

***Thesium* in Flora Europaea (1964) and today**

***Thesium* ve Flora Europaea (1964) a dnes**

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HENDRYCH R. (1976): *Thesium* in Flora Europaea (1964) and today. — Preslia, Praha 48 : 107—112.

A continuous study of the genus *Thesium* led to the discovery of several new species, likewise from Europe, which could not be included in the account of the genus in the first volume of Flora Europaea (*T. corsalpinum* HENDRYCH, *T. sommierii* HENDRYCH, *T. hispanicum* HENDRYCH, *T. kynnosum* HENDRYCH and *T. macedonicum* HENDRYCH). It will be also necessary to add *T. dollineri* subsp. *moesiacum* (VEL.) STOJ. et STEFANOV from Bulgaria. The knowledge of the distribution of the other species has changed or has been defined with more precision. Thus it was necessary to add: *T. arvense* (Turkey), *T. bavarum* (Albania), *T. bergeri* (Yugoslavia), *T. dollineri* (Moldavia and southern and central Ukraine), *T. divaricatum* (Sardinia and probably also Switzerland) and countries where the occurrence of the species has been proved. On the contrary, it is necessary to omit: *T. alpinum* (Corsica), *T. italicum* (Corsica), *T. rostratum* (Romania), *T. divaricatum* (Romania), *T. bavarum* (Poland), and *T. humile* (France). The amended key to 24 species recognized at the present time is provided.

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Since 1964, when my account of the European species of the genus *Thesium* (HENDRYCH 1964a : 70—72) was published in the first volume of Flora Europaea, the knowledge of the genus has changed considerably. A continuous study¹⁾ also led to the description of five new species. In many cases, the knowledge of the distribution of some species has also changed or has been defined with more precision. For the above reasons I decided to publish a brief supplement and corrections considering the genus as against Flora Europaea. The form chosen shall render the easiest and most apparent comparison possible. Therefore, it is sometimes rather laconic, maintaining the intentions and style of the mentioned work.

Although it may have been convenient to change also the order of species as against the account in Flora Europaea, I have maintained the original sequence, in order to make the comparison easier, as has been mentioned above. Otherwise, according to my results (HENDRYCH 1972a : 351—354), the sequence of the European species, based on their affinity, is as follows: *T. ebracteatum*, *T. tinophyllum*, *T. bavarum*, *T. procumbens*, *T. bergeri*, *T. divaricatum*, *T. humifusum*, *T. italicum*, *T. arvense*, *T. dollineri*, *T. brachyphyllum*, *T. parnassi*, *T. sommierii*, *T. kynnosum*, *T. hispanicum*, *T. humile*, *T. macedonicum*, *T. auriculatum*, *T. kernerianum*, *T. pyrenaicum*, *T. alpinum*, *T. corsalpinum* and *T. rostratum*.

The intentions of Flora Europaea should be complemented by the following references to source literature:

Literature: R. Hendrych, *Acta Horti bot. Pragen.* **1963** : 33—46 (1963);

¹⁾ The herbarium collections consulted include BG, BP, BPÜ, BR, BRA, BRNM, BRNU, BRSL, C, CL, DE, E, FI, G, GB, GOET, GZU, HAL, JE, KRA, L, LD, LE, M, MA, MW, P, POZ, PR, PRC, S, SARA, SLO, TUB, W, WA, WU and ZA. The abbreviations used follow Index herbariorum.

Acta Univ. Carol., Biol. **1966** : 95—105 (1966); *ibidem* **1966** : 107—138 (1966); *ibidem* **1968** : 243—262 (1969); *ibidem* **1969** : 93—117 (1969); *ibidem* **1969** : 119—170 (1969); *ibidem* **1970** : 293—358 (1972); *ibidem* **1970** : 359—382 (1972); *Preslia* **41** : 229—249 (1960).

With the new species added, the indented key to the determination goes as follows:

