

Electronic Appendix 1. – Summary of nomenclature [accepted name according to Euro+Med (2006–2014), synonymes]; information on discriminate characters (DCH) and type locality/localities (LT) given in original literature for particular subspecies of the *Tephroseris longifolia* agg.; and comparison of discriminate characters of subspecies/morphotypes from the most important floras and this study (based on the 5th and 95th percentiles, see Electronic Appendix 1, 2).

Summary of nomenclature, discriminate characters (DCH) and type localities (LT)	Comparison of discriminate characters			
	Chater & Walters (1976): Europe	Pignatti (1982): Italy	Fischer et al. (2008): Austria	This study
<p><i>Tephroseris longifolia</i> subsp. <i>moravica</i> Holub (Tlm)</p> <p>DCH: differ from TLL by: absence or only rare presence of persistent basal parts of hairs at stem LT: Bíle Karpaty, northern slope of Tratihušť Hill (708 m) above the village of Brumov-Bylnice; 650–700 m s. m. (Holub 1979)</p>				<p><u>stems</u>: 39-84 cm, 7-17 stem leaves, moderately hairy; <u>stem leaves</u>: upper surface moderately hairy rarely with persistent basal base of hairs, lower surface often glabrescent; <u>basal leaves</u>: lanceolate to elliptic-lanceolate lamina (5.4-15.4 x 1.1-3.7 cm), with no, short or long petiole (up 8.1 cm), margin dentate, depth of teeth up to 2.1 mm; <u>middle leaves</u>: linear-lanceolate (5.3-11.4 x 0.7-2.4 cm), base sessile to auriculate, margin entirely to remotely dentate, depth of teeth up to 1.1 mm; <u>synflorescence</u>: lax corymb-like (length of pedicels 2.1-7.2 cm), terminal capitulum 5-17 (2.5-4.3 cm in diameter), lateral capitula 0-8 (2.5-4.0 cm in diameter); <u>involucre</u>: terminal 5.1-7.9 x 6.1-9.3 mm, lateral 4.9-6.8 x 5.1-7.4 mm; <u>involucral bracts</u>: moderately hairy; <u>achenes</u>: 2.3-3.3 x 0.5-0.8 mm, predominantly glabrescent</p>
<p><i>Tephroseris longifolia</i> (Jacq.) Griseb. & Schenk subsp. <i>longifolia</i> (TLL)</p> <p>≡ <i>Cineraria longifolia</i> Jacq. ≡ <i>Senecio longifolius</i> (Jacq.) Dalla Torre = <i>Cineraria ovirensis</i> W. D. J. Koch = <i>Senecio ovirensis</i> (W. D. J. Koch) DC. = <i>Tephroseris ovirensis</i> (W. D. J. Koch) B. Nord. = <i>Cineraria alpestris</i> W. D. J. Koch = <i>Senecio alpestris</i> DC. = <i>Tephroseris alpestris</i> Griseb. & Schenk = <i>Cineraria alpestris</i> subsp. <i>ovirensis</i> (W. D. J. Koch) Nyman = <i>Senecio ovirensis</i> subsp. <i>alpestris</i> (Griseb. & Schenk) Hegi</p> <p>DCH: differ from <i>T. integrifolia</i> by long-oblong leaves, basal leaves narrowed in petiole, dentate margin of leaves LT: not specified (Jacquin 1774)</p>	<p><u>stems</u>: up to 60 cm, more or less glandular throughout; <u>basal leaves</u>: 4-20 x 1.5-3.5 cm, usually oblong to elliptic-lanceolate gradually narrowed to subcordate base, coarsely dentate, with long or short petiole, arachnoid-tomentose and usually glabrescent; <u>synflorescence</u>: capitula 3-10, 30-40 mm in diameter, in a usually lax corymb, pedicels mostly at least twice as long as involucre; <u>involucre</u>: 8-12 mm, arachnoid-tomentose but often glabrescent <u>involucral bracts</u>: c. 21, often purplish at apex; <u>ligules</u>: 12-15 mm; <u>achenes</u>: glabrous (or sparsely hairy and glabrescent)</p>	<p><u>stems</u>: 20-60 cm, hispid due to persistent basal base of hairs; <u>basal leaves</u>: erect, lamina dentate, obtuse base, petiole longer than lamina; <u>synflorescence</u>: pedicels green and hispid due to persistent basal base of hairs; <u>involucre</u>: <u>involucral bracts</u>: 21, green rarely red, hispid due to persistent basal base of