

SYNOPSIS OF THE GENUS *TEUCRIUM* L. (LAMIACEAE) IN MOROCCO

Teresa NAVARRO & Jalal EL OUALIDI

ABSTRACT. *Synopsis of the genus Teucrium L. (Lamiaceae) in Morocco.* The present paper recognizes 60 taxa grouped in 52 species, placed in 8 sections for the *Teucrium* genus in Morocco. The correct nomenclature is established on the basis of full synonymies and type designations. *T. rifanum* (Maire & Sennen) T. Navarro & El Oualidi, *T. joannis* (Sauvage & Vindt) El Oualidi, T. Navarro & A. Martin and *T. embergeri* (Sauvage & Vindt) El Oualidi, T. Navarro & A. Martin, are proposed as the new combinations for the *Teucrium* genus in Morocco.

Key word: *Teucrium*, *Lamiaceae*, typification, Morocco.

RESUMEN. *Sinopsis del género Teucrium (Lamiaceae) en Marruecos.* Para el género *Teucrium* en Marruecos, se reconocen 60 taxa distribuidos en 52 especies ordenadas en 8 secciones. La nomenclatura correcta ha sido establecida en base a las sinonimias principales y designación de tipos en la mayoría de los casos. Se proponen tres nuevas combinaciones para el género *Teucrium* en Marruecos: *T. rifanum* (Maire & Sennen) T. Navarro & El Oualidi, *T. joannis* (Sauvage & Vindt) El Oualidi, T. Navarro & A. Martin y *T. embergeri* (Sauvage & Vindt) El Oualidi, T. Navarro & A. Martin.

Palabras clave: *Teucrium*, *Lamiaceae*, tipificación, Marruecos.

RÉSUMÉ. *Synopsis du genre Teucrium (Lamiaceae) au Maroc.* Dans le présent travail 60 taxa, reagrupés en 52 espèces et arrangées en 8 sections, sont reconnues pour le genre *Teucrium* au Maroc. La correcte nomenclature est établie sur la base des principaux synonymies et la désignation des types. *T. rifanum* (Maire & Sennen) T. Navarro & El Oualidi, *T. joannis* (Sauvage & Vindt) El Oualidi, T. Navarro & A. Martin et *T. embergeri* (Sauvage & Vindt) El Oualidi, T. Navarro & A. Martin, sont proposées comme nouvelles combinaisons pour le genre *Teucrium* au Maroc.

Mots clé: *Teucrium*, *Lamiaceae*, typification, Maroc.

INTRODUCTION

Teucrium is the largest genera of the *Lamiaceae* in Morocco. From the end of XVIII century to the present time, different authors have studied this genus; Desfontaines (1798),

Ball (1878), Cosson (1873; 1881), Battandier (1917), Battandier & Trabut (1890), Pau (1924), Litardière & Maire (1921), Humbert (1924), Font Quer (1928; 1932), Emberger & Maire (1927; 1941), Maire (1929a, b; 1931; 1932; 1933; 1939), Jahandiez & Maire (1934), Sennen

(1936), Sauvage & Vindt (1955; 1965; 1967), Cohen (1956), El Oualidi (1987; 1991), El Oualidi & Ibn Tattou (1993), El Oualidi & Navarro (1995), Navarro & El Oualidi (1996) and El Oualidi & al. (1997a; 1997b).

An enumeration of all the species of *Teucrium* genus living in Morocco is established on the basis of the main synonymies and, in the most part of cases, with the indication of the types, including indication of material type or anterior typifications. The original materials of authors and the protologue of species have been studied for the typifications. For the new typifications have been proposed the herbarium number of identification and all information present in the sheet.

The infrageneric treatment is based on Kästner (1989), but *T. botrys* is included in sect. *Spinularia* better than in sect. *Scordium*.

A. Sect. **Teucrium**

=**T.** sect. **Teucris** Benth., Labiat. Gen. Spec.: 661 (1835).

=**T.** subsect. **Integrifoliae** Briquet in Engler & Prantl in Nat. Pflanz. 4 (3): 213 (1897).

=**T.** subsect. **Incisae** Briquet, in Engler & Prantl, Nat. Pflanz. 4 (3): 213 (1897).

T. subsect. **Fruticantia** Kästner in Biocosme Mésogéen 6: 70 (1989).

1. **T. fruticans** L., Sp. Pl. II: 563 (1753). Lectotype in LINN 722.10, designated by Siddiqui in Jafri & El Gad, Fl. Libya 118: 16 (1985).

a. subsp. **fruticans**

=*T. latifolium* L., Sp. Pl. II: 563 (1753). **Lectotype** (here designated): [icon] "Teucrium fruticans Baeticus minore folio" in Dillenidus in Hort. Eltham. 2: 379. T. 284, f. 367 (1732).

=*T. fruticans* L. var. *latifolium* Schreb., Pl.

Verticill. Unilab.: 27 (1774) [=*T. fruticans* var. *latifolium* Rouy in Le Naturaliste 4(2): 14 (1882)]. **Type:** Non vidi.

=*T. fruticans* L. var. *pallidum* Maire in Jahand. & Maire, Cat. Pl. Maroc 3: 612 (1932). **Type:** Non vidi.

=*T. fruticans* L. var. *coloratum* Maire in Jahand. & Maire, Cat. Pl. Maroc 3: 612 (1932). **Type:** Non vidi.

=*T. fruticans* L. var. *lancifolium* Debeaux in Acta Soc. Sci. Fenn. B 1(2):134 (1932). **Type:** Non vidi.

=*T. fruticans* f. *grandifolium* Sennen, Diagn. Nouv. Exicc.: 110 (1936). **Lectotype** (here designated): Maroc, Cabo de Tres Forcas (barranco) localisé, 8-XI-1930, *Hno. Mauricio in Sennen Pl. D' Epagne 1930: n°7659* (BC-SENNEN 138184j). The lectotype designated is the only specimen of the sheet.

b. subsp. **postratum** Gattef. & Maire in Bull. Soc. Hist. Nat. Afrique N. 31: 112 (1941). **Holotype:** Maroc, cultivé au-graines des Aït Toutlim à l'est de Demnat (Grand Atlas), plante vivace prostrée appliquée sur les pierres des murs de pierres sèches fleur bleue très pâle, *J. Gattéfossé* (MPU-MAIRE 39227j). The holotype designated by J. Gattéfossé is the only specimen of the sheet.

The most significant variation of these species is related to the size of leaves, which varies considerably in the North Oriental region of Morocco, the colour of the petals is generally white or rose and most rarely blue or lilac.

2. **T. brevifolium** Schreb., Pl. Verticill. Unilab.: 27 (1773). Lectotype: M-SCHREBERj (sub. *T. creticum*).

Eastern Mediterranean species recognized

for the precedents authors in Morocco, similar to the *T. fruticans*, differs mainly in size and shape of the leaves.

3. **T. campanulatum** L., Sp. Pl. II: 562 (1753). **Neotype** (here designated): Algeria, Tiaret to Aflou, 10-15 km. S of Ain Dehleb, 1-VI-1975, *Davis* 58520 (BM_i; isoneotype: E_j). The neotype designated is the only specimen of the sheet.

4. **T. pseudochamaepitys** L., Sp. Pl. II: 562 (1753). **Lectotype** (here designated): in Herbarium UPS-BURSER XIV: 62. The lectotype designated is the only specimen of the sheet.

=*T. mauritanicum* L., Sp. Pl. II: 563 (1753). **Lectotype** (here designated): [icon] "T. delphiniifolium non ramosum" in Shaw, Cat. Pl. Ar. As.: t. 575 (1738).

=*T. nissolianum* L., Sp. Pl. II: 563 (1753). **Lectotype** (here designated): in LINN 722.6_j. The lectotype designated is the only specimen of the sheet.

=*T. pseudochamaepitys* var. *glabrum* Sennen, Diagn. Nouv. Exicc.: 221 (1936). **Type**: Non vidi.

The morphological variations of *T. pseudochamaepitys* in Morocco is similar to the variation present in the Iberian Peninsula with the presence of the glabrous and/or villous populations.

5. **T. malenconianum** Maire in Bull. Soc. Hist. Nat. Afrique N. 25: 316 (1934). **Lectotype** (here designated): Maroc, in rupestribus calcareis faucium amnis ziz infra Kerrando 1200-1300m, corolla vivide caerulea, 8-IV-1933, *Dr. R. Maire* (P-MAIRE 84091_j; isolectotype: MPU-MAIRE_j). The lectotype designated is the only specimen of the sheet.

6. **T. chardonianum** Maire & Wilczek in Bull. Soc. Hist. Nat. Afrique N. 26: 130 (1935). **Lectotype** (here designated): Maroc, in pascuis prope castellum Aouriouara, 50-100m, corolla dilute calruleo-lilacina fauce purpurea antherae, filamenta alba, stylus violaceus, flores in alcohol servatos, 12-IV-1935, *Dr. R. Maire* (MPU-MAIRE_j; isolectotype: P-MAIRE 84134_j). The lectotype designated is the only specimen of the sheet.

