

Supporting Information to the paper Dítě, D. et al. (2015): The phytosociology and ecology of saline vegetation with *Scorzonera parviflora* across the Pannonian-Western Balkan gradient. *Phytocoenologia*.

Supplement S1: Localities of relevés in Table 1 and Supplement S2. For relevés, the header data are listed in the following order: relevé number, country code (AT – Austria, HR – Croatia, HU – Hungary, RO – Romania, SRB – Serbia), short description of the locality, latitude, longitude, altitude, reléve surface (m<sup>2</sup>) and the sampling date.

1. HR, Pag Island, Horvatić 1934: Table 18, rel. 3
2. HR, Pag Island, Horvatić 1934: Table 18, rel. 2
3. HR, Pag Island, Horvatić 1934: Table 18, rel. 1
4. HU, Neusiedler See (Fertő-tó), Fertőszéplak, shallow depression in large grasslands extensively grazed by grey cattle, N 47°39'07.1", E 16°48'18.4", 113 m a.s.l., 16 m<sup>2</sup>, 4. 6. 2012.
5. HU, Neusiedler See (Fertő-tó), Fertőszéplak, shallow depression in large grasslands extensively grazed by grey cattle, N 47°39'09.0", E 16°48'17.8", 113 m a.s.l., 16 m<sup>2</sup>, 4. 6. 2012.
6. HR, Pag Island, Malo Blato, flooded salt marshes, N 44°21'55.5", E 15°06'57.9", 0 m a.s.l., 16 m<sup>2</sup>, 30. 4. 2012.
7. HR, Pag Island, Malo Blato, flooded salt marshes, N 44°21'59.8", E 15°06'54.3", 0 m a.s.l., 16 m<sup>2</sup>, 30. 4. 2012.
8. HR, Pag Island, Vlašići, the lowest part of wet meadows in the edge of the settlement, close to the sea, N 44°19'14.7", E 15°12'24.9", 0 m a.s.l., 16 m<sup>2</sup>, 28. 4. 2012.
9. HR, Pag Island, Gajac settlement, Kolansko blato ornithological reserve, wet saline meadow, N 44°30'52.1", E 14°55'08.3", 0 m a.s.l., 16 m<sup>2</sup>, 29. 4. 2012.
10. HR, Pag Island, Gajac settlement, Kolansko blato ornithological reserve, pioneer stands on the flooded saline meadows, N 44°30'54.8", E 14°55'09.2", 0 m a.s.l.a.s.l., 16 m<sup>2</sup>, 29. 4. 2012.
11. HR, Pag Island, Gajac settlement, Kolansko blato ornithological reserve, wet saline meadow, N 44°30'52.2", E 14°55'08.3", 0 m a.s.l.a.s.l., 16 m<sup>2</sup>, 29. 4. 2012.
12. HR, Pag Island Gajac settlement, Kolansko blato ornithological reserve, wet saline meadow, N 44°30'53.0", E 14°55'08.0", 0 m a.s.l., 16 m<sup>2</sup>, 29. 4. 2012.
13. HR, Vransko jezero Lake, mown grassland on the northern shore of the lake, N 43°56'13.4", E 15°30'52.3", 2 m a.s.l., 16 m<sup>2</sup>, 27. 4. 2012.
14. HR, Pag Island, Vlašići, meadows near the settlement, N 44°19'20.8", E 15°12'28.3", 1 m a.s.l., 16 m<sup>2</sup>, 28. 4. 2012.
15. HR, Pag Island, obec Vlašići, Vlašići, meadows near the settlement, N 44°19'23.1", E 15°12'21.0", 1 m a.s.l., 16 m<sup>2</sup>, 28. 4. 2012.
16. HR, Pag Island, Vlašići, meadows near the settlement, N 44°19'21.5", E 15°12'28.9", 1 m a.s.l., 16 m<sup>2</sup>, 28. 4. 2012.
17. HR, Pag Island, Vlašići, meadows near the settlement, N 44°19'20.8", E 15°12'29.1", 1 m a.s.l., 16 m<sup>2</sup>, 28. 4. 2012.
18. HR, Vransko jezero Lake, mown grassland on the northern shore of the lake, N 43°56'12.4", E 15°30'50.3", 2 m a.s.l., 16 m<sup>2</sup>, 27. 4. 2012.
19. HU, Katymár, west of the village, depression between the road and the fields, partly meliorated, N 46°01'19.3", E 19°11'37.8", 97 m a.s.l., 16 m<sup>2</sup>, 7. 6. 2012.
20. HU, Katymár, west of the village, partly meliorated saline meadow, N 46°01'19.3", E 19°11'37.8", 97 m a.s.l., 16 m<sup>2</sup>, 7. 6. 2012.

