.5 mm), the lower lip of the corolla (7.5–9.5 mm) is larger than that in the related species, as is also the median lobe (c. 4 mm). The outside of the corolla tube is covered with short glandular hairs (A1 and A2) as well as eglandular G2 trichomes. Sessile glands of type B are abundant. This combination of trichome types seems to be close to that in *T. pseudoscorodonia*, but the presence of A2 glandular hairs is a unique character of *T. francoi*. Corolla anterior and posterior lobes lack eglandular G2 type, but possess E type (short unicellular), trichomes; they also have short glandular hairs (A1 and A2) as well as sessile B type glands; the median lobe, apart from the hairs just mentioned, has eglandular G2 and F5 trichomes.

The nutlets (Fig. 2M–O) are brown, reticulate-granulate, almost 1.7 mm, with a large scar (0.9 mm), larger than the limits given by Bayón (1990) for *T. scorodonia* and *T. pseudoscorodonia*. Published data on the variability and types of indumentum in closely related species are scarce. Marin, Petkovic & Dutletic (1994) described a low density presence of sessile glands (type B) for both *T. scorodonia* and *T. kotschianum*. However, according to Menezes de Sequeira, Fuertes Aguilar and Nieto Feliner (unpubl. data), for *T. kotschianum*, the indumentum is composed of short eglandular type E and B glandular trichomes – an indumentum close to that of *T. francoi*.

These results strongly suggest a taxonomic differentiation at the species level. Table 2 summarizes the diagnostic characters of *T. francoi* and compares them with those of *T. scorodonia* and *T. pseudoscorodonia*. Accordingly, a new species is proposed for the Madeiran plants.

**TEUCRIUM FRANCOI** M. SEQ., CAPELO, J.C. COSTA & R. JARDIM, SP. NOV.

= *Teucrium scorodonia sensu auct. mad., non L.*

**Diagnosis:** Suffrutex flavescens ad *Teucrium scorodoniae* et *T. pseudo-scorodoniae* affinis, sed ab ambabus praecipue differt indumento flavescens, papilloso, pubescenti-glanduloso et villosoglanduloso; foliis cordatis acutis; bracteis interfloribus deltoideis, acuminatis, 6.3–10.2 mm longis et 3.2–10.2 mm latis, calycem plus minusve aequantibus; corolla labio inferiore 7.5–9.5 mm longe, lobo medio 4 mm longiore.

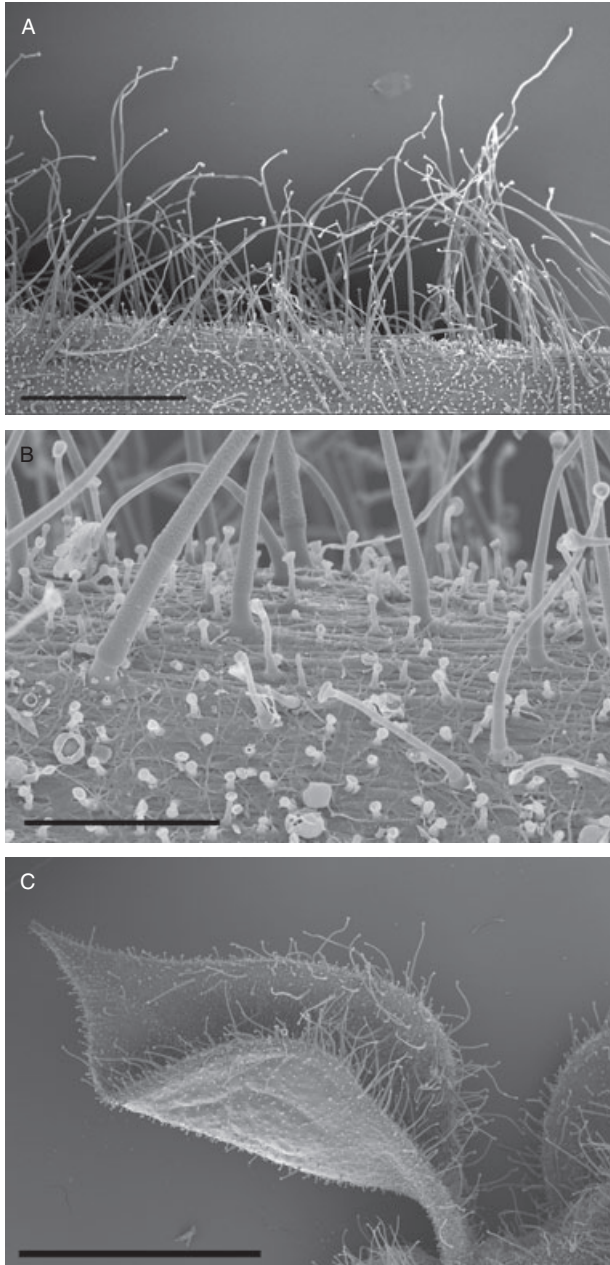
**Habitat:** In the mountains of Madeira, above 1400 m altitude, mostly in the clearings of *Erica arborea* forests (*Polysticho falcinelli–Ericetum arboreae*).