7. **T. jolyi** Mathez & Sauvage in Cah. Rech. Agron. 33: 181 (1975). **Holotype**: Maroc, oued dans ravin en aval d'hasi Zehar, 28-IV-1961, *Ch. Sauvage & Ch. Essiaf* 16327 (MPU-SAUVAGE_j; isotype: RAB_j). The lectotype designated is the only specimen of the sheet.

B. Sect. **Chamaedrys** (Mill.) Schreb., Pl. Verticill. Unilab.: 29 (1773).

≡**Chamaedrys** Mill., Gard. Dict. abr. ed. 4(1) (1754) (basion.).

T. subsect. **Chamaedrys** (Mill.) Kästner in Biocosme Mésogéen 6: 71 (1989).

8. **T. chamaedrys** L., Sp. Pl. II: 565 (1753). **Lectotype** (here designated): in LINN 722.26_j. The lectotype designated is the central specimen of the sheet.

a. subsp. **chamaedrys**

= *T. chamaedrys* subsp. *illyricum* (Borbás & Bornm.) Degen, Fl. Veleb. 2: 585 (1937). **Type**: Non vidi.

b. subsp. **gracile** (Batt.) Rech. fil in Bot. Arch. 42: 389 (1941) [≡*T. chamaedrys* var. *gracile* Batt. in Bull. Soc. Hist. Nat. Afrique N. 12: 10. 1921(basion.)]. **Lectotype** (here designated): [Midelt], *Nain* (MPU-BATTANDIER_j). The lectotype is the only specimen of the sheet.

c. subsp. **maroccanum** Rech. fil. in Bot. Arch. 42: 387 (1941). **Type:** Non vidi.

9. **T. flavum** L., Sp. Pl. II: 565 (1753). **Lectotype** in LINN 722.30, designated by Siddiqi in Jafri & El Gad, Fl. Libya 118: 20 (1985).

=*T. flavum* subsp. *pilosum* (Cêlak.) Rech. fil. in Bot. Arch. 42: 394 (1941) [comb. inval.].

a. subsp. **glaucum** (Jordan & Fourr.) Roninger in Verh. Zool. Bot. Ges. Wien 68: 234 (1918) [≡*Chamaedrys glauca* Jordan & Fourr., Brev. Pl. Nov. 1: 48 (1866)(basion.)]. **Type:** Non vidi.

=*T. flavum* var. *leiophyllum* Celak. in Bot. Centbl. 14: 219 (1883). **Type:** Non vidi.

=*T. flavum* var. *glabratum* Rouy in Bull. Soc. Bot. France 31: 275 (1884). **Type:** Non vidi.

10. **T. ramosissimum** Desf., Fl. Atl. 2: 118 (1798). **Lectotype** (here designated): “*Teucrium ramosissimum*”, *Desfontaines* (P-DESFONTAINESj). The lectotype designated is the upper right specimen of the sheet; isolectotypes: the other three specimens present in the sheet.

The sheet P-DESFONTAINES designated as lectotype has hand written the original description in the left corner of the sheet, the literal transcription is the following: “*Dydimma gymnospermia* / tab. 116 / *teucrium ramosissimum* germandrea tres rameuse / *teucrium incanum* ; caule fruticuloso, ramosissimo ; ramulis filiformibus ; foliis obovatis crenatis ; floribus / solitariis, axillaribus / *chamaedrys hispanica minima saxatile incana* T. 205. // obs. Frutex incanus, brevissimus tomentosus, erectus 6-15 centimetr. Rami communi cespit (-) numerosissimi, filiformea folia candida, superne pallidiora magnitude flore (-) T / . mari Lin, petiolata, obovata sub ovato rhomboidea, inferme nervosa, crenata flores

parvi, axillares, subterminales / solitarii, subsexiles, folio breviores calyx tenuis, elongatus, candidum, quinquentatus dentibus / acutis, subaqualibus corolla violacea tota planta odorem suavissimum spirat / Habitat in rupium fisuris prope Cafsam.”

=*T. quadratum* Schreb., Pl. Verticill. Unilab.: 36 (1773). **Lectotype:** M-SCHREBERj.

=*T. saxatile* Lam. var. *getulum* Maire in Bull. Soc. Hist. Nat. Afr. N. 7: 275 (1918). **Lectotype** (here designated): Maroc, Djebel Doug, rochers calcaires, 1700-2000m, 7-VII-1913, Dr. R. Maire (MPU-MAIREj). The lectotype designated is the only specimen of the sheet.

11. **T. barbarum** Jahand. & Maire in Bull. Soc. Hist. Nat. Afrique N. 19: 85 (1928). **Lectotype** (here designated): Maroc, Khenifra, côteaux pierreux, grès fermicus 950m, 10-VII-1925 [floretime] Sr. *Desormeaux* (P-MAIRE 84135j; isolectotype MPU-MAIRE 314j).

In P-MAIRE 84135 there are two specimens, one of them with flowers and another without flowers, the specimen designated as lectotype is the one with flowers.

Very interesting species for the sect. *Chamaedrys*, poorly recollected as it blossoms in summer. The floral stems present only lateral brachyblasts and not caulinar leaves, its aspect is very different to its pre-blossom state. The corolla features are characteristic of the sect. *Chamaedrys*, but the shape of inflorescence and nutlet morphology are similar to the species of sect. *Teucrium*, and the indumentum type is similar to the indumentum present in the *T. heterophyllum* (sect. *Teucriopsis*), which is not present in Morocco.

C. Sect. **Scorodonia** (Hill.) Schreb., Pl. Verticill. Unilab.: 20 (1773).

≡**Scorodonia** Hill., Brit. Herb.: 372 (1756) (basion.).

T. subsect. **Scorodonia** (Hill.) Kästner in Biocosme Mésogéen 6: 74 (1989).

12. **T. pseudo-scorodonia** Desf., Fl. Atlant. 2: 5 (1798). **Lectotype** (here designated): "Teucrium pseudo-scorodonia Desf.", *Desfontaines* (P-DESFONTAINES_j). The lectotype here designated is the upper specimen of the sheet.

=*T. baeticum* Boiss. & Reuter, Pugill. Pl. Afr. Bor. Hispan.: 98 (1852) [=*T. pseudo-scorodonia* var. *baeticum* (Boiss. & Reuter) Maire in Jahand. & Maire, Cat. Pl. Maroc 3: 613 (1932); =*T. scorodonia* subsp. *baeticum* (Boiss. & Reuter) Tutin in Bot. J. Linn. Soc. 65: 262 (1972)]. Lectotype in G-BOISSIER_j, designated by Burdet, Charpin & Jacquemoud in Candollea 42 (1): 119 (1987).

=*T. crispum* Pomel, Nouv. Mat. Fl. Atlant.: 304 (1875). **Type:** Non vidi.

13. **T. afrum** (Emb. & Maire) Pau & Font Quer in Cavanillesia 1: 47 (1928) [=*T. salviastrum* subsp. *afrum* Emb. & Maire, Pl. Rif. Nov. 1: 10 (1927)(basion.)]. **Lectotype** (here designated): Maroc; in Atlantis Rifano, cedretis et quercetis montis Timellatin prope Tizi-Ifri, 1750-1900m, corolla alba l. vix ochroleuca antherae croceae, 23-VI-1926, *Dr. R. Maire* (P-MAIRE 84133; isolectotype: MPU-MAIRE_j). The lectotype here designated is the central specimen of the sheet.

a. subsp. **afrum**

=*T. afrum* f. *isaguensis* Pau & Font Quer in Font Quer Iter Marocc. 1927: n°511 (1928). **Lectotype** (here designated): Maroc; in quercetis suberis altiplanitie Isaguen dictae Atlante riphaeo, solo arenaceo, 1600m alt., ubi copiosissima, 2-VII-1927, *Dr. P. Font Quer Iter Maroccanum 1927: n°511* (MPU-MAIRE_j).

The lectotype has been designated in the herbarium MPU-MAIRE, because the original material has not been found in the Herbarium BC-FONT QUER.

-*T. afrum* f. *brevibracteatum* Font Quer, Iter Marocc. 1930: n°549 (1931) [nom. nudum].

b. subsp. **riphaeum** (Font Quer & Pau) Castrov. & Bayon, Anales Jard. Bot. 47(2): 513 (1990) [=*T. oxylepis* var. *riphaeum* Font Quer & Pau in Font Quer, Iter Marocc. 1927: n°512 (1928) (basion.)]. **Lectotype** (here designated): Maroc; in calumine montis Jebel Lerz, 2200m alt. sp. c. ala-bastris nec non in Yebel Tidiguin, 2000m alt sp. florif., solo arenoso nec schistoso, fl. 12-VI-1927, *Dr. P. Font Quer Iter Maroccanum 1927: n°512* (BC-FONT QUER 47339; sintype: the same sheet).

The lectotype designated is the only specimen with flowers from Yebel Tidiguin. The original description is present in the sheet: folia latiora, bractee minus cuspidatae, latiora.