hairs; <u>ligules</u>: ; <u>achenes</u>: glabrous</p>	<p><u>stems</u>: 20-60 cm; <u>stem leaves</u>: both surfaces tomentose to arachnoid (mainly upper surface), glandular <u>basal leaves</u>: lamina ovate to elliptic-lanceolate narrowed to winged petiole, truncate, rounded or cuneate (only very rarely subcordate) base, margin coarsely dentate; <u>synflorescence</u>: capitula 3-15, (2.5-) 3.0-4.0 cm in diameter; <u>involucral bracts</u>: 21, often with red tips; <u>achenes</u>: glabrous (or sparsely hairy in young stages)</p>	<p>Panonian morphotype (Tlh)</p> <p><u>stems</u>: 50-79 cm, 8-18 stem leaves, moderately hairy; <u>stem leaves</u>: upper surface moderately hairy, lower surface often glabrescent, rarely persistent basal base of hairs on both surfaces; <u>basal leaves</u>: lanceolate to elliptic-lanceolate lamina (6.2-13.1 x 1.2-2.8 cm), with no or short petiole (up 5.4 cm), margin remotely dentate, depth of teeth up to 1.5 mm; <u>middle leaves</u>: linear-lanceolate (5.1-10.3 x 0.5-1.7 cm), base sessile to auriculate, margin entirely to remotely dentate, depth of teeth up to 0.9 mm; <u>synflorescence</u>: lax corymb-like (length of pedicels 3.4-9.6 cm), terminal capitulum 5-18 (2.4-3.9 cm in diameter), lateral capitula 0-13 (2.4-3.7 cm in diameter); <u>involucre</u>: terminal 5.4-8.0 x 5.4-7.5 mm, lateral 5.1-6.5 x 4.9-6.5 mm; <u>involucral bracts</u>: moderately hairy; <u>achenes</u>: 3.1-3.7 x 0.6-0.8 mm, glabrescent</p>
				<p>Alpine morphotype (Tla)</p> <p><u>stems</u>: 35-68 cm, 5-14 stem leaves, hairy; <u>stem leaves</u>: moderately hairy, mainly on upper surface often persistent basal part of hairs; <u>basal leaves</u>: lanceolate to elliptic-lanceolate lamina (4.3-14.4 x 1.4-4.3 cm), with no, short or long petiole (up 8.7 cm), margin dentate, depth of teeth up to 2.5 mm; <u>middle leaves</u>: linear-lanceolate to lanceolate (4.8-11.6 x 0.6-3.1 cm), base sessile to auriculate, margin remotely dentate, depth of teeth up to 1.9 mm; <u>synflorescence</u>: lax corymb-like (length of pedicels 2.3-7.7 cm), terminal capitulum 4-14 (2.5-4.4 cm in diameter), lateral capitula 0-3 (2.4-4.0 cm in diameter); <u>involucre</u>: terminal 4.6-7.5 x 5.8-8.6 mm, lateral 4.0-6.3 x 4.9-6.9 mm; <u>involucral bracts</u>: moderately to very hairy; <u>achenes</u>: 2.3-4.3 x 0.3-0.7 mm, predominantly glabrescent</p>

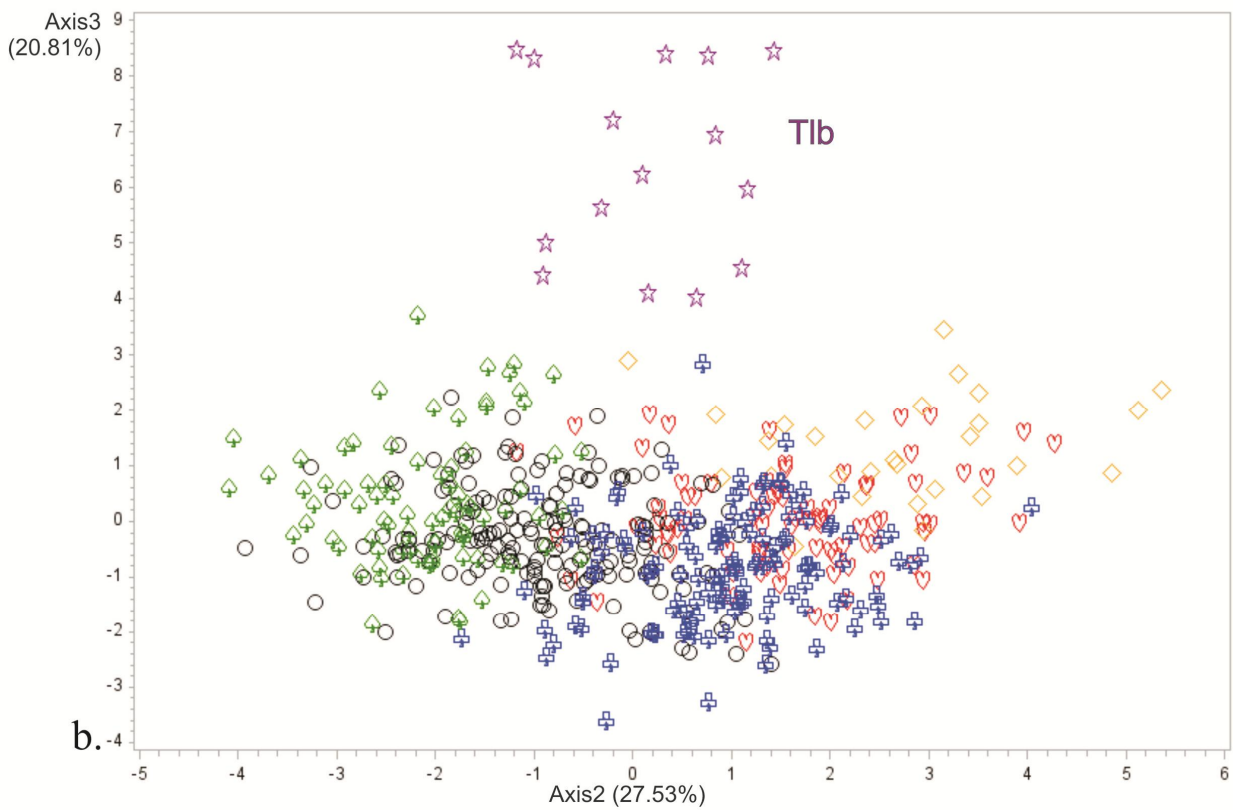
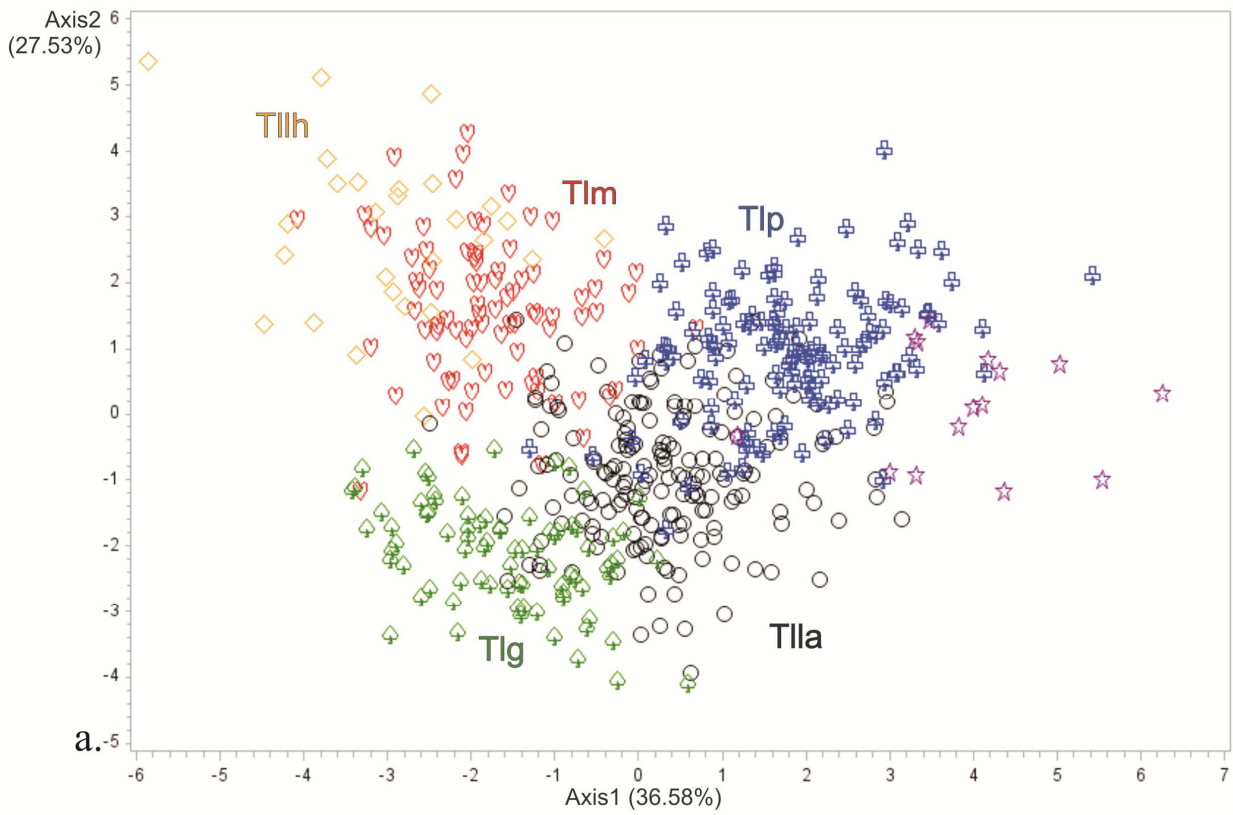
<p><i>Tephrosieris longifolia</i> subsp. <i>pseudocrispa</i> (Fiori) Greuter (Tlg)</p> <p>≡ <i>Senecio alpestris</i> var. <i>pseudocrispus</i> Fiori ≡ <i>Senecio pseudocrispus</i>(Fiori) E. Mayer ≡ <i>Tephrosieris pseudocrispa</i> (Fiori) Holub ≡ <i>Senecio rivularis</i> subsp. <i>pseudocrispus</i>(Fiori) E. Mayer ≡ <i>Tephrosieris rivularis</i> subsp. <i>pseudocrispa</i> (Fiori) B. Nord. ≡ <i>Senecio alpestris</i> var. <i>pseudocrispus</i> Fiori</p> <p>DCH: differ from <i>T. crispa</i> by narrow leaves, lamina of basal leaves non undulate-crispate, petioles 4-7cm narrowly winged; stem leaves: petioles very short; papus 1/3-1/2 of the corolla; achenes hairy LT: submontan region of Friuli, hills in the vicinity of Brazzano (100 m s. m.) and above Stretta di Pradolino near to Stupizza (470 m s. m.) (Fiori 1903)</p>	<p><u>stems</u>: 20-80 cm, subglabrous to arachnoid-tomentose; <u>basal leaves</u>: 5-15 x 2-6 cm, ovate, cordate at base, strongly dentate, petiole 1-2 times as long as lamina, more or less floccose on both surfaces but glabrescent; <u>middle and upper cauline leaves</u>: ovate to linear lanceolate, sessile, subamplexicaul; <u>synflorescence</u>: capitula 5-15, 25-35(40) mm