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附录III 细叶云南松针叶表型性状变异系数

Supplement III variation coefficient of needle traits in natural *Pinus yunnanensis* var. *tenuifolia*

性状 Trait	种群内(个体间)变异系数 CV_w (%)										种群间变异系数 CV_b (%)
	坝汪	弥佑	岔江	大观	大亭	钱相	老山	伍家坟	新桥	平均值	
	Bawang	Biyou	Chajiang	Daguan	Dating	Qianxiang	Laoshan	Wujiafen	Xinqiao	Mean	
α_A (°)	9.43	4.97	7.87	7.29	6.42	16.67	13.62	4.57	8.30	8.79	4.23
NW (mm)	10.09	7.08	4.93	5.30	8.58	7.15	4.84	9.75	5.18	6.99	5.19
NT (mm)	9.98	9.17	5.47	3.71	8.23	5.77	4.69	8.81	4.95	6.75	5.36
NSP (mm)	9.04	9.23	5.78	5.34	8.37	11.57	4.02	9.53	4.67	7.51	4.79
NSA (mm ²)	18.26	17.36	10.17	9.85	18.01	20.70	8.75	19.59	8.25	14.55	9.54
CCW (mm)	9.86	8.13	5.69	9.90	13.36	7.95	6.87	11.15	6.42	8.81	6.21
CCT (mm)	5.80	11.73	6.05	8.59	10.58	5.84	5.30	8.25	8.91	7.89	4.50
CCP (mm)	8.86	10.22	6.14	8.69	12.60	6.82	6.42	9.29	7.60	8.51	5.36
CCA (mm ²)	14.89	20.62	11.48	18.67	23.96	13.40	12.17	17.61	17.03	16.65	9.87
RCN (No.)	24.76	33.13	25.53	43.41	43.44	27.22	39.21	37.44	44.22	35.37	<u>27.31</u>
RCP (mm)	25.06	39.90	25.72	49.25	48.98	22.66	47.20	35.13	37.27	36.80	<u>25.70</u>
RCA (mm ²)	32.44	49.12	33.40	54.24	56.03	22.18	59.61	43.22	34.98	42.80	<u>25.90</u>
MA (mm ²)	23.53	15.25	10.82	7.80	14.88	27.27	9.32	21.51	10.10	15.61	9.50
MSD (No.·mm ²)	8.32	19.73	9.97	13.44	21.09	10.18	8.17	13.58	17.77	13.58	11.26
V1	10.53	4.68	5.98	11.08	9.17	13.78	7.84	8.14	14.85	9.56	2.91
V2	24.59	50.27	26.88	41.46	32.92	33.11	39.19	30.72	32.78	34.66	<u>25.98</u>
V3	29.30	34.82	26.10	45.75	45.93	27.21	39.51	38.64	41.43	36.52	<u>25.52</u>
V4	10.65	16.97	9.35	19.05	23.37	16.29	13.37	11.97	15.88	15.21	10.70
平均值 Mean	15.86	20.13	13.19	20.16	22.55	16.43	18.34	18.83	17.81	18.14	12.21

种群内(个体间)变异系数(CV_w)为种群内个体间性状标准差与该种群均值之比。 CV_b 为种群间性状标准差与参试种群总均值之比。下划线数值为对应性状种群间变异系数(CV_b)最大值。**, $p < 0.01$; ***, $p < 0.001$ 。 α_A , 针叶截面夹角; CCA, 中柱截面积; CCP, 中柱截面周长; CCT, 中柱厚; CCW, 中柱宽; MA, 叶肉面积; MSD, 平均气孔密度; NSA, 针叶截面积; NSP, 针叶截面周长; NT, 针叶厚; NW, 针叶宽; RCA, 树脂道总面积; RCP, 树脂道总周长; RCN, 树脂道数; V1, NSA/CCA; V2, RCN/MSD; V3, RCN/V1; V4, MSD/V1。

The within-population (between individuals) coefficient of variation (CV_w) was that the among-individuals standard deviation of trait divided by the mean of given population. Coefficient of variation among populations (CV_b) was that the trait standard deviation among populations divided by the total mean of all populations. Underlined value was the maximal CV_b of the corresponding trait. **, $p < 0.01$; ***, $p < 0.001$. α_A , angle of needle cross section; CCA, central cylinder area; CCP, central cylinder perimeter; CCT, central cylinder thickness; CCW, central cylinder width; MA, mesophyll area; MSD, mean stomatal density; NSA, needle cross-section area; NT, needle thickness; NW, needle width; NSP, needle cross-section perimeter; RCA, resin canal area; RCP, resin canal perimeter; RCN, number of resin canals; V1, NSA/CCA; V2, RCN/MSD; V3, RCN/V1; V4, MSD/V1.