21. HU, Győr: Töltéstava, northwest of the settlement, remnants of inland salt meadows, N 47°38'25.1", E 17°43'40.4", 116 m a.s.l., 16 m<sup>2</sup>, 20. 6. 2012.
22. AT, Wendelberger 1950: Table 9, rel. 9
23. AT, Wendelberger 1950: Table 9, rel. 2
24. AT, Wendelberger 1950: Table 9, rel. 7
25. AT, Wendelberger 1950: Table 9, rel. 5
26. AT, Wendelberger 1950: Table 9, rel. 1
27. AT, Wendelberger 1950: Table 9, rel. 4
28. AT, Wendelberger 1950: Table 9, rel. 6
29. HU, Balázspuszta, south of the farmstead, in the Kiskunság sand ridge area, partly meliorated wet meadow, N 46°54'59.3", E 19°20'10.9", 96 m a.s.l., 16 m<sup>2</sup>, 7. 6. 2012.
30. HU, Győr: Töltéstava, north of the settlement, remnants of drained saline meadows near the main road, N 47°38'20.6", E 17°44'35.4", 115 m a.s.l., 16 m<sup>2</sup>, 20. 6. 2012.
31. HU, Neusiedler See (Fertő-tó), Fertőszéplak, large saline meadow intensively grazed by water buffalo, N 47°41'49.5", E 16°50'07.1", 113 m a.s.l., 16 m<sup>2</sup>, 4. 6. 2012.
32. HU, Esztár, southeast of the village, large, extensively grazed saline meadow, N 47°19'35.6", E 21°46'55.8", 99 m a.s.l., 16 m<sup>2</sup>, 9. 6. 2012.
33. HU, Esztár, southeast of the village, large, extensively grazed saline meadow, N 47°19'34.8", E 21°46'55.7", 99 m a.s.l., 16 m<sup>2</sup>, 9. 6. 2012.
34. HU, Makó, eastern part of the town, mown saline grassland, part of the horse paddock, N 46°13'21.5", E 20°30'07.2", 89 m a.s.l., 16 m<sup>2</sup>, 10. 6. 2012.
35. AT, Wendelberger 1950: Table 9, rel. 12
36. HU, Neusiedler See (Fertő-tó), Fertőszéplak, large saline meadow intensively grazed by water buffalo, N 47°41'52.1", E 16°50'37.4", 113 m a.s.l., 16 m<sup>2</sup>, 4. 6. 2012.
37. AT, Wendelberger 1950: Table 9, rel. 3
38. HU, Esztár, southeast of the village, large, extensively grazed saline meadow, N 47°19'35.7", E 21°46'57.1", 99 m a.s.l., 16 m<sup>2</sup>, 9. 6. 2012.
39. AT, Neusiedler See National Park, Zicklacke at Illmitz, partly meliorated saline grassland, N 47°45'53.7", E 16°46'23.4", 117 m a.s.l., 16 m<sup>2</sup>, 17. 5. 2010.
40. HU, Budapest: Kelenföld, secondary grassland of mineral springs, in the drainage channel, N 47°27'17.3", E 19°00'01.1", 109 m a.s.l., 4 m<sup>2</sup>, 17. 8. 2011.
41. AT, Wendelberger 1950: Table 9, rel. 11
42. SRB, Madaras – north from Horgoš settlement, subsaline meadow, N 46°10'23.2", E 19°56'13.9", 84 m a.s.l., 16 m<sup>2</sup>, 6. 6. 2012.
43. RO, Sic (Szék), saline meadow under the cemetery of the village, N 46°55'42.8", E 23°54'04.3", 290 m a.s.l., 16 m<sup>2</sup>, 9. 6. 2011.
44. RO, Sic (Szék), saline meadow under the cemetery of the village, N 46°55'42.9", E 23°54'04.3", 290 m a.s.l., 16 m<sup>2</sup>, 9. 6. 2011.
45. AT, Neusiedler See National Park, Zicklacke at Illmitz, on the southeast coast of the saline lake, N 47°45'55.5", E 16°47'15.8", 117 m a.s.l., 16 m<sup>2</sup>, 17. 5. 2010.
46. AT, Neusiedler See, outside of the national park, south of the Warmsee Lake, grazed by wetland birds, N 47°45'51.9", E 16°50'20.8", 117 m a.s.l., 16 m<sup>2</sup>, 18. 5. 2010.
47. RO, Sic (Szék), grasslands of heavily saline spring in the village, affected by salt mining in the past, N 46°55'51.1", E 23°54'15.5", 295 m a.s.l., 16 m<sup>2</sup>, 9. 6. 2011.
48. AT, Neusiedler See, outside of the national park, south of the Warmsee Lake, grazed by wetland birds, N 47°55'51.7", E 16°50'20.8", 117 m a.s.l., 16 m<sup>2</sup>, 18. 5. 2010.
49. AT, Wendelberger 1950: Table 9, rel. 10
50. RO, Cojocna, saline grasslands near the springs, N 46°44'40.6", E 23°50'45.0", 310 m a.s.l., 16 m<sup>2</sup>, 9. 6. 2011.