=*T. oxylepis* subsp. *riphaeum* (Font Quer) Ruíz Torre & Ruíz Cast. in Naturalia Hispanica 1: 42 (1974) [com. inval.].

c. subsp. **rubriflorum** (Font Quer & Pau) Castrov. & Bayon in Anales Jard. Bot. Madrid 47(2): 513 (1990) [=*T. afrum* var. *rubriflorum* Font Quer & Pau in Font Quer, Iter Marocc. 1930: n°550 (1932) (basion.); =*T. afrum* f. *rubriflorum* Font Quer & Pau, Iter Marocc. 1927: n°510 (1928); =*T. salviastrum* subsp. *rubriflorum* (Font Quer & Pau) Maire in Bull. Soc. Hist. Nat. Afrique N. 24: 227 (1933)]. **Lectotype** (here designated) Maroc; in declivibus arenaccis montis Djbel Er-Regel, Beni Hzauar, ad 400m. alt., 5-VII-1930, *Dr. P. Font Quer Iter Maroccanum 1930: n°510* (BC-FONT QUER 811287_j). The lectotype designated is the only specimen of the sheet.

The subspecies *afrum* has been confused with *T. salviastrum* species not present in North Africa. The subspecies *afrum* have the leaves triangular-oblong with base rotundate and longer petiolated, but the subspecies *riphaeum* and *rubriflorum* present the leaves oblong-

ovate and shorter petiolated like to the *T. oxylepis* from the Iberian Peninsula.

14. **T. zaianum** Emb. & Maire, Pl. Marocc. Nov. 2: 7 (1929). **Lectotype** (here designated): Maroc, Oulmès, Djebel Mougraïnat, 1250m, 8-V-1926, *L. Emberger* (MPU-MAIRE_i). The lectotype designated is the only specimen of the sheet.

15. **T. wernerii** Emb. in Bull. Soc. Nat. Maroc 15: 185 (1936). **Lectotype** (here designated): Maroc, Anti Atlas occidental, falaises gréseuses du Dj. Kest. 1900m, 2-V-1934, *Dr. R. Maire* (MPU-MAIRE_i). The lectotype designated is the only specimen of the sheet.

D. Sect. **Stachyobotrys** Benth., Labiat. Gen. Sp.: 662 (1835).

T. subsect. **Stachyobotrys** (Benth.) Kästner in Biocosme Mésogéen 6: 75 (1989).

The sect. *Stachyobotrys* is present in Morocco only by two species; *T. bracteatum* living also in Algeria and the Iberian Peninsula (Navarro & Cabezudo, 1997) and *T. collincola* endemic from the Atlantic region of Morocco.

16. **T. bracteatum** Desf., Fl. Atlant. 2: 7 (1798). **Lectotype** (here designated): Alger, "Teucrium bracteatum", *Desfontaines* (P-DESFONTAINES_i). The lectotype designated is the lower specimen of the sheet.

=*T. riatarum* Humbert & Maire in Mém. Soc. Sci. Nat. Maroc 17: 45 (1928) [= *T. bracteatum* f. *riatarum* (Humbert & Maire) Maire in Jahand. & Maire, Cat. Pl. Maroc 3: 613 (1932)]. **Type**: Non vidi.

=*T. bracteatum* f. *albiflorum* Maire in Jahand. & Maire, Cat. Pl. Maroc 3: 613 (1932). **Lectotype** (here designated): Maroc, Tetuan, in rupestr. calcareis, 200m. corolla alba, 19-

VI-1930, *Dr. R. Maire* (MPU-MAIRE_i). The lectotype designated is the only specimen of the sheet.

-*T. bracteatum* var. *virescens* Pau in Font Quer, Iter Marocc. 1928: n°330 (1929) [nom. nudum].

-*T. bracteatum* f. *purpureum* Maire in Jahand. & Maire, Cat. Pl. Maroc 3: 612 (1932) [nom. nudum].

17. **T. collincola** Greuter & Burdet in Willdenowia 15: 79 (1985) [= *T. collinum* Coss. & Balansa in Bull. Soc. Bot. France 20: 258 (1873) (non Salisb., Prodr.: 75-77 (1796) (syn. subst.)]. **Lectotype** (here designated): Maroc, Djebel Hadid (Montagne de fer) près de Mogador, V, *Cosson* (P-COSSON_i). The lectotype designated is the only specimen of the sheet.

E. Sect. **Scordium** (Mill.) Rchb., Fl. Germ. Excurs.: 314 (1831).

≡ **Scordium** Mill., Gard. Dict. abr., 4 ed. (1754) (basion.).

18. **T. scordium** L., Sp. Pl. II: 565 (1753). **Lectotype** (here designated): in LINN 722.24_i. The lectotype designated is the only specimen of the sheet.

a. subsp. **scordioides** (Schreb.) Arcangeli, Comp. Fl. Ital.: 559 (1882) [≡ *T. scordioides* Schreb., Pl. Verticill. Unilab.: 37 (1773) (basion.)]. **Type**: Non vidi.

=*T. petkovii* Urum. in Magyar Bot. Lapok 12: 221 (1913). **Type**: Non vidi.

F. Sect. **Spinularia** Boiss., Fl. Orient. 4: 806 (1879).

= **T.** sect. **Scordium** subsect. **Spinularia** (Boiss.) Kästner in Biocosme Mésogéen 6: 75 (1989).

We included all the species in Kästner' subsect. *Botrys* and *Spinularia* in sect. *Spinularia* (Kästner, 1989) and we distinguish them from all other sections of *Teucrium* genus by the combination of annual life cycle, strongly gibbous calyx and markedly unequal calyx lobes.

19. **T. spinosum** L., Sp. Pl. II: 566 (1753). **Lectotype** (here designated): in LINN 722.44j. The lectotype designated is the right hand specimen of the sheet.

20. **T. resupinatum** Desf., Fl. Atlant. 2: 4 (1798). **Lectotype** (here designated): "Teucrium resupinatum Desf.", Alger, Desfontaines (P-DESFONTAINESj). The lectotype designated is the only specimen of the sheet.

In the sheet P-DESFONTAINES designated as lectotype there is one specimen and two exiccata. The exiccata with the annotation: *Teucrium resupinatum* Desf. / Alger / [Desfontaines] in the upper part of the sheet and another exiccata in the lower part with the annotation: "Barbarie, in Desfontaines 1833". In the Herbarium P, there are other two sheets related to *T. resupinatum*; one with two specimens, the upper specimen with the exiccata: "Teucrium resupinatum Desf. / Montenotte près Cinès / Algerie / Cosson 2 juin / 1875 [Cosson]; and the lower specimen with the exiccata: "Teucrium resupinatum / Desf. Barbarie. Herb. Poiret and the other sheet, with one specimen with the exiccata: "Teucrium resupinatum Desf." Fl. Atl." / [Desfontaines].

=*T. resupinatum* var. *xauense* Pau & Font Quer in Font Quer Iter Marocc. 1928: n°331 (1932). **Lectotype** (here designated): Maroc, pr. Xauen, in incultis, 600m. alt. 23-VI-1928, Dr. P. Font Quer Iter Maroccanum 1928: n°331 (BC-FONT QUER 47404j). The lectotype here designated is the left specimen of the sheet.

21. **T. maghrebinum** Greuter & Burdet in Willdenowia 15: 80 (1985) [= *T. mauritanicum* De Noé in Bull. Soc. Bot. France 2: 585 (1855); = *T. resupinatum* var. *mauritanico* (De Noé) Pau & Font Quer in Font Quer Iter Marocc. 1928: n°331 (1932)]. **Type**: Non vidi.

22. **T. decipiens** Coss. & Balansa in Bull. Soc. Bot. France 20: 258 (1873). **Lectotype** (here designated): Maroc, Djebel-Hadid (Montagne de Fer), à L'île de Mogador, V-1867, Cosson (P-COSSONj; isolectotype: P-COSSONj). The lectotype here designated is the central left specimen of the sheet.

23. **T. botrys** L., Sp. Pl. II: 562 (1753). **Lectotype** (here designated): in LINN 722.3j. The lectotype designated is the only specimen of the sheet.

G. Sect. **Isotriodon** Boiss., Fl. Orient. 4: 806 (1879).

=**T.** subsect. **Isotriodon** (Boiss.) Kästner in Biocosme Méditerranéen 6 : 73 (1989).

24. **T. rupestre** Coss. & Balansa in Bull. Soc. Bot. France 20: 259 (1873). **Lectotype** (here designated): Maroc; environs de Keira, rochers verticales, V-1867, Cosson (P-COSSONj; isolectotype: P-COSSONj). The lectotype here designated is the lower specimen of the sheet.

25. **T. tananicum** Maire in Bull. Soc. Hist. Nat. Afrique N. 23: 210 (1932). Lectotype in MPU-MAIRE, designated by Navarro & El Oualidi in Acta Bot. Malacitana 21: 282 (1996).

Species included up to now in the sect. *Polium* subsect. *Rotundifolia* based on the morphology of leaves, indumentum type and calyx lobes similar to the *T. rotundifolium*, but the morphological studies (Navarro & El Oualidi, 1996) showing that *T. tananicum* is a typical species of the sect. *Isotriodon*.

H. Sect. **Polium** (Mill.) Schreb., Pl. Verticill. Unilab.: 41 (1773).

≡ **Polium** Mill., Gard. Dict. 8 ed. n°2 (1768) (basion.).

