



Supplementary Tables

Table 1. The list of species, along with the accession numbers for each sample.

No.	Species	Origin	NCBI Genbank				Accession number	Type ^a	Life Cycle
			^b <i>cpDNA</i> -regions		^c <i>mtDNA</i> -regions				
1	<i>Secale cereale</i> ssp. <i>afghanicum</i>	Armenia	1	MH893827	5	MH893967	PI 618662	We	A
			2	MH893862	6	MH894002			
			3	MH893897	7	MH894037			
			4	MH893932	8	MH894072			
			9	MH894107					
			10	MH894142					
2	<i>Secale cereale</i> ssp. <i>ancestrale</i>	Japan	1	MH893828	5	MH893968	CI SE 107	We	A
			2	MH893863	6	MH894003			
			3	MH893898	7	MH894038			
			4	MH893933	8	MH894073			
			9	MH894108					
			10	MH894143					

3	Russia	1	MH893829	5	MH893969	PI 445975
		2	MH893864	6	MH894004	
		3	MH893899	7	MH894039	
		4	MH893934	8	MH894074	
				9	MH894109	
				10	MH894144	
4	Turkey	1	MH893830	5	MH893970	PI 618666
		2	MH893865	6	MH894005	
		3	MH893900	7	MH894040	
		4	MH893935	8	MH894075	
				9	MH894110	
				10	MH894145	
5	USA	1	MH893831	5	MH893971	PI 445976
		2	MH893866	6	MH894006	
		3	MH893901	7	MH894041	
		4	MH893936	8	MH894076	

				9	MH894111		
				10	MH894146		
6	Canada	1	MH893832	5	MH893972	PI 590948	C A
<i>Secale cereale</i> ssp. <i>cereale</i>		2	MH893867	6	MH894007		
		3	MH893902	7	MH894042		
		4	MH893937	8	MH894077		
				9	MH894112		
				10	MH894147		
		1	MH893833	5	MH893973	PI 561809	
		2	MH893868	6	MH894008		
		3	MH893903	7	MH894043		
		4	MH893938	8	MH894078		
				9	MH894113		
				10	MH894148		
8	USA	1	MH893834	5	MH893974	PI 628642	
		2	MH893869	6	MH894009		

		3	MH893904	7	MH894044			
		4	MH893939	8	MH894079			
				9	MH894114			
				10	MH894149			
9	Tajikistan	1	MH893835	5	MH893975	PI 639383		
		2	MH893870	6	MH894010			
		3	MH893905	7	MH894045			
		4	MH893940	8	MH894080			
				9	MH894115			
				10	MH894150			
10	Azerbaijan	1	MH893836	5	MH893976	PI 267102	We	A
		2	MH893871	6	MH894011			
		3	MH893906	7	MH894046			
		4	MH893941	8	MH894081			
				9	MH894116			
				10	MH894151			

Secale cereale ssp. segetale

Secale cereale ssp. *segetale*

11	Russia	1	MH893837	5	MH893977	PI 283982
		2	MH893871	6	MH894012	
		3	MH893907	7	MH894047	
		4	MH893942	8	MH894082	
				9	MH894117	
				10	MH894152	
12	Kazakhstan	1	MH893838	5	MH893978	PI 326286
		2	MH893872	6	MH894013	
		3	MH893908	7	MH894048	
		4	MH893943	8	MH894083	
				9	MH894118	
				10	MH8941453	
13	Turkey	1	MH893839	5	MH893979	PI 618673
		2	MH893873	6	MH894014	
		3	MH893909	7	MH894049	
		4	MH893944	8	MH894084	

				9	MH894119				
				10	MH894154				
14	Secale cereale ssp. dighoricum	Sweden	1	MH893840	5	MH893980	PI 618667	We	A
			2	MH893874	6	MH894015			
			3	MH893910	7	MH894050			
			4	MH893945	8	MH894085			
					9	MH894120			
					10	MH8941455			
15		Russia	1	MH893841	5	MH893981	PI 618668		
				2	MH893875	6	MH894016		
				3	MH893911	7	MH894051		
				4	MH893946	8	MH894086		
					9	MH894121			
					10	MH8941456			
16	Secale cereale ssp.	Turkey	1	MH893842	5	MH893982	PI 618669	We	A
			2	MH893876	6	MH894017			