in diameter, in a lax corymb, pedicels several times as long as involucre; <u>involucral bracts</u>: green, rarely purplish; <u>involucres</u>: 8-12 mm, glandular-hairy and sparsely arachnoid-tomentose or subglabrous; <u>ligules</u>: 15-21, 10-12(-20) mm</p>	<p><u>stems</u>: 50-90 cm, subglabrous; <u>basal leaves</u>: erect, lamina dentate, ovate, obtuse or almost truncate at the base, subglabrous; <u>middle and upper cauline leaves</u>: dentate-serate <u>synflorescence</u>: rich with pedicels elongated; <u>involucre</u>: <u>involucral bracts</u>: 21, green, subglabrous; <u>ligules</u>: ; <u>achenes</u>: hairy</p>	<p><u>stems</u>: 30-70 cm, arachnoid tomentose to glabrescence; <u>basal leaves</u>: ovate lamina, base usually cordate, dentate margin, narrowly winged or not winged petiole, petiole 1-2(-3) times as long as lamina; <u>middle and upper cauline leaves</u>: lanceolate narrowed to short and broad winged petiole (often with dentate margin) <u>synflorescence</u>: capitula 3-10(-15), pedicels several times as long as involucre; <u>achenes</u>: densely hairy</p>	<p><u>stems</u>: 38-72 cm, 6-14 stem leaves, moderately hairy; <u>stem leaves</u>: upper surface moderately hairy often with persistent basal base of hairs, lower surface often glabrescent; <u>basal leaves</u>: ovate lamina (3.6-8.7 x 1.6-5.0 cm), with long petiole (up 9.8 cm), margin dentate, depth of teeth up to 3.2 mm; <u>middle leaves</u>: linear-lanceolate to lanceolate (4.7-12.6 x 0.7-4.0 cm), base sessile to auriculate, margin remotely dentate to dentate, depth of teeth up to 2.2 mm; <u>synflorescence</u>: lax corymb-like (length of pedicels 2.0-7.7 cm), terminal capitulum 4-15 (2.5-4.0 cm in diameter), lateral capitula 0-3 (2.4-3.7 cm in diameter); <u>involucre</u>: terminal 4.3-7.8 x 6.0-9.0 mm, lateral 3.6-6.2 x 5.0-7.1 mm; <u>involucral bracts</u>: moderately hairy; <u>ligules</u>: <u>achenes</u>: 2.6-4.0 x 0.2-0.8 mm, hairy</p>
<p><i>Tephrosieris longifolia</i> subsp. <i>gaudinii</i> (Gremli) Kerguelén (Tlg)</p> <p>≡ <i>Senecio gaudinii</i> Gremli ≡ <i>Tephrosieris tenuifolia</i> (Gaudin) Holub ≡ <i>Cineraria tenuifolia</i> Gaudin ≡ <i>Senecio ovirensis</i> subsp. <i>gaudinii</i>(Gremli) Cufod. ≡ <i>Tephrosieris ovirensis</i> subsp. <i>gaudinii</i> (Gremli) B. Nord. = <i>Senecio italicus</i> Schischk.</p> <p>DCH: basal leaves obtuse dentate with long petiole, stem leaves lanceolate (Gaudini 1829); differ from <i>T. helenitisby</i> not or sparsely hairy leaves, narrowed at the base, markedly dentate and dense corymb with thicker inflorescences (Gremli 1898) LT: southern part of the Alps; on the road to Mt. Umbrail and saddle Wormsen Joch (Umbrail pass) above Bormio (Gaudini 1829); Canton of Grison, Lavirum (valley or peak or pass close to/on the broder of Switzerland and Italy) (Gremli 1898)</p>	<p><u>stems</u>: up to 90 cm, plant eglandular except in inflorescence; <u>basal leaves</u>: 4-20 x 1.5-3.5 cm, usually oblong to linear-lanceolate gradually narrowed to subcordate base, coarsely dentate, with long or short petiole arachnoid-tomentose and more or less glabrescent; <u>synflorescence</u>: capitula 5-15, 30-40 mm in diameter, in a dense corymb, pedicels mostly at least twice as long as involucre; <u>involucre</u>: 8-12 mm, arachnoid-tomentose but often glabrescent; <u>involucral bracts</u>: c. 13, green throughout; <u>ligules</u>: 6-12 mm, <u>achenes</u>: densely hairy</p>	<p><u>stems</u>: 40-60 cm, tomentose; <u>basal leaves</u>: erect, obtuse dentate, petiole usually longer than lamina; <u>middle and upper cauline leaves</u>: <u>synflorescence</u>: whole pedicels white