- 1 Bracteoles absent
 - 2 Stock slender, stoloniferous; persistent perianth shorter than nut **3. ebracteatum**
 - 2 Stock thick, not stoloniferous; persistent perianth 2—3 times as long as nut **4. rostratum**
- 1 Two bracteoles present
 - 3 Plants puberulent-hispid **16b. macedonicum**
 - 3 Plants completely glabrous
 - 4 Persistent perianth longer, equalling or at utmost 2 times shorter than nut
 - 5 Persistent perianth 2—3 times as long as nut, usually 4-lobed **1. alpinum**
 - 5 Persistent perianth 2 times shorter than nut or equalling it, usually 5-lobed or rarely 4-lobed
 - 6 Persistent perianth usually \pm equalling nut; inflorescence spreading **2. pyrenaicum**
 - 6 Persistent perianth 2 times shorter than nut; inflorescence subsecund **1b. corsalpinum**
 - 4 Persistent perianth 2 times or much shorter than nut
 - 7 Small but prominent extra lobes of the disc present between persistent perianth lobes
 - 8 Stoloniferous; inflorescence 2—3 cm, few-flowered, racemose; leaves usually 2 cm or less; stems mostly up to 15 cm **5. kerneranum**
 - 8 Not stoloniferous; inflorescence 5 cm or more, many-flowered, paniculate; leaves 3.5 to 5 cm; stems up to 25—30 cm **6. auriculatum**
 - 7 Small but prominent extra lobes of the disc not present between persistent perianth-lobes
 - 9 Nut reticulately veined (sometimes indistinctly so)
 - 10 Annual; stems ascending to erect, densely covered with nuts **16. humile**
 - 10 Perennial; stems procumbent to ascending, sparsely covered with nuts
 - 11 Perianth \pm infundibuliform; nut distinctly reticulately veined **15. bergeri**
 - 11 Perianth campanulate-rotate; nut indistinctly reticulately veined **17. procumbens**
 - 9 Nut only longitudinally veined
 - 12 Stoloniferous
 - 13 Stems robust, rigid; inflorescence usually a panicle; leaves mostly 3-veined **12. linophyllum**
 - 13 Stems slender and rather weak; inflorescence a raceme; leaves 1-veined
 - 14 Bract \pm equalling flower; inflorescence much compact and short **8b. hispanicum**
 - 14 Bract distinctly longer than flower; inflorescence somewhat lax and longer
 - 15 Flower shortly stalked; stems mostly 10—20 cm **9. italicum**
 - 15 Flower subsessile; stems mostly (3) 5—10 cm
 - 16 Fruit-bearing branches (at least in the lower part of the inflorescence) mostly 3 mm or longer **8. parnassi**
 - 16 Fruit-bearing branches very short or none, 0—1.5 mm **8c. kynosum**
 - 12 Not stoloniferous
 - 17 Leaves distinctly lanceolate, distinctly 3- to 5-veined **11. bavarum**
 - 17 Leaves mostly linear-oblong, rarely narrowly sublanceolate to linear, 1-veined (rarely and indistinctly 3-veined)
 - 18 Inflorescence a raceme; branches 1-flowered
 - 19 Fruiting pedicel thickened **18. brachyphyllum**
 - 19 Fruiting pedicel not thickened
 - 20 Annual or perennial; stems \pm robust, rigid; perianth infundibuliform; bracteoles conspicuously longer than nut **10. dollineri**
 - 20 Always perennial; stems thin, slender; perianth infundibuliform-campanulate; bracteoles mostly shorter than nut **8d. sommieri**
 - 18 Inflorescence variously paniculate; branches several- to many-flowered at least in lower part of the inflorescence
 - 21 Perianth infundibuliform; panicle branches racemose
 - 22 Bract usually 3—4 times as long as bracteoles **7. arvense**
 - 22 Bract 2 times as long as bracteoles **6b. refractum**
 - 21 Perianth broadly campanulate; panicle branches often paniculate
 - 23 Stems usually more than 20 cm, ascending to erect, robust, rigid; bract, bracteoles and ultimate branches not scabrid **13. divaricatum**

1. T. alpinum L. Emend: *C. and S. Europe, mainly in the mountains; S. Sweden and envir. of Pskov and Valdaj-Highlands. (Caucasus and Lazistan)*. Delete: (Corse) Co.

Cf. HENDRYCH 1966b : 124–125.

1b. T. corsalpinum Hendrych, *Novit. Bot. Inst. Bot. Univ. Carol. Prag. 1964* : 21 (1964). Perennial. Stems 8–15 (20) cm, ascending, little branched. Leaves linear, 1-veined. Inflorescence a raceme, simple, subsecund. Bract 4–8 times as long as flower; bracteoles equalling flower. Perianth infundibuliform, 5 (or 4)-lobed. Persistent perianth 2 times shorter than subglobose to ellipsoidal nut. ● *Corse*. Co.

Cf. GAMISANS 1973 : 56–57

2. T. pyrenaicum Pourret

(a) Subsp. **pyrenaicum**

(b) Subsp. **grandiflorum** (Richter) Hendrych, *Novit. Botan. Inst. Bot. Univ. Carol. Prag. 1964* : 9 (1964). (*T. pyrenaicum* subsp. *alpestre* O. Schwarz). Emend: *E. Alps (extending to Engadin) and mountains of N. Jugoslavia and Velebit Mts.* Au, Ju.

Cf. HENDRYCH 1969c : 115–116.

3. T. ebracteatum Hayne in Schrader. Add: (*Envir. of Orsk in W. Sibiria*).

Cf. HENDRYCH 1969b : 238.