		3	MH893912	7	MH894052			
		4	MH893947	8	MH894087			
				9	MH894122			
				10	MH894157			
17	Poland	1	MH893843	5	MH893983	124197		
		2	MH893877	6	MH894018			
		3	MH893913	7	MH894053			
		4	MH893948	8	MH894088			
				9	MH894123			
				10	MH8941458			
18	RSA	1	MH893844	5	MH893984	PI 630963	Wi	P
		2	MH893878	6	MH894019			
		3	MH893914	7	MH894054			
		4	MH893949	8	MH894089			
				9	MH894124			
				10	MH8941459			

Secale strictum ssp. *africanum*

19	RSA	1	MH893845	5	MH893985	PI 630964		
			2		MH894020			
			3		MH894056			
			4		MH894090			
					9			
					10			
20	USA	1	MH893846	5	MH893986	PI 445973	Wi	P
			2		MH894021			
			3		MH894057			
			4		MH894091			
					9			
					10			
21	Canada	1	MH893847	5	MH893987	PI 445974		
			2		MH894022			
			3		MH894058			
			4		MH894092			

Secale strictum ssp. anatolicum

				9	MH894127				
				10	MH8941462				
22		Turkey	1	MH893848	5	MH893988	PI 630965		
			2	MH893882	6	MH894023			
			3	MH893918	7	MH894059			
			4	MH893953	8	MH894093			
					9	MH894128			
					10	MH894163			
23	<i>Secale strictum</i> ssp. <i>kuprijanovii</i>	Poland	1	MH893849	5	MH893989	PI 31328	Wi	P
		2	MH893883	6	MH894024				
		3	MH893919	7	MH894060				
		4	MH893954	8	MH894094				
				9	MH894129				
				10	MH8941464				
24	<i>Secale strictum</i>	Poland	1	MH893850	5	MH893990	PI 630971	Wi	P

		2	MH893884	6	MH894025	
		3	MH893920	7	MH894061	
		4	MH893955	8	MH894095	
				9	MH894130	
				10	MH894165	
25	Hungary	1	MH893851	5	MH893991	PI 272338
		2	MH893885	6	MH894026	
		3	MH893921	7	MH894062	
		4	MH893956	8	MH894096	
				9	MH894131	
				10	MH894166	
26	Iraq	1	MH893852	5	MH893992	PI 253956
		2	MH893886	6	MH894027	
		3	MH893922	7	MH894063	
		4	MH893957	8	MH894097	
				9	MH894132	

				10	MH894167			
27	<i>Secale strictum ssp. ciliatoglume</i>	Poland	1	MH893853	5	MH893993	PI 630967	Wi P
			2	MH893887	6	MH894028		
			3	MH893923	7	MH894064		
			4	MH893958	8	MH894098		
					9	MH894133		
					10	MH894168		
28	<i>Secale vavilovii</i>	Afghanistan	1	MH893854	5	MH893994	PI 57364	Wi A
			2	MH893888	6	MH894029		
			3	MH893924	7	MH894065		
			4	MH893959	8	MH894099		
					9	MH894134		
					10	MH894169		
29		Russia	1	MH893855	5	MH893995	PI 573648	
			2	MH893889	6	MH894030		
			3	MH893925	7	MH894064		

			4	MH893960	8	MH894100			
					9	MH894135			
					10	MH894170			
30	Hungary	1	MH893856	5	MH893996	PI 28842			
		2	MH893890	6	MH894031				
		3	MH893926	7	MH894065				
		4	MH893961	8	MH894101				
				9	MH894136				
				10	MH894171				
31	Poland	1	MH893857	5	MH893997	831/96			
		2	MH893891	6	MH894032				
		3	MH893927	7	MH894066				
		4	MH893962	8	MH894102				
				9	MH894137				
				10	MH894172				
32	<i>Secale</i> Russia	1	MH893858	5	MH893998	6047	Wi	P	

		2	MH893892	6	MH894033	
		3	MH893928	7	MH894067	
		4	MH893963	8	MH894103	
				9	MH894138	
				10	MH894173	
33	Hungary	1	MH893859	5	MH893999	PI 615332
		2	MH893893	6	MH894034	
		3	MH893929	7	MH894068	
		4	MH893964	8	MH894104	
				9	MH894139	
				10	MH894174	
34	Bulgaria	1	MH893860	5	MH894000	PI 618675
		2	MH893894	6	MH894035	
		3	MH893930	7	MH894069	
		4	MH893965	8	MH894105	
				9	MH894140	