**Derivation:** After João Manuel António Paes do Amaral Franco (born 1921), one of the greatest contributors to plant taxonomy in Portugal in the 20th and 21st centuries.

**Types:** Portugal, Madeira, Bica da Cana, na vereda para o Caramujo, 1456 m, exp. ESSE, 32°45'6"N, 17°3'35"W, M. Sequeira & R. Jardim, 25.ix.2001 [holotype, MA 726527; isotype, MADJ 10157].

**Other specimens examined:** Portugal, Madeira, Pico Ruivo 1800 m, exp. S, 32°45'19"N, 16°56'24"W, M. Sequeira, G. Nieto Feliner, J. Fuertes Aguilar & Andrea Costa, 4376MS, 18.vii.2003 [MA 727600]; Portugal, Madeira, Pico Ruivo 1800 m, exp. S, 32°45'19"N, 16°56'24"W, M. Sequeira, G. Nieto Feliner, J. Fuertes Aguilar & Andrea Costa, 4375MS, 18.vii.2003 [MADJ 10158].

**Description:** Perennial herbs (rhizomatous chamaephytes). STEM 40–100 cm, with dense glandular heterotrichous indumentum (subsessile and short to long stalked). LEAVES 60–110 × 25–40 mm, petiole 1.2–3.4 cm; margin serrate to finely serrate, triangular-lanceolate, acute, cordate; adaxial face with subsessile glands on the veins and glandular spreading (slightly antrorse) hairs (short to long stalked) on



**Figure 3.** Scanning electron micrographs of the stem (lower part) showing the types of trichome (A, B) and bract (C). *Teucrium francoi* [Bica da Cana, vereda do Mouro, 25.ix.2001, M. Sequeira & R. Jardim (MA 726527)]. Bar: A, 1 mm; B, 200  $\mu$ m; C, 2 mm.

the lamina (Fig. 2), abaxial face with subsessile glands and long glandular spreading hairs (slightly antrorse) on the veins (short to long stalked). FLOWER PEDICELS 1.5–3.9 mm, with a dense glandular indumentum (subsessile and short to long stalked). INFLORESCENCE 13–21 cm with 21–25 whorls, lateral branches with 11–17 whorls. BRACTS 1.5–2.6  $\times$  0.7–

1.1 cm, triangular-lanceolate. BRACTEOLES 7.7–11.5  $\times$  3.2–6.9 mm, short petiolated, deltoid. CALYX 4–7.5 mm, bilabiate; upper lip 1.7–4 mm, shorter than the tube (sometimes almost the same length); lower lip with four spiny teeth, 0.4–1.1 mm, with glandular trichomes (short stalked); tube 2.2–4.1 mm, with yellow subsessile glands (tube and lobes) and long spreading (slightly retrorse) glandular hairs (short to long stalked) at the tube more densely to the base. COROLLA yellowish (tube and lips), bilabiate; anterior lobes round and short, 1.1–1.7 mm, pubescent (subsessile to short stalked glands and unicellular eglandular hairs); inferior lip 7.5–9.5 mm, with central lobe round, deflected, light yellow, abaxial face hairy with glandular (subsessile to short stalked) and elongated eglandular trichomes; posterior lobes 1.6–3.1 mm, ovate, blunt, erect and slightly converging, pubescent (subsessile to short stalked glands and unicellular eglandular hairs); corolla tube 7–8.5 mm, larger than the calyx, pubescent with glandular (subsessile to short stalked) and eglandular elongated trichomes. NUTLETS *c.* 1.7 mm, subglobose, brown, reticulate-granulate with rare short unicellular eglandular hairs and subsessile glands.