T. subsect. **Polium** (Mill.) Kästner in Biocosme Mésogéen 6: 72 (1989).

26. **T. polium** L., Sp. Pl. II: 566 (1753). Lectotype in LINN 722.35, designated by Siddiqi in Jafri & El Gad, Fl. Libya 118: 25 (1985).

a. subsp. **polium**

= *T. capitatum* L. var. *chamaedrifolium* Pau & Font Quer, Iter Marocc. 1927: n°518 (1928). **Lectotype** (here designated): Maroc; in collibus argillibus littoraeis riphæi pr. Marsa Saguira (Bocoya) 50m, 4-V-1927, *Dr. P. Font Quer Iter maroccanum* 1927: n°517 (1928) (BC-FONT QUER 47270j; isolectotype: MPU-MAIREj). The lectotype designated is the only specimen of the sheet.

= *T. rifeum* Maire & Sennen in Sennen, Diagn. Nouv. Exicc.: 112 (1936). **Lectotype** (here designated): Maroc, Tensaman, 1930, *Hno. Mauricio in Sennen Pl. D'Espagne* 1930: n°7669 (BC-SENNEN 138065j). The lectotype designated is the only specimen of the sheet.

= *T. capitatum* L. var. *max-onnoi* Sennen & Mauricio in Sennen, Diag. Nouv. Exicc.: 239. (1936). **Lectotype** (here designated): Maroc; Aguada del Zaio sous la Pistacea atlantica, 12-VI-1934, *Hnos. F. Sennen & Mauricio in Sennen Pl. D'Espagne* 1934: n°9516 (MA 98241j) [-*T. rifeum* Maire & Sennen f. *mauriti* Mauricio & Sennen in Sennen, Pl. D'Espagne n°7964 (1931) (nom. nudum)].

= *T. soloitanum* (Maire) T. Navarro & Rosua in Acta Bot. Malacitana 18(2): 541 (1991) [≡ *T. polium* L. f. *soloitanum* Maire in Bull. Soc. Hist. Nat. Afrique N. 28: 445 (1937)

(basion.); = *T. polium* L. var. *soloitanum* (Maire) Sauvage & Vindt in Naturalia Monspel. sér. Bot. 16: 199 (1965) (comb. inval.)]. **Lectotype** (here designated): Maroc; Sud Ouest, falaises maritimes calc. Cap Cantin (Solois), 25-IV-1937, *J. Gatefossé Plantes du Maroc* 898 (RAB-MAIRE 44839j). The lectotype designated is the only specimen of the sheet.

= *T. polium* L. var. *dissimile* (Sennen) Jahand. & Maire subvar. *faurei* Sauvage & Vindt in Le Botaniste, sér. L: 429 (1967). **Lectotype** (here designated): Maroc; environs de Taforalt; broussailles, 2-VI-1930, *A. Faure* (MPU-MAIREj; isolectotype: RAB-SAUVAGE & VINDT 44813j). The lectotype designated is the only specimen of the sheet.

= *T. polium* L. var. *tetuanense* Pau ex Sauvage & Vindt in Le Botaniste, sér. L: 425 (1967). **Lectotype** (here designated): Maroc; in declibus calc. montis Djbel Dersa, supra Tetouan, ad 250m alt., 20-VI-1930, *Dr. P. Font Quer Iter Maroccanum* 1930: n°547 (BC-FONT QUER 98046j; isolectotypes: MA 98549j, MA 98547j) [-*T. polium* L. subsp. *polium* var. *tetuanense* Pau in Mem. Real. Soc. Esp. Hist. Nat., 12: 379 (1924) (nom. nudum)]. The lectotype has been designated in BC-FONT QUER, because its the only specimen in flower of the two recollected and cited by the authors.

- *T. polium* L. subvar. *corymbiferum* (Desf.) sensu Sauvage & Vindt in Naturalia Monspel. sér. Bot. 16: 197 (1965), non *T. corymbiferum* Desf. (1789).

- *T. rifeum* Sennen var. *chamaedrifolium* Sennen, Pl. D'Espagne: n°7965 (1931) [nom. nudum].

Species highly variable in Morocco. A complet biosystematic study of all the variation present in Morocco and theyr relations to the Algerian populations is very necessary and interesant for the genus.

27. **T. capitatum** L., Sp. Pl. II: 566 (1753). Lectotype in SBT-BERGIUS_i, designated by Rosúa & Navarro in Taxon 36(2): 467-469 (1987).

a. subsp. **capitatum**

=*T. capitatum* L. var. *lazari* Sennen & Mauricio in Sennen, Diag. Nouv. Exicc.: 133 (1936). **Lectotype** (here designated): Maroc; Muley-Rechid coteaux argilo-calcaires, 13 et 20-VI-1931, *Hnos. F. Sennen & Mauricio in Sennen, Pl. D'Espagne 1931: n°7961* (BC-SENNEN 807804_i; isolectotypes: BC 138160_i; RAB_i; MPU_i). The lectotype designated is the only specimen of the sheet.

=*T. polium* L. var. *humberti* Maire & Sennen in Sennen, Diagn. Nouv. Exicc.: 161 (1936) [= *T. polium* L. subvar. *humberti* (Maire & Sennen) Sauvage & Vindt in Naturalia Monspel., sér. Bot. 16: 198 (1965)]. **Lectotype** (here designated): Maroc; Beni Bu-Yahi à Tagzuf friches, 21-VI-1932, *Hnos. F. Sennen & Mauricio in Sennen, Pl. D'Espagne 1932: n°8472* (BC-SENNEN 807810_i; isolectotypes: MA 98100_i, BC-SENNEN 807809_i). The lectotype designated is the only specimen of the sheet.

=*T. polium* L. var. *dissimile* (Sennen) Jahand. & Maire subvar. *Ballsii* Sauvage & Vindt in Le Botaniste, sér. L: 429 (1967). **Lectotype** (here designated): Maroc; below Asni, 3400m steps limestones slopes, I-1936, *E. K. Balls 132534* (RAB 44814_i). The lectotype here designated the lower specimen of the sheet.

- *T. capitatum* L. f. *postrata* Font Quer in Iter Marocc. 1927: n°519 (1928) [nom. nudum].

- *T. polium* L. subsp. *capitatum* (L.) Arcang. var. *majoricum*, sensu Maire in Maire Iter Marocc.: XXII (1932), non *T. majoricum* Rouy (1882).

- *T. polium* L. subsp. *polium* (L.) Arcang. var. *virescens*, sensu Maire in Cat. Pl. Maroc, 4:

619 (1934), non *T. virescens* Pomel (1860).

- *T. polium* L. subsp. *capitatum* (L.) Arcang. var. *valentinum* (Schreb.) Jahand. & Maire, Cat. Pl. Maroc, 3: 619 (1934) [= *T. valentinum* sensu Font Quer in Iter Marocc. 1929: n°369 (1929), non Schreb. (1773)].

- *T. capitatum* L. var. *rubriflorum* sensu Sennen in Pl. D'Espagne n°7962 (1936), non Rouy (1882) [nom. nudum].

- *T. polium* L. subvar. *leiocalyx* Sauvage & Vindt in Naturalia Monspel. sér. Bot. 16: 197 (1965). [nom. nudum].

- *T. polium* L. f. *leucanthum* Sauvage & Vindt in Le Botaniste, sér. L: 429 (1967) [nom. nudum].

T. capitatum like *T. polium* is a highly variable species in Morocco which needs a global study in all its area of distribution in North Africa.

28. **T. antiatlanticum** (Maire) Sauvage & Vindt in Bull. Soc. Sci. Nat. Phys. Maroc 35(4): 286 (1955) [= *T. polium* L. subsp. *antiatlanticum* Maire in Mem. Soc. Hist. Nat. Maroc 26: 209 (1930) (basion.)]. **Lectotype** (here designated): Maroc; Anti Atlas, sur roche calcaire au dessus de Ighern, 1700m, 6-IV-1934, *Dr. R. Maire* (MPU-MAIRE_i). The lectotype here designated is the upper right specimen of the sheet.

Material of Maire's original collection of *T. polium* subsp. *antiatlanticum* with recollection date before 1934 has not been found. For this cause here it is designated as lectotype the sheet from MPU-MAIRE identified by the author as *T. polium* subsp. *antiatlanticum*, recollected in 1934 and conform to the protologue of the species.

29. **T. luteum** (Mill.) Degen subsp. **flavovirens** (Batt.) Greuter & Burdet in Willdenowia 15: 79 (1985) [= *T. polium* L. subsp. *flavovirens* Batt. in Batt. & Trabut, Fl. Algerie 1: 714 (1890) (basion.); = *T. aureum* Schreb. subsp. *flavovirens* (Batt.) S. Puech in Bull. Soc. Bot.

France 129: 44 (1985)]. **Lectotype** (here designated): Algerie, Sud. Oranais: Djebel Mzi. *J. A. Battandier Flore d' Algerie 714* (MPU-BATTANDIER_j). The lectotype here designated is the left lower specimen of the sheet.

=*T. polium* L. var. *mesatlanticum* Maire in Mem. Soc. Sci. Nat. Maroc 26: 209 (1930). **Lectotype** (here designated): Maroc; Moyen Atlas: Azrou, pelouses calcaires près de la Daya de Bou Jerirt, 1700m, 18-VI-1923, *Dr. R. Maire* (MPU-MAIRE_j). The lectotype designated is the only specimen of the sheet.