		10 MH894175			
35	Poland	1 MH893861	5 MH894001	PI 618676	
		2 MH893895	6 MH894035		
		3 MH893931	7 MH894070		
		4 MH893966	8 MH894105		
			9 MH894140		
			10 MH894176		

^a Wi- wild, We – weedy, C - cultivated, P – perennial, A – annual

^b cp-DNA regions: 1- *atpB-rbcL* intergenic spacer, 2- *trnT(UGU)-trnL5'exon* intergenic spacer, 3- *trnL(UAA)* intron intergenic spacer, 4- *trnD[tRNA-Asp(GUC)]-trnT [tRNA-Thr(GGU)]*;

mt-DNA regions: 5- *nad1 exon B-nad1 exon C* intron intergenic spacer, 6-*nad4/1-2* intergenic spacer, 7-*nad4L-orf25* intergenic spacer, 8-*rps12-1/nad3-2* intergenic spacer, 9-*rps12-2/nad3-1* intergenic spacer, 10-*rrn5/rrn18-1* intergenic spacer

Table S2. General description of standard SPInDel profiles from the *atpB-rbcL* cpDNA region.

Species	Number of Sequences (N)	Number of Conserved Regions	Number of Hypervariable Regions (n)	Average Number of Pairwise Differences (p^{C_n})	Average Number of Pairwise Differences per Hypervariable Region	Number of Species-Specific Profiles (N_{sp})	Frequency of Species-Specific Profiles (f_{sp})	Number of Species-Shared Profiles	Number of Minimum Hypervariable Regions for Discrimination of All Species
<i>Secale cereale</i> ssp. <i>afghanicum</i>	4	2	1	0.73	0.54	4	1	0	1
<i>Secale cereale</i> ssp. <i>ancestrale</i>	16	6	4	2.02	0.78	16	1	0	2
<i>Secale cereale</i> ssp. <i>cereale</i>	16	7	5	2.56	0.71	16	1	0	2
<i>Secale cereale</i> ssp. <i>segetale</i>	16	6	4	2.10	0.69	16	1	0	2
<i>Secale cereale</i> ssp. <i>dighoricum</i>	8	4	1	0.88	0.71	8	1	0	1
<i>Secale cereale</i> ssp. <i>rigidum</i>	8	4	2	1.05	0.68	8	1	0	1
<i>Secale strictum</i> ssp. <i>africanum</i>	8	3	1	0.44	0.72	8	1	0	1
<i>Secale strictum</i> ssp. <i>anatolicum</i>	12	5	2	1.04	0.74	12	1	0	1
<i>Secale strictum</i> ssp. <i>kuprijanovii</i>	16	7	3	1.57	0.77	16	1	0	2
<i>Secale strictum</i> ssp. <i>strictum</i>	12	5	4	2.65	0.67	12	1	0	3

<i>Secale strictum</i> ssp. <i>ciliatoglume</i>	4	2	1	0.61	0.59	4	1	0	1
<i>Secale vavilovii</i>	16	6	4	2.58	0.69	16	1	0	2
<i>Secale sylvestre</i>	16	7	6	2.92	0.55	16	1	0	4

Table S3. General description of standard SPInDel profiles from the *trnT*(UGU)-*trnL*(UAA)5'exon cpDNA region.

Species	Number of Sequences (N)	Number of Conserved Regions	Number of Hypervariable Regions (n)	Average Number of Pairwise Differences (p^{C_n})	Average Number of Pairwise Differences per Hypervariable Region	Number of Species-Specific Profiles (N_{sp})	Frequency of Species-Specific Profiles (f_{sp})	Number of Species-Shared Profiles	Number of Minimum Hypervariable Regions for Discrimination of All Species
<i>Secale cereale</i> ssp. <i>afghanicum</i>	4	3	1	0.44	0.34	4	1	0	1
<i>Secale cereale</i> ssp. <i>ancestrale</i>	16	7	6	3.02	0.78	16	1	0	2
<i>Secale cereale</i> ssp. <i>cereale</i>	16	8	6	2.96	0.82	16	1	0	3
<i>Secale cereale</i> ssp. <i>segetale</i>	16	8	4	1.93	0.50	16	1	0	1
<i>Secale cereale</i> ssp. <i>dighoricum</i>	8	5	3	1.65	0.67	8	1	0	1
<i>Secale cereale</i> ssp. <i>rigidum</i>	8	4	2	1.11	0.57	8	1	0	1
<i>Secale strictum</i> ssp. <i>africanum</i>	8	5	2	0.99	0.61	8	1	0	1
<i>Secale strictum</i> ssp. <i>anatolicum</i>	12	6	4	1.92	0.64	12	1	0	2
<i>Secale strictum</i> ssp. <i>kuprijanovii</i>	16	9	7	2.97	0.79	16	1	0	3
<i>Secale strictum</i> ssp. <i>strictum</i>	12	5	4	2.20	0.82	12	1	0	2

