

Table 2. Pollen morphological parameters of the investigated *Campanula* taxa.

Taxa	P (µm)			E (µm)			P/E	L (µm)			plg (µm)		
	M	σ	Var.	M	S	Var.		M	S	Var.	M	S	Var.
<i>C. argeae</i> (N)	25.29	1.18	28-22	26.55	1.34	29-24	0.95	26.20	1.28	29-22	4.72	0.77	7-2
<i>C. argeae</i> (A)	21.08	0.68	25-16	22.60	1.43	25-20	0.93	21.24	1.32	24-19	4.18	0.65	5-3
<i>C. cymbalaria</i> (N)	30.55	1.36	35-27	31.49	1.47	36-27	0.97	31.10	1.28	34-27	5.78	1.97	8-2
<i>C. cymbalaria</i> (A)	27.10	1.02	29-26	28.57	0.79	30-27	0.95	27.90	0.75	29-27	5.38	0.72	7-4
<i>C. glomerata</i> (N)	28.86	1.10	31-26	30.97	1.18	33-29	0.93	30.69	1.24	33-28	5.92	1.45	10-4
<i>C. glomerata</i> (A)	28.45	2.49	35-22	30.96	2.10	35-27	0.91	29.65	1.95	34-25	4.98	1.02	9-3
<i>C. latiloba</i> subsp. <i>latiloba</i> (N)	29.68	1.53	33-27	30.64	1.40	33-27	0.97	30.50	1.37	33-27	5.92	1.56	10-4
<i>C. latiloba</i> subsp. <i>latiloba</i> (A)	27.71	1.53	32-25	29.64	1.80	33-26	0.93	28.87	1.61	32-25	6.08	1.23	9-4
<i>C. lyrata</i> (N)	26.16	1.22	30-24	27.30	1.39	31-25	0.96	26.44	1.19	30-24	5.62	0.91	8-3
<i>C. lyrata</i> (A)	22.46	1.64	27-15	23.92	1.91	33-19	0.94	23.06	1.93	27-17	4.20	0.77	6-2
<i>C. olympica</i> (N)	28.68	2.16	34-25	30.48	1.21	33-28	0.94	29.10	2.04	34-25	5.16	1.57	10-3
<i>C. olympica</i> (A)	25.93	1.97	30-20	28.16	1.94	32-23	0.92	27.17	1.88	31-22	4.61	0.58	5-3
<i>C. persicifolia</i> (N)	30.62	1.11	33-27	31.71	1.08	34-29	0.97	30.94	1.19	33-28	5.24	0.64	6-4
<i>C. persicifolia</i> (A)	30.30	1.65	34-25	31.56	1.50	34-28	0.96	30.59	2.05	34-25	5.44	0.70	7-4
<i>C. pterocaula</i> (N)	28.50	1.26	31-26	29.77	1.17	33-27	0.96	29.11	1.52	32-25	4.72	1.17	10-2
<i>C. pterocaula</i> (A)	27.00	1.47	30-24	28.86	1.40	32-26	0.94	27.72	1.36	30-26	4.64	0.56	5-3
<i>C. rapunculoides</i> (N)	30.23	2.06	37-26.5	32.03	1.69	37-29	0.94	31.48	1.43	35-30	5.54	0.94	8-3
<i>C. rapunculoides</i> (A)	28.98	2.16	37-23	30.86	1.60	36-28	0.94	30.61	1.13	33-29	5.26	0.83	9-4
<i>C. rapunculus</i> var. <i>rapunculus</i> (N)	26.54	1.76	33-24	28.17	1.82	33-25	0.94	27.58	1.48	31-24	4.58	0.92	6-2
<i>C. rapunculus</i> var. <i>rapunculus</i> (A)	26.16	1.95	30-20	27.94	1.80	32-22	0.94	26.94	1.83	30-20	4.88	0.74	6-3
<i>C. stricta</i> (N)	29.13	1.28	32-27	30.26	1.05	33-29	0.96	29.55	1.13	33-27	7.62	1.44	11-5
<i>C. stricta</i> (A)	24.15	2.03	27-18	26.05	1.77	28-11	0.93	22.25	2.49	24-18	4.73	0.66	6-3.5
<i>C. pamphylica</i> subsp. <i>tokurii</i> (N)	25.30	1.29	28-20	26.52	1.41	29.5-20	0.95	26.22	1.39	29-20	5.87	1.76	11-3
<i>C. pamphylica</i> subsp. <i>tokurii</i> (A)	21.88	1.83	25-17	23.94	1.52	27-20	0.91	22.88	1.42	25-20	4.40	0.69	6-3

(Contd.)