tomentose; <u>involucral bracts</u>: c. 13, grey-tomentose; <u>achenes</u>: hairy</p>	<p><u>stems</u>: 30-80 cm; <u>basal leaves</u>: truncate, rounded or cuneate (only very rarely cordate) base; <u>synflorescence</u>: capitula 5-15, 2.0-3.0 cm in diameter, pedicels 2-3 times as long as involucre; <u>involucral bracts</u>: 13, green; <u>achenes</u>: densely hairy</p>	<p><u>stems</u>: 33-73 cm, 5-19 stem leaves, very hairy; <u>stem leaves</u>: moderately to very hairy often with persistent basal base of hairs (predominant on upper surface); <u>basal leaves</u>: lanceolate to elliptic-lanceolate (5.2-14.4 x 0.8-3.2 cm), with no, short or long petiole (up 10.0 cm), margin remotely dentate to dentate, depth of tooth up to 2.0 mm; <u>middle leaves</u>: linear-lanceolate (4.6-12.9 x 0.4-2.3 cm), base sessile to auriculate, margin remotely dentate to dentate, depth of teeth up to 1.7 mm; <u>synflorescence</u>: dense corymb (length of pedicels 1.3-5.1 cm), terminal capitulum 5-14 (2.0-3.5 cm in diameter), lateral capitula 0-2 (2.0-3.2 cm in diameter); <u>involucre</u>: terminal 5.1-11 x 6.3-9.3 mm, lateral 4.5-7.3 x 5.2-7.4 mm; <u>involucral bracts</u>: very hairy; <u>achenes</u>: 2.9-4.7 x 0.2-0.9 mm, hairy</p>

<p><i>Tephrosieris longifolia</i> subsp. <i>brachychaeta</i> Greuter (Tlb)</p> <p>≡ <i>Senecio brachychaetus</i> Cufod. ≡ <i>Tephrosieris italica</i> Holub</p> <p>DCH: leaves sharp dentate, noticeable differences in the colouring of upper and lower surface caused by hairiness: roughly hairy on the upper surface, arachnoid tomentose on the lower surface (Cufodontis 1933) LT: Alpi Apuane, below the top of Catino valley "Sagro" (Greuter 2003)</p>		<p><u>stems</u>: 30-60 cm, densely tomentose; <u>basal leaves</u>: erect; lamina ovate, 4-6 x 8-10 cm, truncate or almost subcordate at the base, regularly and deep dentate, grey-tomentose at the lower surface and glabrescent at the upper surface, petiole longer or of the same size as lamina; <u>synflorescence</u>: pedicels tomentose or subglabrous ; <u>involucral bracts</u>: 21, green; <u>achenes</u>: densely hairy</p>	<p><u>stems</u>: 70-100 cm, 8-13 stem leaves, moderately hairy mainly in lower part; <u>stem leaves</u>: upper surface moderately hairy often persistent basal base of hairs, lower surface very hairy to arachnoid (mainly on lower stem leaves); <u>basal leaves</u>: lanceolate to ovate (5.8-9.7 x 3.7-6.3 cm), with long petiole (up 12.3 cm), margin coarsely dentate, depth of teeth up to 4.1 mm; <u>middle leaves</u>: linear-lanceolate to lanceolate (10.1-17.0 x 2.8-5.5 cm), base sessile to auriculate, margin coarsely dentate, depth of teeth up to 4.3 mm; <u>synflorescence</u>: lax corymb-like (length of pedicels 3.2-8.5 cm), terminal capitulum 7-16 (3.5-4.9 cm in diameter), lateral capitula 0-11 (3.5-4.3 cm in diameter); <u>involucre</u>: terminal 6.6-10.9 x 6.0-10.0 mm, lateral 5.9-8.5 x 5.4-7.4 mm; <u>involucral bracts</u>: moderately to very hairy; <u>achenes</u>: 4.0-4.5 x 0.6-0.9 mm, hairy</p>
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References:

- Chater A. O. & Walters S. M. (1976): *Senecio* L. – In: Tutin T. G., Heywood V. H., Burges N. A., Moore D. M., Valentine D. H., Walters S. M. & Webb D. A. (eds), *Flora Europaea* 4: 191–205, Cambridge University Press, Cambridge.
- Fiori A. (1903): *Senecio* (Tourn.) L. – In: Fiori A. & Béguinot A. (eds), *Flora analitica d'Italia*, Vol 3., p. 208–221, Tipografia del Seminario, Padova.
- Fischer M. A., Oswald K. & Adler W. (2008): *Exkursionsflora für Österreich, Liechtenstein und Südtirol*, ed. 3. – Biologiezentrum der Oberösterreichischen Landesmuseen, Linz.