<i>Secale strictum</i> ssp. <i>ciliatoglume</i>	4	3	2	0.73	0.87	4	1	0	1
<i>Secale vavilovii</i>	16	7	5	2.54	0.67	16	1	0	3
<i>Secale sylvestre</i>	16	7	6	3.03	0.79	16	1	0	3

Table S4. General description of standard SPInDel profiles from the *trnL*(UAA) intron cpDNA region.

Species	Number of Sequences (N)	Number of Conserved Regions	Number of Hypervariable Regions (n)	Average Number of Pairwise Differences (p^{C_n})	Average Number of Pairwise Differences per Hypervariable Region	Number of Species-Specific Profiles (N_{sp})	Frequency of Species-Specific Profiles (f_{sp})	Number of Species-Shared Profiles	Number of Minimum Hypervariable Regions for Discrimination of All Species
<i>Secale cereale</i> ssp, <i>afghanicum</i>	4	2	1	0.76	0.58	4	1	0	1
<i>Secale cereale</i> ssp, <i>ancestrale</i>	16	8	6	2.97	0.68	16	1	0	4
<i>Secale cereale</i> ssp, <i>cereale</i>	16	8	5	2.46	0.61	16	1	0	2
<i>Secale cereale</i> ssp, <i>segetale</i>	16	9	8	4.17	0.82	16	1	0	4
<i>Secale cereale</i> ssp, <i>dighoricum</i>	8	4	3	1.70	0.67	8	1	0	1
<i>Secale cereale</i> ssp, <i>rigidum</i>	8	4	2	1.01	0.58	8	1	0	1
<i>Secale strictum</i> ssp, <i>africanum</i>	8	5	4	1.89	0.84	8	1	0	1
<i>Secale strictum</i> ssp, <i>anatolicum</i>	12	7	5	2.25	0.80	12	1	0	2
<i>Secale strictum</i> ssp, <i>kuprijanovii</i>	16	9	7	4.02	0.91	16	1	0	4
<i>Secale strictum</i> ssp <i>strictum</i>	12	6	3	2.07	0.68	12	1	0	1

<i>Secale strictum</i> ssp, <i>ciliatoglume</i>	4	2	1	0.44	0.70	4	1	0	1
<i>Secale vavilovii</i>	16	8	5	2.61	0.66	16	1	0	3
<i>Secale sylvestre</i>	16	8	6	2.87	0.69	16	1	0	2

Table S5. General description of standard SPInDel profiles from the *trnD*[tRNA-Asp(GUC)]-*trnT*[tRNA-Thr(GGU)] cpDNA region.

Species	Number of Sequences (N)	Number of Conserved Regions	Number of Hypervariable Regions (n)	Average Number of Pairwise Differences (p^{C_n})	Average Number of Pairwise Differences per Hypervariable Region	Number of Species-Specific Profiles (N_{sp})	Frequency of Species-Specific Profiles (f_{sp})	Number of Species-Shared Profiles	Number of Minimum Hypervariable Regions for Discrimination of All Species
<i>Secale cereale</i> ssp, <i>afghanicum</i>	4	3	1	0.78	0.66	4	1	0	1
<i>Secale cereale</i> ssp, <i>ancestrale</i>	16	7	5	2.58	0.67	16	1	0	2
<i>Secale cereale</i> ssp, <i>cereale</i>	16	8	7	3.47	0.71	16	1	0	2
<i>Secale cereale</i> ssp, <i>segetale</i>	16	7	6	2.81	0.60	16	1	0	3
<i>Secale cereale</i> ssp, <i>dighoricum</i>	8	3	2	0.76	0.31	8	1	0	1
<i>Secale cereale</i> ssp, <i>rigidum</i>	8	5	3	1.55	0.62	8	1	0	1
<i>Secale strictum</i> ssp, <i>africanum</i>	8	5	4	2.24	0.70	8	1	0	2
<i>Secale strictum</i> ssp, <i>anatolicum</i>	12	7	6	2.78	0.75	12	1	0	4
<i>Secale strictum</i> ssp, <i>kuprijanovii</i>	16	8	5	2.57	0.65	16	1	0	2
<i>Secale strictum</i> ssp <i>strictum</i>	12	5	3	1.73	0.48	12	1	0	1