(Contd.)

Taxa	plt (μm)			Exine (μm)			I (μm)			i (μm)		
	M	S	Var.	M	S	Var.	M	S	Var.	M	S	Var.
<i>C. argeae</i> (N)	4.26	0.88	6.5-1.5	1.35	0.47	3-0.5	0.56	0.43	7-1.5	0.56	0.43	3-0.25
<i>C. argeae</i> (A)	3.74	0.66	5-3	0.95	0.30	2-0.25	-	-	-	-	-	-
<i>C. cymbalaria</i> (N)	5.22	1.14	8-2	1.09	0.21	1.5-0.5	2.86	1.47	7.5-0	0.44	0.19	1-0.25
<i>C. cymbalaria</i> (A)	4.33	0.56	6-4	0.99	0.05	1-0.75	-	-	-	-	-	-
<i>C. glomerata</i> (N)	5.24	1.23	9-3	1.03	1.19	2-0.5	4.66	1.38	7-1	0.42	0.19	1-0.25
<i>C. glomerata</i> (A)	4.35	1.04	8-2	1.23	0.42	2.5-0.75	-	-	-	-	-	-
<i>C. latiloba</i> subsp. <i>latiloba</i> (N)	5.30	1.86	10-3	1.22	0.41	2-1	5.98	1.86	10-2	0.61	0.26	1-0.25
<i>C. latiloba</i> subsp. <i>latiloba</i> (A)	5.56	1.22	9-3	1.10	0.38	3-0.5	-	-	-	-	-	-
<i>C. lyrata</i> (N)	4.96	0.89	7-3	1.04	0.31	2-0.5	4.28	1.11	7-2	0.47	0.20	1-0.25
<i>C. lyrata</i> (A)	3.54	0.83	5-2	1.10	0.28	2-1	-	-	-	-	-	-
<i>C. olympica</i> (N)	4.29	1.27	8-3	1.20	0.39	2-1	5.94	1.70	10-2	0.40	0.23	1-0.25
<i>C. olympica</i> (A)	3.96	0.72	5-3	1.01	0.28	2-0.5	-	-	-	-	-	-
<i>C. persicifolia</i> (N)	4.51	0.86	6-3	1.09	0.19	1.75-1	3.94	1.88	10-1.5	0.36	1.12	0.5-0.25
<i>C. persicifolia</i> (A)	4.92	0.80	7-3	1.11	0.37	2.5-0.5	-	-	-	-	-	-
<i>C. pterocaula</i> (N)	4.27	1.10	9-2	1.13	0.29	2-0.5	3.55	2.02	10-1	0.49	0.21	1-0.25
<i>C. pterocaula</i> (A)	3.96	0.96	5-2	1.17	0.52	3-0.5	-	-	-	-	-	-
<i>C. rapunculoides</i> (N)	4.90	1.10	8-3	1.24	0.41	2-1	5.38	1.95	10-0	0.53	0.30	1-0.25
<i>C. rapunculoides</i> (A)	4.68	0.85	8-3	1.05	0.37	2.5-0.5	-	-	-	-	-	-
<i>C. rapunculus</i> var. <i>rapunculus</i> (N)	3.96	0.90	6-2	1.18	0.32	2-0.75	3.44	1.43	7-1.25	0.55	0.44	3-0.25
<i>C. rapunculus</i> var. <i>rapunculus</i> (A)	4.11	0.77	6-3	0.98	0.21	2-0.5	-	-	-	-	-	-
<i>C. stricta</i> (N)	6.70	1.57	10-3	1.25	0.35	2-0.5	5.47	1.10	8-3	0.43	0.20	1-0.25
<i>C. stricta</i> (A)	4.25	0.89	6-2	1.00	0.27	2-0.5	-	-	-	-	-	-
<i>C. pamphylica</i> subsp. <i>tokurii</i> (N)	4.91	1.64	10-3	1.23	0.28	2-1	4.28	1.32	7-1	0.43	0.21	1-0.25
<i>C. pamphylica</i> subsp. <i>tokurii</i> (A)	3.82	0.65	5-2	1.00	0.17	2-0.5	-	-	-	-	-	-