- Gaudini I. (1829): *Flora Helvetica*, Vol. V. – Turici, Zurich.
- Gremlin (1898): *Flore analytique de la Suisse*. – Georg & C^o, libraires-éditeurs, Bale, Genève, Lyon.
- Holub J. (1979): Some novelties of the Czechoslovak flora. – *Preslia* 51: 281–282.
- Jacquin N. (1774): *Icones Florae Austriacae*, 2. – Leopoldi Joannis Kaliwodae, Aulae imperialis typographi, Viennae.
- Pignatti S. (1982): *Flora d'Italia*, Vol. 3. – Edagricole, Bologna.

Electronic Appendix 2. – Canonical discriminant analyses CDA1 of the *Tephroses longifolia* agg. based on 525 individuals (a: first and second axis; b: second and third axis) with six groups pre-defined: *T. l.* subsp. *moravica* (Tlm, heart), *T. l.* subsp. *longifolia* - Pannonian morphotype (Tllh, diamond), *T. l.* subsp. *longifolia* - Alpine morphotype (Tlla, circle), *T. l.* subsp. *gaudinii* (Tlg, spade), *T. l.* subsp. *pseudocrispa* (Tlp, club) and *T. l.* subsp. *brachychaeta* (Tlb, star).



Electronic Appendix 3. – Results of exploratory analysis of the quantitative characters of *Tephrosia longifolia* subsp. *moravica* (Tlm), *T. l.* subsp. *longifolia* - Pannonian morphotype (Tllh), *T. l.* subsp. *longifolia* - Alpine morphotype (Tlla), *T. l.* subsp. *pseudocrispa* (Tlp), *T. l.* subsp. *gaudinii* (Tlg) and *T. l.* subsp. *brachychaeta* (Tlb). Number of investigated plants and achenes are given in the bracket, respectively. For the explanations of characters, see Table 1.

Character	Tlm (N=84/50)			Tllh (N=28/20)			Tlla (N=184/64)		
	Min (5% perc.)	Mean \pm SD	Max (95% perc.)	Min (5% perc.)	Mean \pm SD	Max (95% perc.)	Min (5% perc.)	Mean \pm SD	Max (95% perc.)
NL	7.00 (7.00)	11.26 \pm 3.25	25.00 (16.85)	8.00 (8.00)	12.14 \pm 3.33	19.00 (18.00)	3.00 (5.00)	8.73 \pm 3.09	19.00 (14.00)
SL	389.50 (439.88)	615.85 \pm 123.76	944.00 (840.44)	418.00 (498.24)	651.10 \pm 100.84	875.00 (786.95)	274.10 (350.74)	507.91 \pm 102.84	790.90 (675.46)
SLUB	367.90 (417.71)	568.90 \pm 111.05	840.60 (760.15)	308.00 (351.10)	579.60 \pm 121.44	821.20 (741.71)	202.30 (307.33)	452.42 \pm 97.81	743.60 (606.87)
SLUB/SL	0.51 (0.85)	0.93 \pm 0.07	1.00 (1.00)	0.50 (0.63)	0.89 \pm 0.12	0.98 (0.98)	0.53 (0.76)	0.89 \pm 0.08	0.98 (0.97)
NPC	3.00 (5.00)	10.10 \pm 3.94	20.00 (16.85)	5.00 (5.35)	10.54 \pm 4.27	20.00 (17.65)	4.00 (4.00)	8.55 \pm 3.04	20.00 (14.00)
NSC	0.00 (0.00)	1.86 \pm 3.17	17.00 (7.85)	0.00 (0.00)	3.00 \pm 5.91	27.00 (12.55)	0.00 (0.00)	0.53 \pm 1.41	10.00 (3.00)
CTD	22.40 (24.66)	33.59 \pm 5.76	51.10 (42.70)	21.40 (24.04)	32.64 \pm 4.55	40.40 (38.72)	21.20 (25.49)	33.96 \pm 5.65	47.60 (44.31)
CTDD	5.00 (5.92)	9.38 \pm 1.73	15.80 (11.60)	7.50 (7.60)	9.51 \pm 1.36	12.00 (12.00)	4.50 (5.92)	8.70 \pm 1.73	13.90 (11.20)
CTIL	4.80 (5.10)	6.25 \pm 0.83	9.00 (7.90)	5.00 (5.41)	6.99 \pm 0.86	8.50 (8.00)	3.70 (4.60)	5.99 \pm 0.89	8.20 (7.50)
CTIW	5.60 (6.10)	7.34 \pm 0.98	11.40 (9.34)	5.40 (5.44)	6.48 \pm 0.78	9.20 (7.47)	3.00 (5.80)	7.15 \pm 0.93	9.60 (8.60)
PTL	7.60 (12.52)	25.36 \pm 10.97	63.50 (48.28)	12.60 (13.07)	33.39 \pm 17.58	91.80 (61.76)	7.60 (12.12)	27.07 \pm 12.32	98.90 (49.04)
CLD	20.57 (24.54)	31.06 \pm 4.85	44.30 (39.79)	23.30 (23.56)	30.73 \pm 4.25	39.27 (36.60)	22.57 (24.23)	30.91 \pm 4.77	47.87 (40.18)
CLDD	4.83 (5.78)	8.66 \pm 1.35	11.57 (10.42)	6.10 (7.01)	9.01 \pm 1.40	11.90 (11.45)	4.77 (5.92)	7.84 \pm 1.26	12.40 (10.02)
CLIL	4.77 (4.91)	5.63 \pm 0.59	8.00 (6.80)	5.03 (5.13)	5.97 \pm 0.49	7.07 (6.53)	3.73 (3.99)	5.20 \pm 0.68	6.97 (6.30)