<i>Secale strictum</i> ssp, <i>ciliatoglume</i>	4	3	1	0.44	0.62	4	1	0	1
<i>Secale vavilovii</i>	16	7	6	4.01	0.58	16	1	0	2
<i>Secale sylvestre</i>	16	8	5	2.66	0.62	16	1	0	2

Table S6. General description of standard SPInDel profiles from the *nad1*exon B-*nad1*exon C intron mtDNA region.

Species	Number of Sequences (N)	Number of Conserved Regions	Number of Hypervariable Regions (n)	Average Number of Pairwise Differences (p^{c_n})	Average Number of Pairwise Differences per Hypervariable Region	Number of Species-Specific Profiles (N_{sp})	Frequency of Species-Specific Profiles (f_{sp})	Number of Species-Shared Profiles	Number of Minimum Hypervariable Regions for Discrimination of All Species
<i>Secale cereale</i> ssp. <i>afghanicum</i>	6	4	3	1.52	0.44	6	1	0	1
<i>Secale cereale</i> ssp. <i>ancestrale</i>	24	11	9	4.55	0.76	24	1	0	5
<i>Secale cereale</i> ssp. <i>cereale</i>	24	9	8	4.08	0.79	24	1	0	6
<i>Secale cereale</i> ssp. <i>segetale</i>	24	11	7	4.01	0.72	24	1	0	4
<i>Secale cereale</i> ssp. <i>dighoricum</i>	12	5	4	2.10	0.65	12	1	0	2
<i>Secale cereale</i> ssp. <i>rigidum</i>	12	6	4	2.44	0.70	12	1	0	1
<i>Secale strictum</i> ssp. <i>africanum</i>	12	5	3	1.48	0.74	12	1	0	1
<i>Secale strictum</i> ssp. <i>anatolicum</i>	18	8	7	2.99	0.67	18	1	0	4
<i>Secale strictum</i> ssp. <i>kuprijanovii</i>	24	12	10	5.02	0.88	24	1	0	7
<i>Secale strictum</i> ssp. <i>strictum</i>	18	7	6	2.81	0.65	18	1	0	4

<i>Secale strictum</i> ssp. <i>ciliatoglume</i>	6	3	2	1.07	0.27	6	1	0	1
<i>Secale vavilovii</i>	24	10	9	4.51	0.76	24	1	0	7
<i>Secale sylvestre</i>	24	11	8	4.04	0.69	24	1	0	5

Table S7. General description of standard SPInDel profiles from the *nad4*/1-2 mtDNA region.

Species	Number of Sequences (N)	Number of Conserved Regions	Number of Hypervariable Regions (n)	Average Number of Pairwise Differences (p^{C_n})	Average Number of Pairwise Differences per Hypervariable Region	Number of Species-Specific Profiles (N_{sp})	Frequency of Species-Specific Profiles (f_{sp})	Number of Species-Shared Profiles	Number of Minimum Hypervariable Regions for Discrimination of All Species
<i>Secale cereale</i> ssp. <i>afghanicum</i>	6	2	1	0.55	0.41	6	1	0	1
<i>Secale cereale</i> ssp. <i>ancestrale</i>	24	10	8	4.95	0.76	24	1	0	4
<i>Secale cereale</i> ssp. <i>cereale</i>	24	9	6	2.99	0.82	24	1	0	2
<i>Secale cereale</i> ssp. <i>segetale</i>	24	11	7	4.01	0.78	24	1	0	4
<i>Secale cereale</i> ssp. <i>dighoricum</i>	12	7	4	1.95	0.55	12	1	0	1
<i>Secale cereale</i> ssp. <i>rigidum</i>	12	5	3	1.56	0.60	12	1	0	1
<i>Secale strictum</i> ssp. <i>africanum</i>	12	5	4	2.01	0.49	12	1	0	2
<i>Secale strictum</i> ssp. <i>anatolicum</i>	18	8	6	2.97	0.44	18	1	0	4
<i>Secale strictum</i> ssp. <i>kuprijanovii</i>	24	10	6	2.94	0.47	24	1	0	3
<i>Secale strictum</i> ssp. <i>strictum</i>	18	7	4	2.05	0.42	18	1	0	2

<i>Secale strictum</i> ssp. <i>ciliatoglume</i>	6	2	1	0.42	0.27	6	1	0	1
<i>Secale vavilovii</i>	24	11	7	3.50	0.52	24	1	0	5
<i>Secale sylvestre</i>	24	10	8	3.65	0.47	24	1	0	4

Table S8. General description of standard SPInDel profiles from the *nad4L-orf25* mtDNA region.