*Distribution, ecology, and conservation.* The most recent studies on the vegetation of Madeira recognize an indigenous forest for the highest mountains: the *Polysticho falcinelli–Ericetum arboreae*, described by Capelo *et al.* (1999). In the clearings and fringes of this now rare vegetation, populations of *T. francoi* can sometimes be observed. The plants are yellowish, and their habit allows an immediate distinction between this endemic and *T. scorodonia*, a rather common plant in Europe, including the Azores. Figure 4 shows the distribution of this plant and its association with high mountains.

*Teucrium francoi* is a Madeiran endemic from Bica da Cana, Pico Ruivo, and Pico Arrieiro. It is a characteristic species of the *Teucrio francoi–Origanetum virentis* J.C. Costa, Capelo, Jardim, Sequeira, Lousã & Rivas-Martínez association (Costa *et al.*, 2004), corresponding to the clearings and fringes of the tree-heath forest *Polysticho falcinelli–Ericetum arboreae* Capelo, J.C. Costa, Lousã, Fontinha, R. Jardim, Sequeira & Rivas-Martínez (Capelo *et al.*, 1999).

The recent removal of goats from the high mountains of Madeira has strongly diminished the grazing pressure. In the past, the introduction of domestic species (sheep and goats), and species such as the rabbit (*Oryctolagus cuniculus*) and the rat (*Rattus rattus*), induced pressure that caused a reduction in the distribution area of native plants. The traditional uses of high mountain woods for charcoal and their general cutting by humans, simultaneously with the grazing pressure, may explain the rarity of *T. francoi*.



**Table 2.** Diagnostic characters of *Teucrium francoi* vs. *T. scorodonia* and *T. pseudoscorodonia*

	<i>T. scorodonia</i>	<i>T. pseudoscorodonia</i>	<i>T. francoi</i>
Growth form	Perennial herb	Half-shrub (chamaephyte)	Half-shrub (chamaephyte)
Leaves: shape of apex	Acute	Non-acute (obtuse or rounded)	Acute
Leaf colour	Abaxial and adaxial face of same colour	Abaxial and adaxial face of different colour	Abaxial and adaxial face of same colour
Leaf indumentum density	Subglabrescent to slight pubescent	Tomentose to densely tomentose	Pubescent
Stem indumentum type and orientation	Presence of short eglandular retrorse hairs and long retroflexed eglandular hairs	Presence of short eglandular retrorse hairs and long retroflexed eglandular hairs	Absence of short eglandular retrorse hairs and long retroflexed eglandular hairs
	Absence of long glandular hairs	Absence of long glandular hairs	Presence of long glandular hairs
Spreading yellow colour	Absence	Absence	Presence
Bract shape	Mainly ovate	Mainly ovate	Mainly deltoid
Calyx indumentum	Presence of retrorse hairs	Presence of retrorse hairs	Absence of retrorse hairs
	Absence of long glandular hairs	Absence of long glandular hairs	Presence of long glandular hairs
Corolla: posterior lobes	Shorter than the anterior lobes	Larger than the anterior lobes	Shorter than the anterior lobes
Corolla tube	Exert to the calyx tube $\leq 1/2$ of the length	Exert to the calyx tube $\geq 1/2$ (2/3) of the length	Exert to the calyx tube $\leq 1/2$ of the length

The populations are generally small, represented in some cases by less than ten individuals. It is likely that the populations of *T. francoi* meet the IUCN criterion B1 for critically endangered (CR), i.e. the extent of occurrence is estimated to be less than 100 km<sup>2</sup> with a possible decline caused by overgrazing (recently partially removed). However, the reduced occupancy area, as defined by IUCN (2001), would make this new species vulnerable (VU) (by meeting criterion B). A lack of knowledge of the behaviour of the populations in the recent past (at least 10 years) prevents a more detailed application of IUCN criteria. A suspected reduction of occupancy areas and population numbers would immediately push this species to the highest category.