Species with high morphological variability related to the size of shoots, development of the inflorescence and colour and density of the indumentum. The population distributed in the Oriental Rif region are similar to the Algerian populations.

30. **T. cylindraceum** Greuter & Burdet in Willdenowia 15: 423 (1985) [=*T. polium* L. var. *cylindricum* Batt., Contr. Fl. Atlant: 75 (1919) (syn. subst.); =*T. cylindricum* (Batt.) Sauvage & Vindt in Bull. Soc. Sci. Nat. Phys. Maroc 35(4): 288 (1955), non (Pers.) Steudel, Nomencl. Bot.: 829 (1821); =*T. polium* L. subsp. *cylindricum* (Batt.) Maire in Jahand. & Maire, Cat. Pl. Maroc 3: 619 (1934)]. **Lectotype** (here designated): Maroc; Djebel Beni-Smir, rocailles greseuses au dessus de Sidi Saïd, 1300m, 3-VI-1918, *J. A. Battandier* (MPU-BATTANDIER_j). The lectotype here designated is the right specimen of the sheet.

=*T. polium* L. subsp. *xanthostachyum* Maire & Wilczek in Maire, Bull. Soc. Hist. Nat. Afrique N.: 316-317 (1934) [=*T. luteum* Mill. subsp. *xanthostachyum* (Maire & Wilczek) Greuter & Burdet in Willdenowia 15: 80 (1985); -*T. cylindricum* (Batt.) Sauvage & f. *xanthostachyum* (Maire & Wilczek) Sauvage & Vindt in Bull. Soc. Sci. Nat. Phys. Maroc 35(4): 288 (1955) (comb. inval.)]. **Lectotype**

(here designated): Maroc; in rupibus calcaires infra castellum Tazzougert, 1200m spicastra aureo-tomentosa corolla undigue citrina, 18-IV-1933, *Dr. R. Maire* (MPU-MAIRE_j). The lectotype here designated is the left specimen of the sheet.

= *T. polium* L. f. *decalvans* Maire in Mem. Soc. Sci. Nat. Maroc 30: 38 (1939) [-*T. cylindricum* var. *decalvans* (Maire) Sauvage & Vindt in Bull. Soc. Sci. Nat. Phys. Maroc 35(4): 288 (1955) (comb. inval.)]. **Lectotype** (here designated): Maroc; in glareis torrentium vallis Dades inter Skoura et Ait-Yaya et Sidi-Yaya corolla citrina, 21-VI-1939, *Dr. R. Maire Iter Maroccanum XXIX: n°1108* (MPU-MAIRE_j; isolectotypes: P_j; RAB 61235_j) [=*T. cylindricum* (Batt.) Sauvage & Vindt subvar. *wilczekii* Sauvage & Vindt in Le Botaniste, sér. L: 421 (1967)]. **Lectotype** (here designated): Maroc; 12-VIII-1955, *Ch. Sauvage & J. Vindt* (RAB-SAUVAGE & VINDT 61259_j; isolectotype: MPU 2537_j).

31. **T. mesanidum** (Litard. & Maire) T. Navarro & Rosua in Acta Bot. Malacitana 16(2): 514 (1991) [=*T. polium* L. subsp. *mesanidum* Litard. & Maire in Mem. Soc. Sci. Nat. Maroc 4: 20 (1924) (basion.); =*T. mesanidum* (Litard. & Maire) Sauvage & Vindt in Bull. Soc. Sci. Nat. Phys. Maroc 35: 289 (1955) (comb. inval.); =*T. luteum* (Mill.) Degen subsp. *mesanidum* (Litard. & Maire) Greuter & Burdet in Willdenowia 15: 80 (1985)]. **Lectotype** (here designated): Maroc; Grand Atlas Reraya: rocailles porphyriques au dessus d'Arround, 2300m fl. citrinus, 21-VII-1922, *Dr. R. Maire* (MPU-MAIRE_j). The lectotype here designated is the upper right specimen of the sheet.

=*T. polium* L. var. *cylindrostachyum* Maire in Mem. Soc. Sci. Nat. Maroc 13: 272 (1934) [=*T. mesanidum* (Litard. & Maire) Sauvage & Vindt var. *cylindrostachyum* (Maire) Sauvage & Vindt in Bull. Soc. Sci. Nat. Phys. Maroc 35(4):

290 (1955)(comb. inval.]. **Type:** Non vidi.

=*T. polium* L. var. *tricolor* Maire & Weiller in Mem. Soc. Sci. Nat. Maroc 30: 37-38 (1939).

Type: Non vidi.

=*T. mesanidum* (Litard. & Maire) Sauvage & Vindt var. *mesanidum* (Litard. & Maire) Sauvage & Vindt in Bull. Soc. Sci. Nat. Phys. Maroc 35(4): 289 (1955) [comb. inval.].

= *T. mesanidum* (Litard. & Maire) Sauvage & Vindt subvar. *attenuatum* Sauvage & Vindt in Le Botaniste, sér. L: 422 (1967) [com. inval.].

32. **T. gypsophilum** Emb. & Maire in Mém. Soc. Sci. Nat. Maroc 17: 46 (1928). **Lectotype** (here designated): Maroc; in atlante rifano: Aknoul, in gypsaceis 1000m corolla lutea, 17-VI-1927, *Dr. R. Maire Iter Maroccanum XII* (MPU-MAIRE_j; syntype: RAB 44452_j). The lectotype designated is the only specimen of the sheet.

=*T. junii-victoris* Sennen & Mauricio in Sennen, Diag. Nouv. Exsicc.: 239 (1936).

Lectotype: in RAB 61248_j; isolectotypes: MPU-MAIRE_j. The lectotype is designated by Sauvage & Vindt in Le Botaniste, sér. L: 434 (1967).

33. **T. chlorostachyum** Pau & Font Quer in Font Quer, Iter Marocc. 1929: n°370 (1930). Lectotype in RAB 61222_j, designated by Sauvage & Vindt in op. cit.; isolectotypes: BC-FONT QUER 98115_j; MA 98446_j, MPU-MAIRE!_j.

a. subsp. **chlorostachyum**

=*T. garciae* Sennen & Mauricio in Sennen, Diag. Nouv. Exsicc.: 298 (1936). Lectotype in BC-SENNEN 98115, designated by El Oualidi & al. in Fl. Medit. 7: 21-26 (1997).

-*T. gnaphalodes*, auct. p., non L'Hér (1788).

b. subsp. **melillense** (Maire) El Oualidi, J. Mathez & T. Navarro in Fl. Medit. 7: 21-26

(1997) [≡*T. melillense* Maire & Sennen ex Maire in Bull. Soc. Hist. Nat. Afrique N. 23: 209 (1932) (basion.)]. Lectotype in MPU_j, designated by El Oualidi & al., in op. cit.

=*T. melillense* var. *embergeri* Sennen ex Maire in Bull. Soc. Hist. Nat. Afrique N. 23: 210 (1932) [-*T. melillense* var. *embergeri* Sennen, Diag. Nouv. Exicc: 111 (1936) (nom. illeg.); -*T. embergeri* Sennen (pro hybr.) in Pl. D'Espagne 1930: n°7664 (1931) (nom. nudum); - *T. melillense* f. *embergeri* (Sennen & Maire) Sauvage & Vindt in Bull. Soc. Sci. Nat. Phys. Maroc 35: 286 (1955)(nom. illeg.)]. **Lectotype** (here designated): Maroc; Maroc: Tizi-Assa, coteaux argilo-schisteux, 760m., 28-VI-1930, *Hnos. F. Sennen & Mauricio in Sennen, Pl. D'Espagne 1930: n°7664* (MPU-MAIRE_j; isolectotypus: BC-SENNEN 138058_j).

34. **T. helichrysoides** (Diels) Greuter & Burdet in Willdenowia 15: 79 (1985) [≡*T. polium* L. var. *helichrysoides* Diels in Bot. Jahrb. Syst. 54, Beibl. 120: 112 (1917)(basion.); =*T. polium* L. subsp. *helichrysoides* (Diels.) Maire in Bull. Soc. Hist. Nat. Afrique N. 20: 198 (1929)]. **Neotype** (here designated): Maroc; Tezzeit in alves lappidosa basaltico torrentis, 1700-1800m, corolla ochroleua, lutea maculata, 1928, *Dr. R. Maire Iter Sahar 978* (MPU-MAIRE_j). The neotype designated is the only specimen of the sheet.

The original material of *T. helichrysoides* has been not found, probably missing in the world war II. For this cause a neotype conform to the indication of protologue of species is designated in MPU-MAIRE.

=*T. polium* L. subsp. *geyrii* Maire in Bull. Soc. Hist. Nat. Afrique N. 20: 199 (1929). **Lectotype** (here designated): Maroc; in alveis lapidosis montium Tassili-n-Ajjer Sahare centralis, prope Ariheret et Amgid, 1928, *Dr. R. Maire Iter Sahar 986* (MPU-MAIRE 996_j). The lectotype designated is the only specimen of the sheet.

=*T. polium* L. subsp. *seuratianum* Maire in Bull. Soc. Hist. Nat. Afrique N. 20: 198 (1929). **Type:** Non vidi.