CLIW	5.03 (5.07)	6.16 \pm 0.76	9.17 (7.40)	4.80 (4.89)	5.48 \pm 0.52	6.83 (6.52)	4.37 (4.93)	5.99 \pm 0.66	8.20 (6.93)
PLL	13.50 (20.70)	39.72 \pm 15.79	106.47 (71.32)	24.57 (34.01)	60.88 \pm 22.51	116.87 (96.49)	14.30 (22.94)	42.59 \pm 17.21	120.20 (77.37)
CTIL/CTIW	0.59 (0.71)	0.86 \pm 0.10	1.10 (1.02)	0.79 (0.82)	1.09 \pm 0.14	1.32 (1.26)	0.54 (0.65)	0.85 \pm 0.16	2.20 (1.08)
CLIL/CLIW	0.70 (0.76)	0.92 \pm 0.10	1.13 (1.10)	0.87 (0.92)	1.10 \pm 0.12	1.33 (1.28)	0.62 (0.69)	0.87 \pm 0.11	1.15 (1.06)
LLNT	0.00 (4.30)	14.49 \pm 5.87	29.00 (22.00)	0.00 (0.00)	10.32 \pm 7.70	26.00 (23.90)	0.00 (9.00)	17.15 \pm 5.59	34.00 (27.00)
LMNT	0.00 (0.00)	9.70 \pm 9.63	41.00 (26.70)	0.00 (0.00)	1.75 \pm 3.93	16.00 (9.30)	0.00 (0.00)	12.86 \pm 9.86	40.00 (27.00)
LLL	43.20 (53.52)	103.52 \pm 34.12	204.40 (154.19)	57.50 (62.20)	95.55 \pm 22.63	141.50 (131.38)	28.10 (42.78)	82.37 \pm 31.79	189.30 (144.41)
LLW	6.29 (11.28)	23.68 \pm 7.21	38.60 (37.03)	9.40 (11.76)	20.28 \pm 5.17	29.20 (27.78)	10.65 (13.86)	26.17 \pm 8.45	55.00 (43.33)
LLD	16.10 (27.85)	69.75 \pm 29.15	155.70 (119.49)	29.30 (31.07)	63.61 \pm 19.61	98.40 (93.81)	5.40 (17.05)	49.98 \pm 26.71	136.40 (101.32)
LLPL	0.00 (0.00)	35.39 \pm 28.43	87.10 (81.11)	0.00 (0.00)	24.18 \pm 22.96	65.40 (53.86)	0.00 (0.00)	32.22 \pm 32.13	103.40 (87.07)
LLBA	2.00 (5.00)	21.96 \pm 17.59	68.00 (56.70)	6.00 (7.05)	20.04 \pm 13.82	64.00 (50.65)	7.00 (8.15)	32.67 \pm 19.02	92.00 (64.00)
LLTD	0.00 (0.22)	1.04 \pm 0.53	2.40 (2.10)	0.00 (0.00)	0.72 \pm 0.51	1.80 (1.50)	0.00 (0.60)	1.29 \pm 0.66	4.20 (2.49)
LML	39.80 (52.69)	80.90 \pm 22.19	159.50 (113.96)	42.10 (50.73)	70.06 \pm 18.12	113.70 (103.06)	37.10 (48.51)	78.39 \pm 21.19	170.70 (116.34)
LMW	5.10 (6.50)	13.77 \pm 5.36	28.80 (24.47)	4.40 (5.25)	10.74 \pm 4.85	27.30 (17.35)	3.60 (6.07)	16.52 \pm 8.02	48.40 (31.41)
LMD	4.80 (9.36)	44.40 \pm 19.20	99.00 (70.56)	5.20 (6.05)	30.29 \pm 20.88	71.50 (66.72)	6.80 (22.70)	44.66 \pm 15.00	88.30 (72.02)
LMBA	3.00 (13.60)	53.84 \pm 26.88	156.00 (113.90)	17.00 (23.00)	49.18 \pm 20.02	101.00 (79.95)	2.50 (7.65)	47.47 \pm 17.19	101.00 (69.85)
LMTW	0.00 (0.00)	1.66 \pm 1.52	5.20 (3.69)	0.00 (0.00)	0.58 \pm 1.19	3.90 (3.19)	0.00 (0.00)	2.27 \pm 1.77	9.00 (4.99)
LMTD	0.00 (0.00)	0.43 \pm 0.42	1.30 (1.10)	0.00 (0.00)	0.16 \pm 0.35	1.30 (0.87)	0.00 (0.00)	0.73 \pm 0.64	4.00 (1.87)
LLW/LLL	0.06 (0.13)	0.25 \pm 0.11	0.59 (0.44)	0.14 (0.14)	0.22 \pm 0.08	0.46 (0.36)	0.13 (0.17)	0.35 \pm 0.14	0.83 (0.61)
LLD/LLL	0.31 (0.45)	0.66 \pm 0.12	0.85 (0.82)	0.47 (0.50)	0.66 \pm 0.10	0.80 (0.78)	0.18 (0.35)	0.58 \pm 0.14	0.88 (0.77)
LLPL/LLL	0.00 (0.00)	0.44 \pm 0.40	1.44 (1.30)	0.00 (0.00)	0.28 \pm 0.28	0.81 (0.70)	0.00 (0.00)	0.53 \pm 0.55	2.51 (1.44)
LMW/LML	0.07 (0.11)	0.17 \pm 0.05	0.35 (0.25)	0.07 (0.09)	0.15 \pm 0.05	0.32 (0.24)	0.07 (0.10)	0.21 \pm 0.07	0.55 (0.33)
LMD/LML	0.07 (0.12)	0.55 \pm 0.20	0.83 (0.77)	0.06 (0.09)	0.42 \pm 0.24	0.84 (0.73)	0.12 (0.31)	0.57 \pm 0.13	1.09 (0.73)
AL	2.30 (2.30)	2.79 \pm 0.35	3.55 (3.33)	3.00 (3.05)	3.33 \pm (0.23)	3.90 (3.67)	2.01 (2.33)	3.16 \pm (0.60)	5.00 (4.30)
AW	0.40 (0.50)	0.65 \pm 0.12	0.89 (0.84)	0.56 (0.59)	0.67 \pm (0.07)	0.89 (0.77)	0.30 (0.30)	0.49 \pm (0.12)	0.80 (0.69)
AW/AL	0.16 (0.18)	0.23 \pm 0.05	0.35 (0.33)	0.17 (0.18)	0.20 \pm (0.02)	0.27 (0.24)	0.07 (0.08)	0.16 \pm (0.06)	0.28 (0.26)

Character	Tlp (N=132/70)			Tlg (N=82/50)			Tlb (N=15/10)		
	Min (5% perc.)	Mean ± SD	Max (95% perc.)	Min (5% perc.)	Mean ± SD	Max (95% perc.)	Min (5% perc.)	Mean ± SD	Max (95% perc.)