Abbreviations: N: Non acetolysed (LM), A: Acetolysed (LM), P: Polar axis, E: Equatorial axis, L:Equatorial countour diameter, plg: Length of the porus, plt: Width of the porus, I: thickest area of intine, i: thinnest area of intine, M: Mean, S: Standard deviations, Var: Variation.

Table 3. Identifying key of the pollen morphological features for investigated *Campanula* taxa.

<i>Campanula</i> taxa	Pollen type	Pollen shape	Ornamen- tation	Tectum	Amb	Annulus (μm)	Columella	Supratectal spinules (μm)	Spinules in $100 \mu^2$	Operculum length (μm)	Exine N-A (μm)
<i>C. argaea</i> Boiss. & Bal.	Triporate	Oblato- sphaeroidal	Granulate- scabrate	Scabrate	Circular	0.09	Single- layered	0.6-0.5	108	4	1.35-0.95
<i>C. cymbalaria</i> Sm. in Sibth. & Sm.	Triporate	Oblato- sphaeroidal	Rugulate- scabrate	Scabrate	Circular	1.09	Single- layered	0.6-0.5	160	4	1.09-0.99
<i>C. glomerata</i> L. subsp. <i>hispida</i> (Witasek) Hayek	Tri/ tetraporate	Oblato- sphaeroidal	Granulate- scabrate	Scabrate	Circular	0.43	Single- layered	0.45-0.3	144	4	1.03-1.23
<i>C. latiloba</i> A.D.C. subsp. <i>latiloba</i>	Triporate	Oblato- sphaeroidal	Rugulate- scabrate	Scabrate	Circular	1.09	Single- layered	0.8-1.0	16	4.8	1.22-1.10
<i>C. lyrata</i> Lam. subsp. <i>lyrata</i>	Triporate	Oblato- sphaeroidal	Granulate- scabrate	Scabrate	Circular	0.54	Single- layered	0.4-0.5	168	3.8	1.04-1.10
<i>C. olympica</i> Boiss.	Triporate	Oblato- sphaeroidal	Rugulate- scabrate	Scabrate	Circular	0.54	Single- layered	0.4-0.5	100	3.8	1.20-1.01
<i>C. persicifolia</i> L.	Triporate	Oblato- sphaeroidal	Rugulate- scabrate	Scabrate	Circular	0.09	Single- layered	1.12-0.75	28	3.8	1.09-1.11
<i>C. pterocaula</i> Hausskn.	Triporate	Oblato- sphaeroidal	Rugulate- scabrate	Scabrate	Circular	1.30	Single- layered	0.6-0.9	12	4	1.13-1.17
<i>C. rapunculoides</i> L. subsp. <i>cordifolia</i> (C. Koch) Damboldt	Triporate	Oblato- sphaeroidal	Rugulate- scabrate	Scabrate	Circular	1.09	Single- layered	0.45-0.4	44	4	1.24-1.05
<i>C. rapunculus</i> L. var. <i>rapunculus</i>	Triporate	Oblato- sphaeroidal	Rugulate- scabrate	Scabrate	Circular	0.22	Single- layered	0.45-0.45	76	4	1.18-0.98
<i>C. stricta</i> L. var. <i>stricta</i>	Triporate	Oblato- sphaeroidal	Granulate- scabrate	Scabrate	Circular	0.43	Single- layered	0.45-0.45	116	4	1.25-1.00
<i>C. pamphylica</i> subsp. <i>tokurii</i> (A. Ocak) E. Akçiçek & M. Vural	Triporate	Oblato- sphaeroidal	Granulate- scabrate	Scabrate	Circular	0.76	Single- layered	0.36-0.5	84	4.5	1.23-1.00

Abbreviations: N: Non acetolysed (LM), A: Acetolysed (LM) pollens.