Species	Number of Sequences (N)	Number of Conserved Regions	Number of Hypervariable Regions (n)	Average Number of Pairwise Differences (p^{C_n})	Average Number of Pairwise Differences per Hypervariable Region	Number of Species-Specific Profiles (N _{sp})	Frequency of Species-Specific Profiles (f_{sp})	Number of Species-Shared Profiles	Number of Minimum Hypervariable Regions for Discrimination of All Species
<i>Secale cereale</i> ssp. <i>afghanicum</i>	6	4	3	1.04	0.64	6	1	0	1
<i>Secale cereale</i> ssp. <i>ancestrale</i>	24	9	8	3.51	0.47	24	1	0	3
<i>Secale cereale</i> ssp. <i>cereale</i>	24	10	7	2.95	0.42	24	1	0	3
<i>Secale cereale</i> ssp. <i>segetale</i>	24	10	9	4.22	0.48	24	1	0	5
<i>Secale cereale</i> ssp. <i>dighoricum</i>	12	5	3	1.20	0.33	12	1	0	1
<i>Secale cereale</i> ssp. <i>rigidum</i>	12	6	5	2.67	0.50	12	1	0	3
<i>Secale strictum</i> ssp. <i>africanum</i>	12	6	3	1.73	0.56	12	1	0	1
<i>Secale strictum</i> ssp. <i>anatolicum</i>	18	8	6	2.75	0.48	18	1	0	3
<i>Secale strictum</i> ssp. <i>kuprijanovii</i>	24	9	7	3.18	0.43	24	1	0	3
<i>Secale strictum</i> ssp. <i>strictum</i>	18	8	6	2.87	0.41	18	1	0	2

<i>Secale strictum</i> ssp. <i>ciliatoglume</i>	6	3	1	0.44	0.58	6	1	0	1
<i>Secale vavilovii</i>	24	9	8	3.87	0.43	24	1	0	3
<i>Secale sylvestre</i>	24	12	10	4.90	0.66	24	1	0	6

Table S9. General description of standard SPInDel profiles from the *rps12-1/nad3-2* mtDNA region.

Species	Number of Sequences (N)	Number of Conserved Regions	Number of Hypervariable Regions (n)	Average Number of Pairwise Differences (p^{C_n})	Average Number of Pairwise Differences per Hypervariable Region	Number of Species-Specific Profiles (N_{sp})	Frequency of Species-Specific Profiles (f_{sp})	Number of Species-Shared Profiles	Number of Minimum Hypervariable Regions for Discrimination of All Species
<i>Secale cereale</i> ssp. <i>afghanicum</i>	6	4	3	1.24	0.75	6	1	0	2
<i>Secale cereale</i> ssp. <i>ancestrale</i>	24	9	7	3.20	0.48	24	1	0	3
<i>Secale cereale</i> ssp. <i>cereale</i>	24	11	10	5.01	0.47	24	1	0	6
<i>Secale cereale</i> ssp. <i>segetale</i>	24	10	6	2.78	0.42	24	1	0	2
<i>Secale cereale</i> ssp. <i>dighoricum</i>	12	5	4	1.97	0.34	12	1	0	1
<i>Secale cereale</i> ssp. <i>rigidum</i>	12	5	3	1.22	0.38	12	1	0	1
<i>Secale strictum</i> ssp. <i>africanum</i>	12	6	5	2.45	0.51	12	1	0	3
<i>Secale strictum</i> ssp. <i>anatolicum</i>	18	8	6	2.76	0.67	18	1	0	2
<i>Secale strictum</i> ssp. <i>kuprijanovii</i>	24	12	10	5.02	0.86	24	1	0	5
<i>Secale strictum</i> ssp. <i>strictum</i>	18	8	6	2.65	0.63	18	1	0	2

<i>Secale strictum</i> ssp. <i>ciliatoglume</i>	6	3	1	0.48	0.50	6	1	0	1
<i>Secale vavilovii</i>	24	10	8	3.97	0.67	24	1	0	4
<i>Secale sylvestre</i>	24	11	7	3.01	0.77	24	1	0	4

Table S10. General description of standard SPInDel profiles from the *rps12-2/nad3-1* mtDNA region.