51. SRB, Madaras – north from Horgoš settlement, subsaline meadow, N 46°10'25.1", E 19°56'11.5", 84 m a.s.l., 16 m<sup>2</sup>, 6. 6. 2012.
52. SRB, Bački Vinogradi, mown wet saline meadows, edge of the field depression, N 46°07'25.5", E 19°53'57.9", 95 m a.s.l., 16 m<sup>2</sup>, 6. 6. 2012.
53. HU, Bikatorok, northeast of Dunatetőten, shallow depression of degraded saline grasslands outside of the Kiskunság National Park, N 46°47'02.7", E 19°06'56.1", 91 m a.s.l., 16 m<sup>2</sup>, 7. 6. 2012.
54. AT, Neusiedl am See, northern shore of the main lake, in the contact zone of the reedbeds, N 47°56'56.4", E 16°48'56.2", 113 m a.s.l., 16 m<sup>2</sup>, 4. 6. 2012.
55. HU, Katymár, west of the village, partly meliorated subsaline grassland, contact zone between *Phragmitetum* and *Festuca arundinacea* meadow, N 46°01'07.6", E 19°11'57.0", 98 m a.s.l., 16 m<sup>2</sup>, 7. 6. 2012. (author: A. Csathó)
56. HU, Hódmezővásárhely, southeast edge of the town near the main road, mown subsaline wet meadow, N 46°24'12.6", E 20°20'59.6", 76 m a.s.l., 16 m<sup>2</sup>, 10. 6. 2012.
57. AT, Neusiedl am See, northern shore of the main lake, in the contact zone of the reedbeds, N 47°56'55.8", E 16°48'53.9", 113 m a.s.l., 16 m<sup>2</sup>, 4. 6. 2012.
58. SRB, Bački Vinogradi, mown wet saline meadows, edge of the field depression, N 46°07'25.3", E 19°53'57.0", 95 m a.s.l., 16 m<sup>2</sup>, 6. 6. 2012.
59. HU, Hódmezővásárhely, southeast edge of the town near the main road, mown subsaline wet meadow, N 46°24'12.5", E 20°20'59.6", 76 m a.s.l., 16 m<sup>2</sup>, 10. 6. 2012.
60. RO, Sic (Szék), saline grassland on the edge of the village, N 46°55'47.9", E 23°54'28.0", 290 m a.s.l., 16 m<sup>2</sup>, 9. 6. 2011.

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Supplement S2: Chemical properties of analysed soil samples taken from 27 relevé plots. Numbers of relevés are identical with those presented in Table 1 and Supplement S1.