NL	4.00 (6.00)	9.25 ± 2.75	19.00 (14.45)	4.00 (5.05)	10.29 ± 3.69	21.00 (18.90)	8.00 (8.00)	10.60 ± 1.96	15.00 (12.90)
SL	276.00 (367.33)	523.41 ± 112.05	941.40 (718.33)	237.80 (326.30)	512.73 ± 120.06	793.70 (730.83)	687.10 (704.32)	830.72 ± 118.91	1015.00 (1006.11)
SLUB	235.50 (326.46)	482.14 ± 103.32	809.80 (664.45)	225.10 (295.04)	478.20 ± 115.24	768.30 (686.41)	666.70 (669.01)	769.68 ± 87.15	939.00 (911.07)
SLUB/SL	0.71 (0.78)	0.92 ± 0.06	0.98 (0.97)	0.64 (0.87)	0.93 ± 0.05	0.98 (0.97)	0.77 (0.83)	0.93 ± 0.06	0.98 (0.98)
NPC	3.00 (4.00)	7.39 ± 3.53	19.00 (15.45)	4.00 (5.00)	8.74 ± 2.94	19.00 (13.95)	6.00 (6.70)	11.27 ± 3.33	18.00 (15.90)
NSC	0.00 (0.00)	0.29 ± 1.32	9.00 (3.00)	0.00 (0.00)	0.26 ± 0.75	5.00 (2.00)	0.00 (0.00)	3.13 ± 3.94	11.00 (11.00)
CTD	17.60 (25.10)	32.09 ± 4.56	46.40 (40.29)	15.50 (20.50)	26.84 ± 4.53	37.10 (34.93)	29.00 (35.30)	42.69 ± 5.38	49.00 (49.00)
CTDD	4.40 (5.40)	8.20 ± 1.74	14.40 (11.35)	4.10 (6.12)	8.27 ± 1.42	11.40 (10.49)	7.50 (7.50)	8.59 ± 0.92	10.70 (10.07)
CTIL	2.90 (4.26)	6.41 ± 1.02	9.00 (7.80)	5.00 (5.11)	6.84 ± 1.65	12.00 (11.00)	5.80 (6.64)	8.64 ± 1.45	11.45 (10.86)
CTIW	5.10 (6.00)	7.91 ± 0.95	10.40 (9.00)	4.90 (6.31)	7.80 ± 1.00	10.00 (9.30)	6.00 (6.00)	7.93 ± 1.31	10.00 (10.00)
PTL	5.70 (9.81)	27.07 ± 10.05	68.00 (38.20)	4.30 (8.90)	16.83 ± 8.41	69.60 (28.86)	12.70 (12.98)	18.62 ± 4.09	26.40 (23.67)
CLD	20.27 (24.22)	29.94 ± 4.17	42.97 (37.22)	18.52 (20.04)	25.55 ± 3.77	33.67 (31.98)	33.67 (34.88)	38.37 ± 2.72	44.80 (43.03)
CLDD	4.23 (5.73)	8.40 ± 1.44	11.13 (10.38)	5.07 (5.41)	7.65 ± 1.25	10.73 (9.56)	7.20 (7.69)	8.66 ± 0.74	10.00 (9.72)
CLIL	2.70 (3.61)	5.21 ± 0.82	7.33 (6.22)	3.87 (4.51)	5.57 ± 0.92	9.33 (7.33)	5.77 (5.88)	6.87 ± 0.83	8.60 (8.53)
CLIW	4.03 (4.95)	5.99 ± 0.71	8.00 (7.09)	4.77 (5.20)	6.17 ± 0.72	8.33 (7.39)	5.03 (5.38)	6.07 ± 0.73	8.07 (7.41)
PLL	16.87 (20.35)	45.25 ± 16.80	97.87 (77.46)	9.60 (13.15)	28.65 ± 16.82	119.87 (50.77)	24.93 (31.96)	53.94 ± 18.32	87.27 (85.07)
CTIL/CTIW	0.41 (0.62)	0.82 ± 0.13	1.09 (1.03)	0.63 (0.69)	0.88 ± 0.16	1.25 (1.20)	0.97 (0.97)	1.10 ± 0.13	1.36 (1.34)
CLIL/VLIW	0.40 (0.63)	0.87 ± 0.12	1.11 (1.00)	0.61 (0.70)	0.91 ± 0.13	1.29 (1.16)	0.95 (0.96)	1.14 ± 0.12	1.32 (1.29)
LLNT	8.00 (11.00)	18.21 ± 4.50	32.00 (26.00)	0.00 (0.00)	14.27 ± 6.54	30.00 (23.95)	12.00 (12.70)	16.60 ± 2.87	23.00 (20.90)
LMNT	0.00 (0.00)	14.82 ± 8.87	37.00 (29.00)	0.00 (0.00)	7.89 ± 8.34	29.00 (21.95)	16.00 (17.40)	21.40 ± 3.31	29.00 (26.20)
LLL	27.00 (36.10)	54.33 ± 17.19	129.30 (87.15)	37.10 (52.05)	92.46 ± 28.87	184.60 (143.75)	55.40 (58.13)	77.52 ± 15.10	103.30 (97.35)
LLW	12.40 (16.46)	29.63 ± 10.15	67.60 (50.01)	5.50 (8.21)	20.17 ± 7.27	38.80 (31.86)	30.70 (37.77)	50.14 ± 9.11	64.70 (63.79)
LLD	7.20 (11.52)	25.53 ± 14.11	84.20 (55.85)	13.80 (24.32)	56.91 ± 24.20	126.20 (100.68)	13.80 (16.60)	32.07 ± 12.61	63.10 (51.55)
LLPL	0.00 (0.00)	56.72 ± 27.63	127.00 (98.38)	0.00 (0.00)	37.34 ± 33.58	116.10 (100.40)	85.70 (88.64)	104.47 ± 13.65	124.10 (123.33)
LLBA	6.00 (8.00)	21.39 ± 18.38	131.00 (56.45)	4.00 (7.05)	21.39 ± 16.43	68.00 (64.65)	16.00 (16.00)	27.33 ± 13.58	71.00 (47.20)
LLTD	0.50 (0.60)	1.49 ± 0.74	4.00 (3.15)	0.00 (0.02)	1.03 ± 0.57	3.20 (2.00)	1.30 (1.58)	2.53 ± 0.87	4.10 (4.10)