4. T. rostratum Mert. et Koch in Röhling. Delete: (Romania) Rm.

The record for Romania must be omitted, as it is based on spurious specimens of Schur (cf. HENDRYCH 1961 : 16, 1966a : 100).

5. T. kerneranum Simonkai. Emend: *S. Carpathians (Bucegi Mts.) and E. Carpathians (Pietrile Doamnei Mts.)*. Rm.

I succeeded in finding this species in the Pietrile Doamnei Mts. (above the city of Cimpulung Moldovenesc) in 1968 (cf. HENDRYCH 1963 : 7).

6. T. auriculatum Vandas

6b. T. refractum C. A. Meyer in Bong. et C. A. Meyer, *Verzeichniss Saisang-Nor*, 58 (1841). Perennial. Stems 10–50 cm, suberect, in the upper half much-branched. Leaves 4–7 cm, linear-lanceolate, 1-veined (rarely indistinctly 3-veined). Inflorescence paniculate. Bract 2 times as long as flower; bracteoles shorter than flowers or equalling them. Perianth infundibuliform, 5-lobed. Persistent perianth 3–4 times shorter than ellipsoidal nut. *Along the Ural-Mts., from Perm to Orenburg*. Rs (C). (*Sibiria and Central Asia*).

7. T. arvense Horvátovszky. Add: (*Extending to Near East and Songoria*) and (Turkey) Tu.

Cf. HENDRYCH 1969a : 254–255.

8. T. parnassi A. DC. in DC.

8b. T. hispanicum Hendrych, *Folia Geobot. Phytotax. Bohemoslov.* 1 : 74 (1966). Perennial; with long stolons. Stems up to 7 cm, shortly ascending,

simple. Leaves up to 1 cm, narrowly-oblong, 1-veined. Inflorescence simple, racemose, short, few-flowered; branches 1-flowered. Bracts as long as flower; bracteoles shorter than flower. Perianth infundibuliform-campanulate, 5-lobed. (Nut unknown¹.) ● *Mts. Picos de Europa (Cantabria)*. Hs.

8c. *T. kyrnosum* Hendrych, *Novit. Bot. Inst. Bot. Univ. Carol. Prag.* **1964**: 21 (1964). Perennial. Stems 5—10 cm, ascending, simple. Leaves 1,5—2,5 cm, linear, 1-veined. Inflorescence racemose to subspicate, few-flowered. Bract 5—7 times as long as flower, bracteoles subequalling flower. Perianth campanulate-infundibuliform, 5-lobed. Nut ellipsoidal to globose-ellipsoidal, 4 times as long as persistent perianth. ● *Corse*. Co.

Cf. GAMISANS 1973 : 56—57.

8d. *T. sommieri* Hendrych, *Prestlia* **36** : 118 (1964). Perennial; not stoloniferous. Stems 10—20 cm, shortly ascending to suberect, simple, weak. Leaves 1—2.5 cm, oblong to sublanceolate, 1-veined. Inflorescence simple, racemose, rather few-flowered; branches 1-flowered. Bract twice as long as flower; bracteoles shorter than flower. Perianth infundibuliform-campanulate, 5-lobed. Nut ellipsoidal, 4 times as long as the persistent perianth. ● *Apuane Alps, Appennino Lucchese and Pistoise*. It.

Cf. FERRARINI 1967 : 369.

9. *T. italicum* A. DC. in DC. Emend: ● *Sardegna (and ins. Tavolara)*. Sa. Delete: (Corse) Co.

Cf. HENDRYCH 1964b : 19—20.

10. *T. dollineri* Murb. Add and emend: ● *C. E. and S. E. Europe*. Au, Bu, Cz, Hu, Ju, Rm, Rs (W, K).

1 Annual

(a) subsp. **dollueri**

1 Perennial

2 Leaves thin, distinctly 1-veined

(b) subsp. **simplex**

2 Leaves rigid, thickened, indistinctly 1-veined

(c) subsp. **moesiacum**

(a) Subsp. **dollineri**. Emend: *West and central part of the range of species*. Au, Bu, Cz, Hu, Rm.

(b) Subsp. **simplex** (Velen.) Stoj. et Stefanov. Delete: (incl. *T. moesiacum* Velen.). Emend: *Main part of the range of the species*. Au, Bu, Cz, Hu, Ju, Rm, Rs (W, K).

Add:

(c) Subsp. **moesiacum** (Velen.) Stoj. et Stefanov, *Fl. Balg.*, ed. 2, 312 (1933). Perennial. Stems several or many, simple. Leaves rigid, thickened, indistinctly 1-veined. *Bulgaria*. Bu.

Cf. HENDRYCH 1972b : 368—381.

11. *T. bavarum* Schrank. Emend: *C. and S. E. Europe, Italy, Balkan peninsula. (Bithynia)*. Add: (Albania) Al. Delete: (Poland) Po.