Cluster No.	Relevé number	pH	Corg %	N tot %	EC mS/m	Mg [mmol/L]	Na [mmol/L]	Ca [mmol/L]	SAR %	ESP %	Ca <sub>exch.</sub> cmol+/kg	Mg <sub>exch.</sub> cmol+/kg	K <sub>exch.</sub> cmol+/kg	Na <sub>exch.</sub> cmol+/kg
1	6	7.34	8.84	0.04	3230	28.80	260.00	25.90	35.10	45.10	28.80	20.10	2.02	36.90
	7	7.70	8.00	1.19	2040	17.30	159.00	12.30	29.20	40.10	19.60	16.60	2.47	27.50
2	8	7.74	3.95	0.46	1750	11.40	160.00	7.54	36.70	46.30	17.20	15.60	3.54	27.40
	11	7.50	4.46	0.54	2110	16.80	168.00	13.40	30.50	41.30	20.20	14.00	2.58	27.10
	12	7.49	10.60	1.14	1670	10.80	118.00	21.00	20.90	32.20	18.10	11.70	0.91	22.70
	14	7.67	4.05	0.51	550	2.98	37.30	7.83	11.30	21.50	8.54	6.61	0.84	5.75
	15	7.81	2.47	0.34	145	0.63	9.83	2.44	5.62	12.70	3.73	3.25	0.43	1.86
	16	7.75	4.64	0.67	415	2.52	27.40	10.10	7.69	15.60	8.54	6.79	0.67	6.17
	17	7.98	4.15	0.55	438	1.49	35.90	2.21	18.70	29.90	5.90	8.02	0.62	10.09
3	19	7.95	3.56	0.63	412	22.10	27.10	2.62	5.44	12.50	10.60	20.40	0.27	2.86
	21	8.17	2.67	0.60	995	30.20	68.20	2.13	12.00	22.30	15.10	24.10	0.36	4.82
	29	7.90	6.52	1.14	180	12.50	6.57	3.32	1.65	8.34	3.25	19.60	0.10	1.09
	30	7.73	5.78	1.20	510	18.30	12.10	7.83	2.36	9.47	5.74	23.40	0.36	2.05
4	31	8.36	3.83	0.58	711	18.60	61.10	1.74	13.50	24.10	12.50	16.80	1.24	11.90
	32	8.47	6.91	1.00	290	66.60	20.50	0.81	2.50	9.63	10.10	33.40	0.23	5.84
	33	8.38	3.26	0.40	216	8.64	18.50	0.39	6.17	13.50	6.69	24.10	0.21	3.40
	34	8.03	1.48	0.09	711	16.30	74.70	1.48	17.70	28.80	12.90	8.28	0.51	7.44
	36	8.42	2.32	0.31	249	18.60	20.00	1.11	4.49	11.20	8.77	9.37	0.48	1.95
	44	7.46	2.96	0.24	1034	2.90	79.60	9.53	22.60	33.90	11.70	5.89	1.20	12.70
	48	8.49	2.67	0.56	534	2.69	60.20	4.14	23.00	34.40	8.65	2.61	0.71	7.43
	50	7.75	4.15	0.42	629	6.46	54.80	10.60	13.30	23.80	11.40	10.80	0.85	9.17
	51	8.41	1.43	0.26	535	23.90	14.20	0.53	2.87	10.00	6.96	21.00	0.14	0.98

53	8.07	5.33	0.78	641	2.58	73.60	1.46	36.60	46.20	7.87	6.01	0.40	15.90
54	7.87	4.10	0.50	1086	15.80	96.20	5.84	20.70	32.00	14.90	14.80	0.99	11.20
56	7.95	3.16	0.37	1230	26.80	86.80	7.04	14.90	25.70	16.80	26.00	0.56	9.88
58	8.41	2.86	0.50	576	4.85	53.20	0.35	23.30	34.70	7.58	17.90	0.18	5.31
60	7.65	3.95	0.43	629	2.94	47.90	7.91	14.50	25.20	9.40	5.53	0.30	6.55

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Supplement S3: Photographs of the vegetation type studied

The site Malo Blato on the Island of Pag (Croatia)



The association *Juncus maritimi-Scorzoneretum parviflorae* Horvatić 1934 corr. Dítě, Eliáš jr, Šuvada, Píš & Melečková nom. corr. hoc loco. in Malo Blato.