LML	37.30 (46.96)	73.80 ± 23.17	141.00 (125.60)	24.20 (46.74)	83.74 ± 26.96	146.90 (128.77)	100.20 (100.55)	135.40 ± 23.39	186.90 (169.68)
LMW	3.00 (6.92)	15.76 ± 10.00	51.50 (40.34)	2.60 (4.31)	11.80 ± 6.31	28.20 (23.09)	25.80 (28.04)	43.49 ± 10.07	56.50 (55.52)
LMD	6.70 (21.48)	42.06 ± 15.20	87.80 (75.25)	5.60 (7.73)	44.01 ± 22.03	101.60 (76.45)	49.50 (51.53)	71.65 ± 11.49	90.80 (85.90)
LMBA	8.00 (14.20)	50.39 ± 14.48	75.00 (67.00)	10.00 (19.00)	44.46 ± 15.46	102.00 (64.00)	40.00 (40.70)	54.60 ± 12.03	84.00 (76.30)
LMTW	0.00 (0.00)	1.98 ± 1.35	7.10 (4.50)	0.00 (0.00)	1.68 ± 1.75	5.20 (4.79)	3.20 (3.48)	4.87 ± 1.20	7.50 (6.80)
LMTD	0.00 (0.00)	0.59 ± 0.69	3.40 (2.15)	0.00 (0.00)	0.48 ± 0.60	3.40 (1.69)	0.90 (1.11)	2.31 ± 1.60	7.80 (4.30)
LLW/LLL	0.17 (0.30)	0.55 ± 0.16	0.99 (0.81)	0.08 (0.12)	0.22 ± 0.07	0.37 (0.34)	0.48 (0.51)	0.66 ± 0.11	0.82 (0.79)
LLD/LLL	0.16 (0.25)	0.46 ± 0.13	0.97 (0.69)	0.30 (0.40)	0.60 ± 0.13	0.88 (0.79)	0.23 (0.24)	0.41 ± 0.12	0.67 (0.58)
LLPL/LLL	0.00 (0.00)	1.06 ± 0.50	2.32 (1.85)	0.00 (0.00)	0.46 ± 0.40	1.33 (1.08)	0.88 (0.97)	1.40 ± 0.35	1.96 (1.94)
LMW/LML	0.08 (0.13)	0.21 ± 0.07	0.43 (0.35)	0.05 (0.07)	0.14 ± 0.05	0.31 (0.24)	0.26 (0.26)	0.32 ± 0.05	0.40 (0.39)
LMD/LML	0.15 (0.45)	0.56 ± 0.09	0.74 (0.67)	0.10 (0.16)	0.51 ± 0.18	0.81 (0.74)	0.44 (0.45)	0.53 ± 0.06	0.65 (0.62)
AL	2.40 (2.60)	3.36 ± 0.48	4.44 (4.00)	2.80 (2.90)	3.58 ± (0.53)	5.00 (4.70)	3.90 (3.99)	4.30 ± (0.18)	4.50 (4.50)
AW	0.20 (0.20)	0.54 ± 0.19	0.99 (0.83)	0.10 (0.15)	0.49 ± (0.25)	1.00 (0.92)	0.60 (0.60)	0.75 ± (0.10)	0.90 (0.86)
AW/AL	0.05 (0.06)	0.16 ± 0.06	0.29 (0.25)	0.02 (0.03)	0.14 ± (0.08)	0.33 (0.25)	0.14 (0.14)	0.18 ± (0.03)	0.23 (0.21)

Electronic Appendix 4. – Frequencies of the character states for the qualitative characters of *Tephrosia longifolia* subsp. *moravica* (Tlm), *T. l.* subsp. *longifolia* - Pannonian morphotype (Tllh), *T. l.* subsp. *longifolia* - Alpine morphotype (Tlla), *T. l.* subsp. *pseudocrispa* (Tlp), *T. l.* subsp. *gaudinii* (Tlg) and *T. l.* subsp. *brachychaeta* (Tlb). Number of investigated plants and achenes are given in the bracket, respectively. For the explanations of characters, see Table 1.

Character	Tlm (N=84/50) (%)	Tllh (N=28/20) (%)	Tlla (N=184/64) (%)	Tlp (N=132/70) (%)	Tlg (N=82/50)(%)	Tlb (N=15/10)(%)
SLI 0	32.14	3.57	4.89	21.21	0.00	13.33
SLI 1	42.86	50.00	26.63	61.36	17.07	86.67
SLI 2	25.00	46.43	68.48	17.42	82.93	0.00
SUI 0	1.19	0.00	0.00	0.76	0.00	0.00
SUI 1	29.76	50.00	14.13	39.39	1.22	66.67
SUI 2	69.05	50.00	85.87	59.85	98.78	33.33
LLUSI 0	20.24	17.86	0.54	22.73	0.00	0.00
LLUSI 1	40.48	39.29	36.96	59.85	28.05	86.67
LLUSI 2	39.29	42.86	62.50	17.42	71.95	13.33
LLLSI 0	48.81	50.00	5.43	55.30	2.44	0.00
LLLSI 1	46.43	35.71	50.54	43.94	40.24	0.00
LLLSI 2	4.76	14.29	44.02	0.76	57.32	100.00
LMLSI 0	35.71	25.00	2.17	37.88	0.00	0.00
LMLSI 1	54.76	46.43	58.70	58.33	25.61	66.67
LMLSI 2	9.52	28.57	39.13	3.79	74.39	33.33
LUSB 0	66.67	71.43	28.80	51.52	28.05	33.33
LUSB 1	33.33	28.57	71.2	48.48	71.95	66.67
LLSB 0	100.00	92.86	76.63	96.97	67.07	100.00
LLSB 1	0.00	7.14	23.37	3.03	32.93	0.00
BI 0	5.95	10.71	2.17	9.09	0.00	0.00
BI 1	65.48	64.29	43.48	80.30	8.54	46.67
BI 2	28.57	25.00	54.35	10.61	91.46	53.33
AI 0	92.00	100.00	70.31	0.00	0.00	0.00
AI 1	0.00	0.00	7.81	0.00	0.00	0.00
AI 2	8.00	0.00	21.88	100.00	100.00	100.00