## CONCLUSIONS

*Teucrium francoi* is a new species taxonomically independent of *T. scorodonia*.

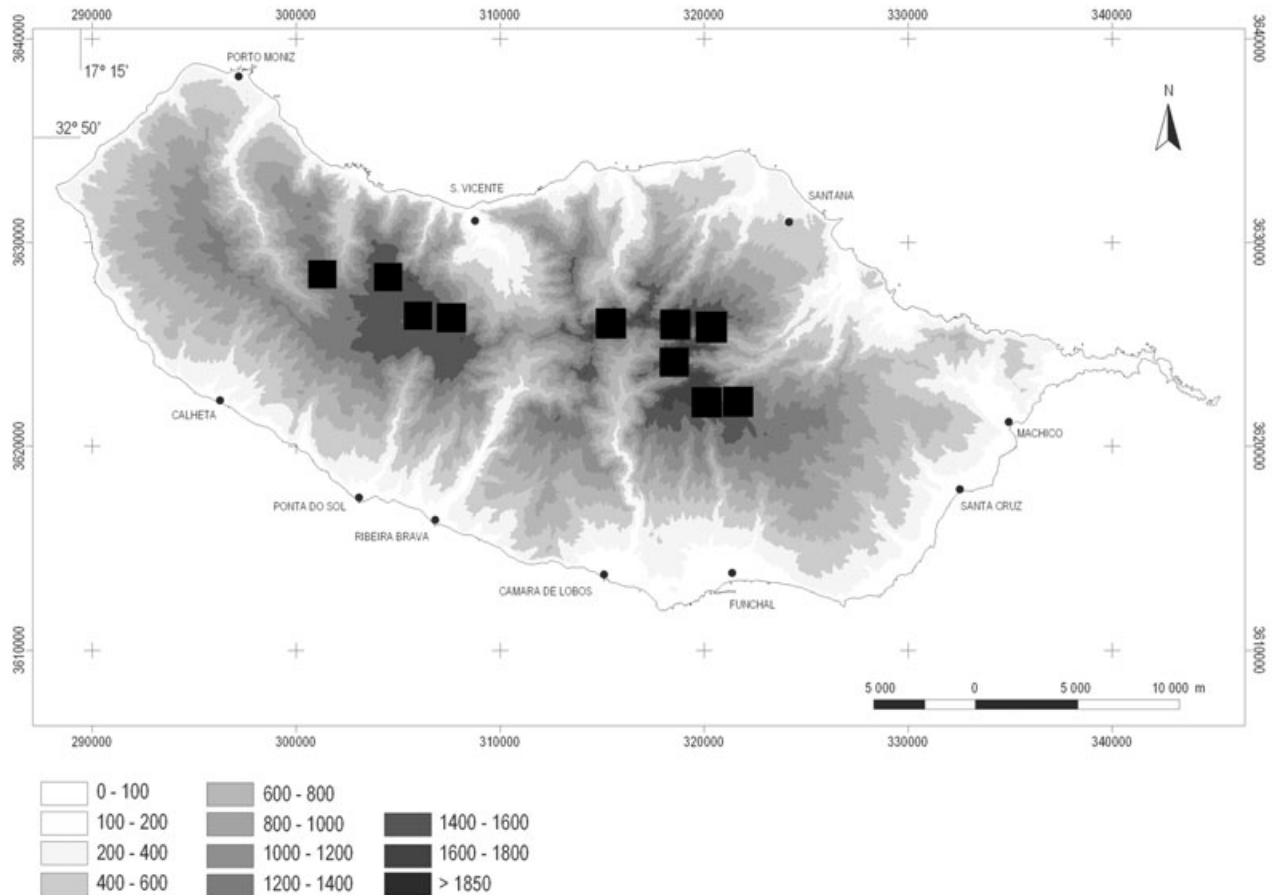
If the criteria proposed by von Gaisberg (2000) are accepted for *T. heterophyllum*, all the Madeiran taxa of *Teucrium* are endemic. However, a common origin seems to be unacceptable, as *T. francoi* is close to the other species of *Teucrium* gr. *scorodonia* and does not have the typical caulescent/shrubby habit of other endemic species of Madeira.