=*T. polium* L. var. *laxum* Maire in Bull. Soc. Hist. Nat. Afrique N. 20: 199 (1929). **Lectotype** (here designated): Maroc; in ditione A hagggar: Imarera, in alveo lapidoso amnis, 1950-2000m corolla sulphurea, 24-III-1928, *Dr. R. Maire Iter Sahar 997* (MPU-MAIRE_j). The lectotype designated is the only specimen of the sheet.

35. **T. doumerguei** Sennen, Pl. D'Espagne 1933: n°8874 (1934) [≡*T. polium* L. f. *doumerguei* (Sennen) Maire, Cat. Pl. Maroc 4: 619 (1934) (basion.)]. **Lectotype:** in BC-SENNEN_j, designated by Rosúa & Navarro in Taxon 36(2): 470-473 (1987).

=*T. polium* L. subsp. *mairei* Sennen ex Maire in Bull. Soc. Hist. Nat. Afrique N. 23(7): 208 (1932). **Lectotype:** in MA 98084_j, designated by Rosúa & Navarro, op. cit. [=*T. mairei* Sennen in Pl. D'Espagne 1933: n°8773 (1934) [Non Léveillé (1912)]; -*T. mairei* (Sennen ex Maire) Sennen ex Sauvage & Vindt in Bull. Sci. Nat. Phys. Maroc 35(4): 289 (1955)(nom. illeg.)].

=*T. polium* L. f. *angustifolium* Sennen ex Maire in Bull. Soc. Hist. Nat. Afrique N. 23(7): 209 (1932). **Lectotype:** in BC-SENNEN_j, designated by Rosúa & Navarro, op. cit.

=*T. polium* L. var. *flavidum* Emb. & Maire, Spicil. Rif: 46. (1927) [-*T. polium* L. f. *flavidum* (Emb. & Maire) Sauvage & Vindt in Bull. Soc. Sci. Nat. Phys. Maroc 35(4): 199 (1965) (comb. inval.); - *T. vidali* Sennen in Pl. D'Espagne 1930 (nom. nudum)]. **Type:** Non vidi.

=*T. polium* L. var. *hidumense* Sennen, Diag. Nouv. Exicc.: 112 (1936) [= *T. polium* L. subvar. *hidumense* (Sennen) Sauvage & Vindt in Naturalia Monspel. sér. Bot. 16: 199 (1965)]. **Lectotype** (here designated): Maroc; Hidum, coteaux argilo-calcaires dunnex, 4-VII-1930,

Hnos. F. Sennen & Mauricio in Sennen, Pl. D'Espagne 1930: n°7672 (MPU-MAIRE_j; isolectotype: BC 807803_j). The lectotype here designated is the upper specimen of the sheet.

-*T. rifeum* Maire & Sennen f. *maximiliani* Sennen & Mauricio in Sennen, Pl. D'Espagne 1930: n°7967 (1931) [nom. nudum].

36. **T. joannis** (Sauvage & Vindt) El Oualidi, T. Navarro & A. Martin, **comb. et stat. nov.** [≡*T. mairei* Sennen ex Maire subsp. *joannis* Sauvage & Vindt in Le Botaniste, sér. L: 433 (1967) (basion.)]. **Lectotype** (here designated): Maroc; n-Tretténe rochers calc., 200m, 12-VII-1927, *J. Gatefossé* (RAB-SAUVAGE & VINDT 61247_j). The lectotype here designated is the right specimen of the sheet.

37. **T. embergeri** (Sauvage & Vindt) El Oualidi, T. Navarro & A. Martin, **comb. et stat. nov.** [≡*T. mairei* Sennen ex Maire var. *embergeri* Sauvage & Vindt in Le Botaniste, sér. L: 433 (1967) (basion.); -*T. mairei* Sennen ex Maire var. *embergeri* in Bull. Sci. Nat. Phys. Maroc 35(4): 289 (1955) (nom. nudum)]. **Lectotype** (here designated): Maroc; Rif in montis Azrou (prope) Aknoul, 26-VI-1926, *L. Emberger* (RAB-SAUVAGE & VINDT 61247_j). The lectotype here designated is the central specimen of the sheet.

-*T. polium* L. var. *aureum* sensu Font Quer Iter Marocc.: 332 (1928), non Boiss. (1845).

Species very similar to the *T. similtatum*, living in the South of the Iberian Peninsula.

38. **T. mideltense** (Batt.) Humbert in Bull. Soc. Hist. Nat. Afrique N. 19: 240 (1928) [≡*T. polium* L. subsp. *mideltense* Batt. in Bull. Soc. Hist. Nat. Afrique N. 12: 190 (1921)(basion.)]. **Holotype:** "Midelt", *Nain* (MPU-BATTANDIER_j; sub *Teucrium polium* L. subsp. *mideltense* Batt.). The holotype is the only specimen of the sheet.

-*T. polium* L. var. *angustifolium* sensu Emb. & Maire, Cat. Pl. Maroc 3: 619 (1934).

39. **T. corymbiferum** Desf., Fl. Atl., 2: 8 (1798) [= *T. polium* L. var. *corymbiferum* (Desf.) Maire, Cat. Pl. Maroc, 3: 619 (1934)]. **Lectotype** (here designated): "Teucrium corymbiferum Desf.", *Desfontaines* (P-DESFONTAINES_j). The lectotype here designated is the only specimen of the sheet.

=*T. polium* L. f. *longiceps* Faure & Maire in Bull. Soc. Hist. Nat. Afrique N. 25: 316 (1934) [-*T. polium* L. subvar. *longiceps* (Faure & Maire) Sauvage & Vindt in Naturalia Monspel., sér. Bot. 16: 197 (1965) (comb. inval.)]. **Lectotype** (here designated): Maroc; massif de Beni-Snassen: Berkane pelouses rocailleuses au pied de la colline de Taghit, 17-V-1933, A. Faure (MPU-MAIRE 5864_j).

=*T. corymbiferum* Desf. var. *dissimile* Sennen, Diagn. Nouv. Exsicc.: 111 (1936) [=*T. polium* L. var. *dissimile* (Sennen) Jahand. & Maire, Cat. Pl. Maroc 3: 619 (1934); -*T. philothei* Sennen & Mauricio in Sennen, Diagn. Nouv. Exicc.: 161 (1936) (nom. nudum)]. **Lectotype** (here designated): Maroc; El Zoco Telata, 12-VII-1932, *Hnos. F. Sennen & Mauricio in Sennen, Pl. D'Espagne 1932: n°7668* (BC-SENNEN 138172_j; isolectotypes: MA 98243_j, BC-SENNEN 807808_j; MPU-MAIRE_j). The lectotype here designated is the central specimen of the sheet.

-*T. capitatum* L. var. *rubriflorum* auct., non Rouy (882).

Species distributed in the North Oriental region of Morocco and in the Occidental region of Algeria, probably included in Battandier & Trabut (1890) sub. *T. polium* var. *purpurascens* Bethn. Species very typical for the flat, oblong-ovate and green to grey pubescens leaves and very branched inflorescences in double raceme

along to the floral shoot, like panicle.

40. **T. rifanum** (Maire & Sennen) T. Navarro & El Oualidi **comb. et stat. nov.** [=*T. polium* L. var. *rifanum* Maire & Sennen in Bull. Soc. Hist. Nat. Afrique N: 62 (1931) (basion.)]. **Lectotype** (here designated): Maroc; Melilla, in pinetis ad Casablanca, 11-V-1929, Dr. R. Maire (MPU-MAIRE_j sub. var. *rifeum* Maire & Sennen). [=*T. polium* L. Maire subvar. *rifanum* (Maire & Sennen) Sauvage & Vindt in Naturalia Monspel. sér. Bot. 16: 197 (1965) (comb. inval.)].

= *T. polium* L. subvar. *sennenianum* Sauvage & Vindt in Le Botaniste, sér. L: 424 (1967). **Lectotype** (here designated): Maroc; Melilla à Cabrerizas et Rostrogordo coteaux calcaires, *Hno. F. Sennen, Pl. D'Espagne 1931: n°7965* (RAB-SAUVAGE & VINDT 44844_j). The lectotype here designated is the upper right specimen.

-*T. maroccanum* Sennen & Mauricio in Sennen, Diagn. Nouv. Exicc.: 161 (1936) [nom. nudum].

Species living in the altered calcareous soils and calcareous sea cliffs of the Melilla Peninsula, puntually present in the territory of Quebdana over calcareous matorral and marnes. It is very characteristic by the prostrate floral shoot; leaves linear-lanceolate and grey pulverulente and inflorescences with purple to red flowers in simple raceme condensed in the upper part of floral shoot.

T. Subsect. Rotundifolia Cohen ex Valdés Berm. & Sánchez Crespo in Acta Bot. Malacitana 4: 34 (1978).

41. **T. rotundifolium** Schreb., Pl. Verticill. Unilab.: 42 (1773). **Lectotype**: in M-SCHREB 5338_j, designated by Navarro & Rosúa in Candollea 45(2): 581-589 (1990).

a. subsp. **rotundifolium**

=*T. polium* L. var. *atlanticum* Ball. in Spicil. Fl. Moroccan, 16: 33 (1878) [= *T. rotundifolium* f. *atlanticum* (Ball) Sauvage & Vindt in Bull. Soc. Sci. Nat. Phys. Maroc 35(4): 290 (1955) (comb. inval.)]. **Lectotype** (here designated): Maroc; in convalle Ait Mesan alt. 1400-2400 m, 13-V-1871, *Ball Inter Marocc.* (KEW 690/35j).