Cf. HENDRYCH 1969d : 165.

12. *T. linophyllon* L. Add: (Sign of endemic to Europe.) ●

¹) The nut may be expected to be longitudinally veined, with persistent perianth 3—4 times shorter than it (see the indented key).

13. *T. divaricatum* Jan ex Mert. et Koch in Röhling. Add: $2n=8$. Delete: (Romania) Rm. and (Crete) Cr. Add: (Sardinia) Sa, (? Switzerland) ?He. (*Asia Minor, Morocco and Algiers.*)

Cf. FAVARGER 1966 : 58, 1969 : 14 and GREUTER 1974 : 139. From Sardinia, I know a specimen "Angoustrina, 1400 m s. m. — leg. Semmen" (KRA). Topographically, the specimen denoted as "Helvetia: Haut-Bugey: Env. d'Evosges in canton St. Kambert — leg. J. Briquet" (G) is still not quite clear to me. Should it prove referable to the Swiss territory, the species is new for the flora of Switzerland. Reports of *T. divaricatum* from Romania (e.g. HEUFFEL 1858 : 191) are erroneous or even spurious specimens of Schur. This is the case of a specimen denoted by Schur as „Tolzenburg in Siebenbürgen, Juni 1850 — leg. Schur, sub *T. divaricato*, no 3440" (P). The nearest place from where the species is known, is the town of Balčik in northern Bulgaria (leg. C. Guttman, CL).

14. *T. humifusum* DC. in Lam. et DC. Add: (? Corse) ?Co.

From Corsica I saw a specimen denoted only as "Corse — leg. Soleroil" (P). The possibility of a genuine, albeit sporadical occurrence on the island is not excluded.

15. *T. bergeri* Zucc. Add and emend: *S. part of Balkan peninsula; Aegean region.* Al, Cr, Gr, Ju, Tu. (*Asia Minor to Palestina and Transjordania.*)

The occurrence of the species in Jugoslavia has been proven. An example is the specimen "Macedonia, Klimra ad Drenovo, situ sept.-or. a Prilep. — leg. Vandas" (PRC, SARA).

16. *T. humile* Vahl. Emend: *S. parts of Europe.* Bl, Co, Cr, Gr, Hs, It, Ju, Lu, Sa, Si. (*Mediterranean region and Canary Islands.*) Delete: (? France) ?Ga.

The record for France is to be omitted completely, because, surprisingly, the plentiful material available to me yielded no supporting evidence.

16b. *T. macedonicum* Hendrych, *Biološ. Glasnik* 17 : 13 (1964). Perennial, not stoloniferous; whole plant puberulent-hispid. Stems 7—15 cm, prostrate to suberect, unbranched. Leaves linear, 1—2.5 cm, 1-veined. Inflorescence racemose to subspicate, almost many-flowered; branches 1- or 2-flowered. Bract 5—7 times as long as flower; bracteoles equalling flower. Perianth subcampanulate, 5-lobed. Nut ellipsoidal, longitudinally and indistinctly subreticulately veined, 5—6 times as long as persistent perianth, likewise puberulent-hispid. ● *Nidže planina Mts. (Macedonia.)* Ju.

17. *T. procumbens* C. A. Meyer. Add: (*Caucasus to Armenia and Azerbajdzan.*)

18. *T. brachyphyllum* Boiss. Emend: *Mountains of Krym.* Rs (K). (*Asia Minor to Dzvachetia.*)

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SOUHRN

Pojednání je souborem doplňků a oprav zpracování rodu *Thesium* v prvním svazku díla *Flora Europaea* (1964). Vedle začlenění později mnohdy popsaných nových druhů (*T. corsalpinum*, *T. hispanicum*, *T. kynnosum*, *T. sommierii* a *T. macedonicum*) jsou zahrnuta upřesnění rozšíření většiny ostatních druhů tohoto rodu. Mezi zástupce květeny Evropy je nutné započítat i *T. dollineri* subsp. *moesiacum* z Bulharska. Z dalších změn je možné připomenout: U *T. arvense* nutno doplnit evropské Turecko, u *T. dollineri* subsp. *simplex* Moldavii, jižní (včetně Krymu) až střední

Ukrajinu, u *T. divaricatum* Sardinii a asi i Švýcarsko, u *T. bavarum* Albánii a u *T. bergeri* Jugoslavií. Studium obsáhlého materiálu vede naopak k vypuštění Korsiky u *T. italicum*, Rumunska u *T. rostratum* a *T. divaricatum*, Polska u *T. bavarum* a Francie u *T. humile*. O nové druhy je také doplněný klíč ke všem dnes známým druhům (celkem 24) evropské květeny z tohoto rodu.

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