

Online Resource 13 for:

Genetic diversity and origin of the rare, narrow endemic *Asperula crassifolia* L. (Rubiaceae)

Plant Systematics and Evolution

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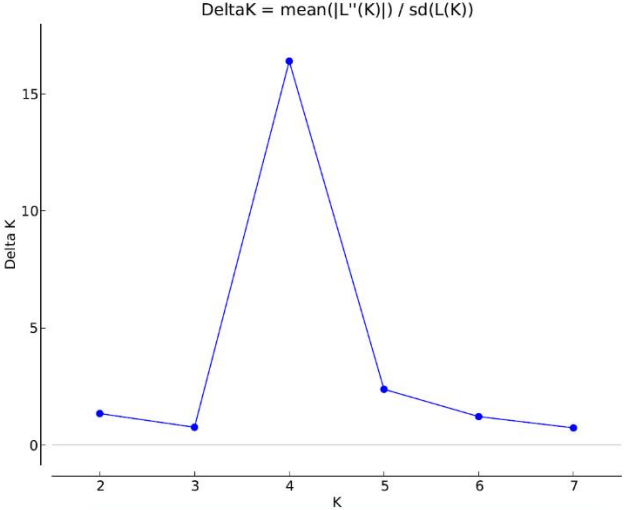
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Online Resource 13. Results obtained by employing the software Structure v2.3 to assess genetic differentiation in *A. crassifolia*.

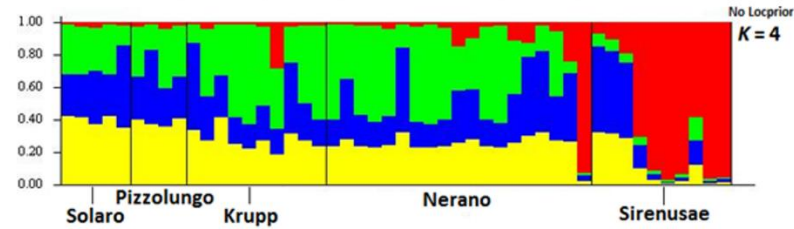
Analyses were conducted by applying admixture model and correlated allele frequencies. As we suspected that signals of structure were poorly detectable, we also tested the LOCPRIOR model. The simulation was run with a number of clusters (K) ranging from one to the number of populations plus three (Evanno et al. 2005), with 30 iterations for each K value. Each run included of a burn-in period of 10^5 iterations, followed by 10^5 Markov chain Monte Carlo (MCMC) steps. The most adequate value for the number of clusters (K) was determined with the method suggested by Evanno et al. (2005), exploring log-likelihood value and the second-order rate of change in values of K (ΔK) with the online tool Structure Harvester (Earl et al. 2012).

In (A), results obtained without LOCPRIOR. Although $K=4$ appears as the most likelihood according to the Evanno method (top), the horizontal trend in the bar plot is indicative of poor structure and failure in detecting the correct K (bottom). In (B), results obtained by adopting the LOCPRIOR model. In this case, the most likely number of subpopulations is $K=3$. The LOCPRIOR model is recommended when the amount of available data is limited and when the standard structure models do not provide a clear signal of structure; the model does not tend to find structure when none is present, ignores the sampling information when the ancestry of individuals is uncorrelated with sampling locations and does not give a different answer when the signal of population structure is very strong (Falush et al. 2003; Hubisz et al. 2009; Porras-Hurtado et al. 2013).

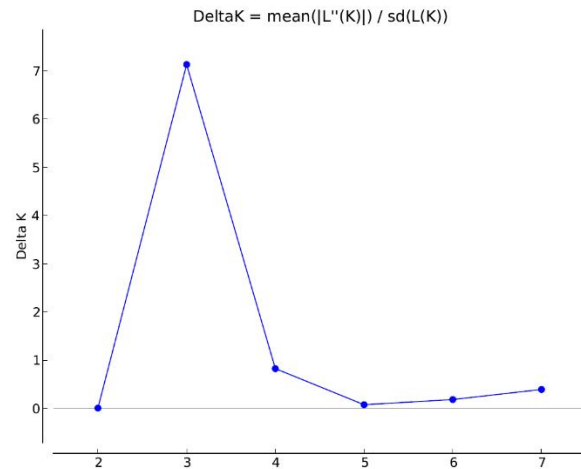
(A)



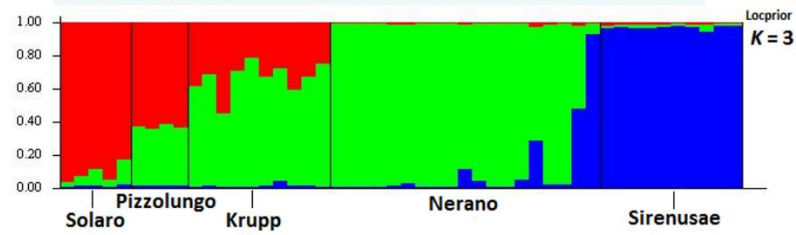
K	Reps	Mean LnP(K)	Stdev LnP(K)	Ln'(K)	Ln''(K)	Delta K
1	30	-565.507	0.396479	—	—	—
2	30	-553.31	13.63334	12.19667	18.39667	1.349389
3	30	-522.717	6.151932	30.59333	4.703333	0.76453
4	30	-496.827	4.33247	25.89	71.06	16.40173
5	30	-541.997	12.06907	-45.17	28.80667	2.386818
6	30	-558.36	11.84042	-16.3633	14.44333	1.219833
7	30	-560.28	14.33975	-1.92	10.58	0.737809
8	30	-572.78	9.122628	-12.5	—	—



(B)



K	Reps	Mean LnP(K)	Stdev LnP(K)	Ln'(K)	Ln''(K)	Delta K
1	29	-565.331034	0.408921	—	—	—
2	30	-520.643333	34.302998	44.687701	0.304368	0.008873
3	30	-476.260000	10.161476	44.383333	72.483333	7.133150
4	30	-504.360000	15.527897	-28.100000	12.853333	0.827758
5	30	-519.606667	22.204270	-15.246667	1.746667	0.078664
6	30	-533.106667	38.344859	-13.500000	7.140000	0.186205
7	30	-539.466667	37.367470	-6.360000	14.773333	0.395353
8	30	-531.053333	29.658467	8.413333	—	—



References:

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