=*T. rotundifolium* Schreb. subsp. *granatense* (Boiss. & Reuter) Emb. in Bull. Soc. Sci. Nat. Maroc 15: 185 (1936) [comb. inval.].

b. subsp. **sanguisorbifolium** (Pau & Font Quer) Cohen in Trav. Inst. Sci. Chérifien, sér. Bot. 9: 45 (1956) [≡ *T. rotundifolium* Schreb. var. *sanguisorbifolium* Pau & Font Quer in Font Quer, Iter Marocc. 1930: n°552 (1932)(basion.)]. **Lectotype** (here designated): Maroc; in rupibus calc. Vallis Uad Lau, pr. Tirines, ad 50m. Alt., 10 -VII-1930, *Dr. P. Font Quer Iter Maroccanum 1930: n°552* (BC-FONT QUER 98052j). The lectotype here designated is the right specimen of the sheet. The original description is present in the sheet: *Glabrescens, folia alte crenata.*

Differ to the subspecies type for the leaves cuneates at the base and compound inflorescence.

c. subsp. **transatlanticum** Emb. ex Greuter, Burdet & Long in Med. Checklist, 3: xxix. (1986). [= *T. rotundifolium* Schreb. subsp. *transatlanticum* Emb. in Bull. Soc. Sci. Nat. Maroc 15: 184 (1936)(nom. illeg.)]. **Lectotype** (here designated): Maroc; Sargho: sur le plateau dit supérieur à 2400m, 13-V-1933, *L. Emberger* (RAB-EMBERGER 43626j; isolectotype: MPU-MAIREj). The lectotype here designated is the upper right specimen of the sheet.

42. **T. faurei** Maire in Bull. Soc. Hist. Nat. Afrique N. 20: 198 (1929) [= *T. rotundifolium*

Schreb. subsp. *faurei* (Maire) Sauvage & Vindt in Bull. Soc. Sci. Nat. Phys. Maroc 35(4): 291 (1955)]. **Lectotype** (here designated): Maroc; Berkana Gorges du Zegzel: rochers (500m), 18-V-1928, *A. Faure* (MPU-MAIREj). The lectotype here designated is the upper specimen of the sheet.

43. **T. dealianum** Emb. & Maire in Bull. Soc. Sci. Nat. Maroc 15: 171 (1936) [= *T. rotundifolium* Schreb. subsp. *dealianum* (Emb. & Maire) Sauvage & Vindt in Bull. Soc. Sci. Nat. Phys. Maroc 35(4): 291 (1955)]. **Holotype**: Maroc; Grand Atlas falaises calc. de Ida ou Tanan 1000m, 4-V-1934, *L. Emberger* (RAB-EMBERGER 44531j).

44. **T. gattefossei** Emb. in Bull. Soc. Sci. Nat. Maroc 13: 299 (1934). **Lectotype** (here designated): Maroc; Moyen Atlas: rochers calc. verticaux à Foug el Anceur (EN de Beni Mellal) 900m, 3-X-1932, *L. Emberger* (MPU-MAIREj). The lectotype designated is the only specimen of the sheet.

45. **T. serpylloides** Maire & Weiller in Bull. Soc. Hist. Nat. Afrique N. 31: 36 (1940). **Lectotype** (here designated): Maroc; in rupestr. vulcanicus montium Sargho ad Amalou-n-Ou-Mansour 2200m, corolla purpurea in medio labioli longitu dinaliter albo fasciata, filamenta rufo-purpurascencia antheraceae dilute croceae, 22-VI-1936, *Dr. R. Maire Iter Maroccanum XXIX: n°420* (MPU-MAIREj). The lectotype designated is the only specimen of the sheet.

46. **T. huotii** Emb. & Maire in Mem. Soc. Sci. Nat. Maroc 17: 45 (1928). **Lectotype**: in MPU-MAIRE 5864j, designated by El Oualidi & Navarro in Anales Jard. Bot. Madrid 53(2): 257-259 (1995).

-*T. rotundifolium* sensu Pau & Font Quer, in Font Quer Iter Marocc. 1927: n°514 (1928), Iter Marocc. 1929 : n°551 (1929), non *T.*

rotundifolium Schreb. (1773).

47. **T. musimonum** Humbert in Bull. Soc. Hist. Nat. Afrique N. 15: 217 (1924). **Lectotype** (here designated): Maroc: Grand Atlas Oriental Ari-Ayachi pentes rocailleuses calcaires entre le Tizi-n-Tesserdount et le culminant 3100-3400m, 29-VII-1923, *H. Humbert Plantes du Maroc 1030* (P-HUMBERT_i; isolectotypes: MPU-MAIRE_i; RAB 44530_i). The lectotype here designated is the central specimen of the sheet.

=*T. musimonum* Humbert var. *matris-filiae* Emb. & Maire in Mem. Soc. Sci. Nat. Maroc 15: 46 (1929). **Lectotype** (here designated): Maroc; Atlantis medio orient, in rupestribus calcareis montis Tichnika Lalla-Oum-el-Bent 2700-2850m, 2-VII-1927, *L. Emberger* (RAB-EMBERGER 44808_i; isolectotype MPU-MAIRE_i, P_i). The lectotype here designated is the upper specimen of the sheet. [= *T. musimonum* Humbert f. *albo-roseum* Maire in Mem. Soc. Sci. Nat. Maroc 15: 46 (1929); -*T. musimonum* Humbert f. *album* Sauvage & Vindt in Bull. Soc. Sci. Nat. Phys. Maroc. 35(4): 285 (1955) (nom. nudum)].

=*T. musimonum* Humbert var. *mesatlanticum* Emb. & Maire in Mem. Soc. Sci. Nat. Maroc 15: 47 (1929). **Lectotype** (here designated): Maroc; in Atlantis Medii Montibus Quelb er Rahal, in rupestr. calcareis, 2400-2700m corolle viride purpurea, 25-VI-1927, *Dr. R. Maire* (MPU-MAIRE_i). The lectotype designated is the only specimen of the sheet.

=*T. musimonum* Humbert var. *virescens* Maire in Mem. Soc. Sci. Nat. Maroc 2(2): 15 (1929). **Lectotype** (here designated): Maroc; Atlantis majoris ditone glaona in rupestribus arenaceis apricis Mont Agouti supra Tizi-n-Telouet 2600-2800m corolla purpurea, 7-VII-1924, *Dr. R. Maire* (MPU-MAIRE_i). [= *T. musimonum* Humbert f. *purpurea* in Mem. Soc. Sci. Nat.

Maroc 2(2): 15 (1929); =*T. musimonum* Humbert f. *rosella* Maire in op. cit.; -*T. musimonum* Humbert Maire f. *albiflorum* Sauvage & Vindt in Bull. Soc. Sci. Nat. Maroc 35: 285 (1955)(nom. nudum)]. The lectotype designated is the left big specimen with roots.

48. **T. mitecum** Ibn-Tattou & El Oualidi in Acta Bot. Malacitana (18): 154 (1993). **Holotypus**: in RAB 61811.

49. **T. cincinnatum** Maire in Bull. Soc. Sci. Nat. Maroc. 13: 272 (1934). **Lectotype** (here designated): Maroc; Jarro sur le plateau supérieur, 2400 m sol siliceux, 13-V-1933, *L. Emberger* (RAB-EMBERGER 43627_i). The lectotype here designated is the upper left specimen of the sheet. [= *T. cincinnatum* Maire var. *ghikae* Maire in Bull. Hist. Nat. Afrique N. 27(7): 254 (1936); - *T. cincinnatum* Maire f. *jahandiezii* Sauvage & Vindt in Le Botaniste, sér. L: 420 (1955)(nom. nudum.); -*Teucrium cincinnatum* Maire, Pl. Morocc. Nov.: 2 (1933) (nom. nudum)].

50. **T. grosii** Pau in Font Quer, Iter Marocc. 1927: n°515 (1928) [= *T. houtii* var. *grossi* (Pau) Font Quer in Font Quer op. cit.;]. **Lectotype**: in BC-FONT QUER 47407_i, designated by El Oualidi & Navarro in Anales Jard. Bot. Madrid 53(2): 257-259 (1995).

=*T. haenseleri* Boiss. var. *rubrovirens* Pau in Inter Marocc. 1927: n°516 (1928). **Lectotype** (here designated): Maroc in declivus calc. littoralis rhipaei, juxta Marsa Saguira (Bocoya) 50m. alt. 3-V-1927, *Dr. P. Font Quer ter Maroccanum* 1927: n°516 (BC-FONT QUER 47113_i).

51. **T. ducellieri** Batt. in Bull. Soc. Hist. Nat. Afrique N. 8: 71 (1917). **Lectotype** (here designated): Maroc; Taourirt, 7-V-1916, *Ducellier*, (MPU-MAIRE_i; sintype: P_i). The lectotype here designated is the only specimen of the sheet.