Species	Number of Sequences (N)	Number of Conserved Regions	Number of Hypervariable Regions (n)	Average Number of Pairwise Differences (p^{G_n})	Average Number of Pairwise Differences per Hypervariable Region	Number of Species-Specific Profiles (N _{sp})	Frequency of Species-Specific Profiles (f_{sp})	Number of Species-Shared Profiles	Number of Minimum Hypervariable Regions for Discrimination of All Species
<i>Secale cereale</i> ssp. <i>afghanicum</i>	6	4	3	1.45	0.82	6	1	0	2
<i>Secale cereale</i> ssp. <i>ancestrale</i>	24	12	10	5.54	0.79	24	1	0	5
<i>Secale cereale</i> ssp. <i>cereale</i>	24	8	6	3.02	0.44	24	1	0	3
<i>Secale cereale</i> ssp. <i>segetale</i>	24	10	8	4.25	0.48	24	1	0	3
<i>Secale cereale</i> ssp. <i>dighoricum</i>	12	5	4	2.43	0.43	12	1	0	1
<i>Secale cereale</i> ssp. <i>rigidum</i>	12	6	4	2.17	0.59	12	1	0	2
<i>Secale strictum</i> ssp. <i>africanum</i>	12	7	5	2.40	0.73	12	1	0	3
<i>Secale strictum</i> ssp. <i>anatolicum</i>	18	8	6	2.99	0.45	18	1	0	3
<i>Secale strictum</i> ssp. <i>kuprijanovii</i>	24	11	7	3.60	0.49	24	1	0	4
<i>Secale strictum</i> ssp. <i>strictum</i>	18	8	5	2.76	0.55	18	1	0	2

<i>Secale strictum</i> ssp. <i>ciliatoglume</i>	6	4	3	1.45	0.87	6	1	0	1
<i>Secale vavilovii</i>	24	12	10	4.91	0.78	24	1	0	4
<i>Secale sylvestre</i>	24	9	6	2.67	0.51	24	1	0	4

Table S11. General description of standard SPInDel profiles from the *rrn5/rrn18-1* mtDNA region.

Species	Number of Sequences (N)	Number of Conserved Regions	Number of Hypervariable Regions (n)	Average Number of Pairwise Differences (p^{C_n})	Average Number of Pairwise Differences per Hypervariable Region	Number of Species-Specific Profiles (N_{sp})	Frequency of Species-Specific Profiles (f_{sp})	Number of Species-Shared Profiles	Number of Minimum Hypervariable Regions for Discrimination of All Species
<i>Secale cereale</i> ssp. <i>afghanicum</i>	6	4	3	0.59	0.89	6	1	0	1
<i>Secale cereale</i> ssp. <i>ancestrale</i>	24	10	8	3.89	0.45	24	1	0	4
<i>Secale cereale</i> ssp. <i>cereale</i>	24	11	8	4.12	0.49	24	1	0	5
<i>Secale cereale</i> ssp. <i>segetale</i>	24	10	9	4.48	0.42	24	1	0	5
<i>Secale cereale</i> ssp. <i>dighoricum</i>	12	5	4	2.02	0.56	12	1	0	2
<i>Secale cereale</i> ssp. <i>rigidum</i>	12	6	4	1.97	0.61	12	1	0	1
<i>Secale strictum</i> ssp. <i>africanum</i>	12	7	5	2.47	0.78	12	1	0	2
<i>Secale strictum</i> ssp. <i>anatolicum</i>	18	9	7	3.88	0.81	18	1	0	4
<i>Secale strictum</i> ssp. <i>kuprijanovii</i>	24	11	8	4.04	0.60	24	1	0	4
<i>Secale strictum</i> ssp. <i>strictum</i>	18	9	5	2.57	0.73	18	1	0	3

<i>Secale strictum</i> ssp. <i>ciliatoglume</i>	6	3	2	0.96	0.77	6	1	0	1
<i>Secale vavilovii</i>	24	11	10	5.16	0.62	24	1	0	5
<i>Secale sylvestre</i>	24	10	6	2.77	0.55	24	1	0	4