Several authors have suggested a recent origin for the caulescent/shrubby Macaronesian endemics. Barber *et al.* (2000, 2002) proposed a unique colonization for the 24 Macaronesian endemics of the genus *Sideritis* (Lamiaceae). A possible unique event of colonization could explain the origin of *T. heterophyllum*, *T. betonicum*, and *T. abutiloides* (included in the Canary Islands and Madeiran endemic section *Teucriopsis* Benth.), but this could not be the case with *T. francoi* (the sole representative of section *Scorodonia*) because of its close overall resemblance to *Teucrium* gr. *scorodonia*. In this case, *T. francoi* could be a more recent neoendemic with palaeobiogeographical affinities with the temperate Holarctic flora, very important in the biogeography and phylogenetic analysis of *Teucrium* section *Scorodonia* in Macaronesia.

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**Figure 4.** Distribution map of *Teucrium francoi*.

Feliner for coordinating the work at the Real Jardín Botánico (Madrid, Spain). The authors also wish to thank the 'Direcção Regional de Florestas' of the Regional Government of Madeira for the financial support that allowed fieldwork in the years 1999, 2000, 2001, and 2002. The authors are grateful to Dr Teresa Navarro for her scientific advice and manuscript revision.

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## APPENDIX

MATERIAL OF *TEUCRIUM FRANCOI* STUDIED

PORTUGAL, MADEIRA: Pico do Arieiro, rochas abaixo da casa e acima da estrada nova, junto à levadinha, 6.vii.1962, *Rui Vieira* (MADJ 4750); Vereda entre a Achada do Teixeira e o Pico Ruivo, 16.vii.1981, *Rui Vieira & F. Mira* (MADJ 4751); Pico Ruivo, 24.viii.1983, *Rui Vieira* (MADJ 4752); Pico Ruivo – Ramal, 10.vii.1984, *Nóbrega & Rui Santos* (MADJ 4753); Falésias do Paúl da Serra. Zona da Bica da Cana – lado de S. Vicente, 13.viii.1986, *Nóbrega* (MADJ 4754); Descida do Paúl da Serra para o Chão da Ribeira do Seixal pelo Lombo Barbinhas, no princípio da descida, 1.ix.1986, *Nóbrega* (MADJ 4755); Levada do Lombo do Mouro antes de chegar ao Caramujo, 17.ii.1987, *Nóbrega* (MADJ 4756); Paul da Serra – Estanquinhos, 19.iv.1992, *Nóbrega* (MADJ 6943); Fonte da Hortelã, 29.viii (MADS 1081); Serra de Boaventura, cerca de 1 km das Torrinhãs, ix.1952, *Nóbrega* (MADS 1082); MADEIRA: Between Poiso and Pico do Arieiro (below the Meteorological station), 7.ix.1970, *G. Maul* (MADM); Pico Ruivo (caminho do Pico Arieiro alt. 1700 m), 28.vi.1977, *Remane* (MADM); MADEIRA, Pico do Arieiro, Manga Grande, 2.v.1987, *F. Zino* (MADM) (*Teucrium betonicum* L'Her. – det. J.R. Press, revised by R.A.Clement comments on indumentum by Quinn); MADEIRA: Fonte da Hortelã, Seixal, 1929, *J.G. Costa* (MADM); Fonte da Hortelã, Seixal, ix.1952, *J.G. Costa* (MADM); Fonte da Hortelã, na beira do Paúl da Serra, 1928, *J.G. Costa* 633 (MADM); Bica da Cana, vereda do Mouro, 25.ix.2001, *M. Menezes de Sequeira & R. Jardim* (MA726527) (Holotype) (MADJ 10157, Isotype); Pico Ruivo, 18.vii.2003, *M. Menezes de Sequeira, G. Nieto Feliner, J. Fuertes Aguilar & Andrea Costa* 4376 (MA 727600) (Paratypes, MADJ 10158); Posto Meteorológico, Chão do Arieiro, 18.vi.2004, *M. Menezes de Sequeira & M. Silva* (MADJ 10159).