52. **T. bullatum** Coss. & Balansa in Bull. Soc. Bot. France 20: 260 (1873). **Lectotype** (here designated): Maroc; Djebel Ait- Ougourt, près de Keïra, vers 1300 mètres d' alt., V-1867, *Cosson* (P-COSSON_j; isolectotype: MPU-MAIRE_j). The lectotype here designated is the lower specimen of the sheet.

SPECIES POINTED OUT IN BIBLIOGRAPHIC REFERENCES BUT NOT PRESENT IN MOROCCO

Teucrium polium L. var. *vulgare* sensu Benth.. pointed out by Emberger & Maire from Aknoul, Asfalou and Azrou; probably *T. doumerguei* Sennen.

T. polium L. var. *purpurascens* sensu Emb. & Maire from Targuist; probably *T. capitatum* L.

T. polium L. subsp. *gnaphalodes* sensu Maire, pointed out by Maire from L'Oued Ksob to L'East of Mogador; probably *T. polium* s. l.

ACKNOWLEDGEMENTS. The authors wish to express their special gratitude to Dr. Salvador Talavera (Universidad de Sevilla, Spain) for his comments on this sujet, contribution to the elaboration of this article and his appreciated corrections. To Dr. Baltasar Cabezedo (Universidad de Málaga, Spain) for his continuous help and to Dr. J. M. Monserrat (Jardín Botánico de Montjuïc of Barcelona, Spain), Dr. Ph. Morat (Muséum National D' Histoire Naturelle of Paris, France), Dr. S. Pasch (Institut de Botanique of the Université Montpellier II, France), and Dra. L. Forrest, Dr. N. Turland and Dr. S. Cafferty (Linnaean Typification Project of the Natural History Museum of London, U.K.) for their support on sending Herbarium material and references.

REFERENCES

- BALL, J. -1878- Spicilegium Florae Maroccae. *J. Linn. Soc* 16: 281-772 (1877-1878).
- BATTANDIER, J.A. -1917- Note sur un nouveau *Teucrium* de la flore marocaine. *Bull. Soc. Hist. Nat. Afrique N.* 8: 71. 1917.
- BATTANDIER, J.A. & L.C. TRABUT -1890- *Flore de l'Algerie et catalogue des plantes du Maroc, I. Dicotylédones.* 872 p. Alger, Jourdan. (1888-1890).
- COHEN, E. -1956- Contribution à l'étude des *Teucrium* marocains de la section *Polium*. *Trav. Inst. Sci. Chérifien. Sér. Bot.* 9, 88p.
- COSSON, E. -1873- *Species novae maroccae* (serie prima). *Bull. Soc. Bot. France* 20. 239-261.
- COSSON, E. -1881- *Compendium Florae atlanticae seu methodica plantarum omnium in Algeria... (Flore des Etats barbaresques: Algérie, Tunisie, Maroc)*, 1. Paris, Masson.
- DEFONTAINES, A. R. -1798- *Flora Atlantica*, 2. Paris. 923 p.
- EL OUALIDI, J. -1987- Approche de l'étude biosystématique des *Teucrium* de la section *Polium* (Lamiaceae) du Maroc. Contribution à la "Flore Pratique du Maroc". DEA Sciences de l'Évolution et Écologie, USTL, 91p.
- EL OUALIDI, J. -1991- *Biosystématique et taxinomie des Teucrium de la section Polium (Lamiaceae) dans le bassin méditerranéen occidental. Différents aspects de la variation au Maroc, en France et en Espagne.* Thèse Doct., USTL., Montpellier II, 220p.
- EL OUALIDI, J. & M. IBN TATTOU -1993- Une nouvelle espèce du genre *Teucrium* section *Polium*, endémique du Maroc: *Teucrium mitecum* Ibn Tattou & El Oualidi in *Acta Bot. Malacitana* 18: 153-162.
- EL OUALIDI, J. & T. NAVARRO. -1995- Position taxinomique du complexe *Teucrium houtii-Teucrium grosii* dans le rif marocain (Lamiaceae). *Anales Jard. Bot. Madrid* 53(2): 257-259.
- EL OUALIDI, J., J. MATHEZ & S. PUECH. -1997a- Biosystématique et variation géographique: le complexe *T. huotii* Emb. & Maire (Labiatae) au Maroc. *Candollea* 52(1): 59-86.
- EL OUALIDI, J., J. MATHEZ & T. NAVARRO -1997b- Contribution à la connaissance des *Teucrium* sect. *Polium* (Labiatae) du Maroc: le complexe de *T. chlorostachyum*. *Fl. Medit.* 7: 21-26.
- EMBERGER, L & R. MAIRE -1927- Spicilegium Rifanum. *Mém. Soc. Sci. Nat. Maroc* 17: 45-46.
- EMBERGER, L & R. MAIRE -1941- *Catalogue des*

- plantes du Maroc*, 4. Suppléments aux vols. 1, 2 & 3. Alger, Minerva.
- FONT QUER, P. -1928- *Iter maroccanum* 1927. Etiquetas numeradas con diagnosis de novedades sobre las etiquetas.
- FONT QUER, P. -1932- *Iter Maroccanum* 1930. Etiquetas numeradas con diagnosis de novedades sobre las etiquetas.
- HUMBERT, H. -1924- Végétation du Grand Atlas marocain oriental: Exploration botanique de l' Ari Ayachi. *Bull. Soc. Hist. Nat. Afrique N.* 15. 217.
- JAHANDIEZ, E. & R. MAIRE. -1934- *Catalogue des Plantes du Maroc*. Alger. Minerva.
- KÄSTNER, A. -1989- Übersicht zur systematischen Gliederung der Gattung *Teucrium* L. *Biocosme Méditerranéenne* 6: 63-78. Nice
- LITARDIÈRE, R. de & R. MAIRE -1921- Contribution à l'étude du Grand Atlas. *Mém. Soc. Sci. Nat. Maroc* IV n°1 20.
- MAIRE, R. -1929a- Contribution à l'étude de la flore de l'Afrique du Nord, fasc. 15 (contr. 627) *Mém. Soc. Sci. Nat. Maroc* 21: 15.
- MAIRE, R. -1929b- Contribution à l'étude de la flore de l'Afrique du Nord, fasc. 16 (contr. 727) *Bull. Soc. Hist. Nat. Afrique Nord* 20: 198-200.
- MAIRE, R. -1931- Contribution à l'étude de la flore de l'Afrique du Nord, fasc. 17 (contr. 893); fasc. 18 (contr. 1112, 1113). *Bull. Soc. Hist. Nat. Afrique Nord* 22: 62-312.
- MAIRE, R. -1932- Contribution à l'étude de la flore de l'Afrique du Nord, fasc. 19 (contr. 1320, 1321, 1322, 1323). *Bull. Soc. Sci. Nat. Afrique Nord* 23: 208-211.
- MAIRE, R. -1933- Contribution à l'étude de la flore de l'Afrique du Nord, fasc. 20 (contr. 1482). *Bull. Soc. Sci. Nat. Afrique Nord* 24: 297-300.
- MAIRE, R. -1939- Contribution à l'étude de la flore de l'Afrique du Nord, fasc. 27 (contr. 2818,2819). *Bull. Soc. Sci. Nat. Afrique Nord* 30: 297-300.
- NAVARRO, T. & J. EL OUALIDI -1996- Systematic position of *Teucrium tananicum* Maire (Lamiaceae), rare endemic species from The Moroccan High Atlas. *Acta Bot. Malacitana* 21: 281-282.
- NAVARRO, T. & J.L ROSÚA -1990- Tipificación de *Teucrium polium* L. (Lamiaceae) *Anal. Jard. Bot. Madrid* 47(1): 35-41.
- NAVARRO, T. & B. CABEZUDO -1997- Dos novedades del género *Teucrium* L. (Lamiaceae) para la Flora Europea. *Acta Bot. Malacitana* 22: 249-250.
- PAU, C. -1924- Plantas del Norte de Yebala (Marruecos). *Mem. R. Soc. Esp. Hist. Nat.* 12: 263-401.
- SAUVAGE, Ch. & J. VINDT -1955- Synopsis du genre *Teucrium* sect. *Polium* au Maroc. *Bull. Soc. Sc. Nat. Phy. du Maroc* 35: 283-293.
- SAUVAGE, Ch. & J. VINDT -1965- Synopsis du genre *Teucrium* sect. *Polium* au Maroc (suite et fin). *Naturalia Monsp.* 16: 195-200.
- SAUVAGE, Ch. & J. VINDT -1967- Révision de l'Herbier de l'Institut Scientifique Chérifien. Notes critiques. *Le Botaniste*, sér. L: 415-436.
- SENNEN, E.C. -1936- *Diagnoses des nouveautés parues dans les exsiccata Plantes d'Espagne et du Maroc de 1928 à 1935*. Ed. Anglada. Vic. 308p.

Aceptado para su publicación en Junio de 1997

Dirección de los autores. T. NAVARRO: Dpto. Biología Vegetal. Facultad de Ciencias. Universidad de Málaga. 29071, Málaga (España); E-mail:Endemico@uma.es. J. EL OUALIDI: Institut Scientifique. Université Mohammed V. Rabat (Maroc).