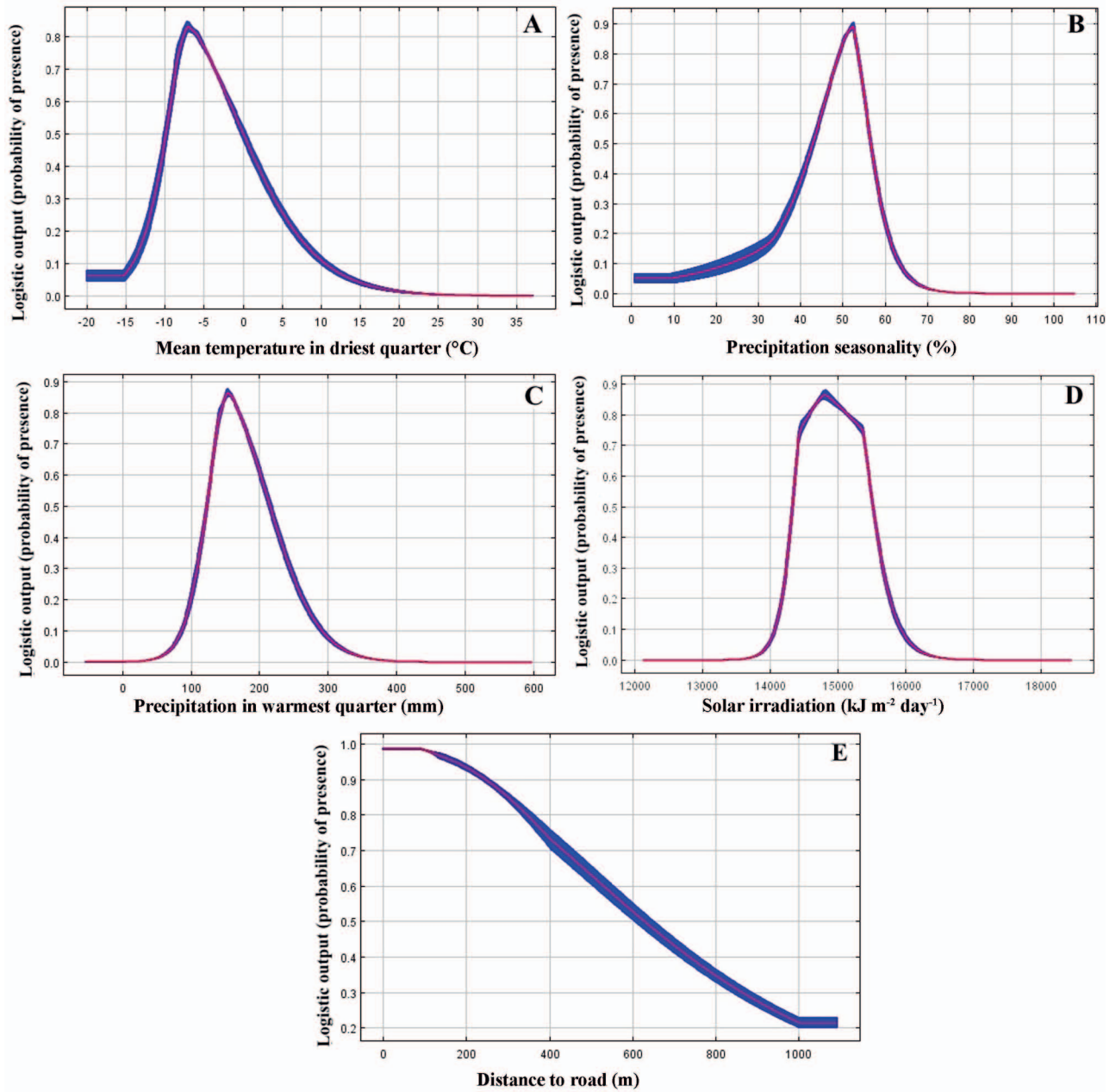Supplementary Table S1. Boyce index assessment using the *EcoSpat* package for the ten *D. armeniaca, D. valentini* and *D. mixta* MaxEnt models.
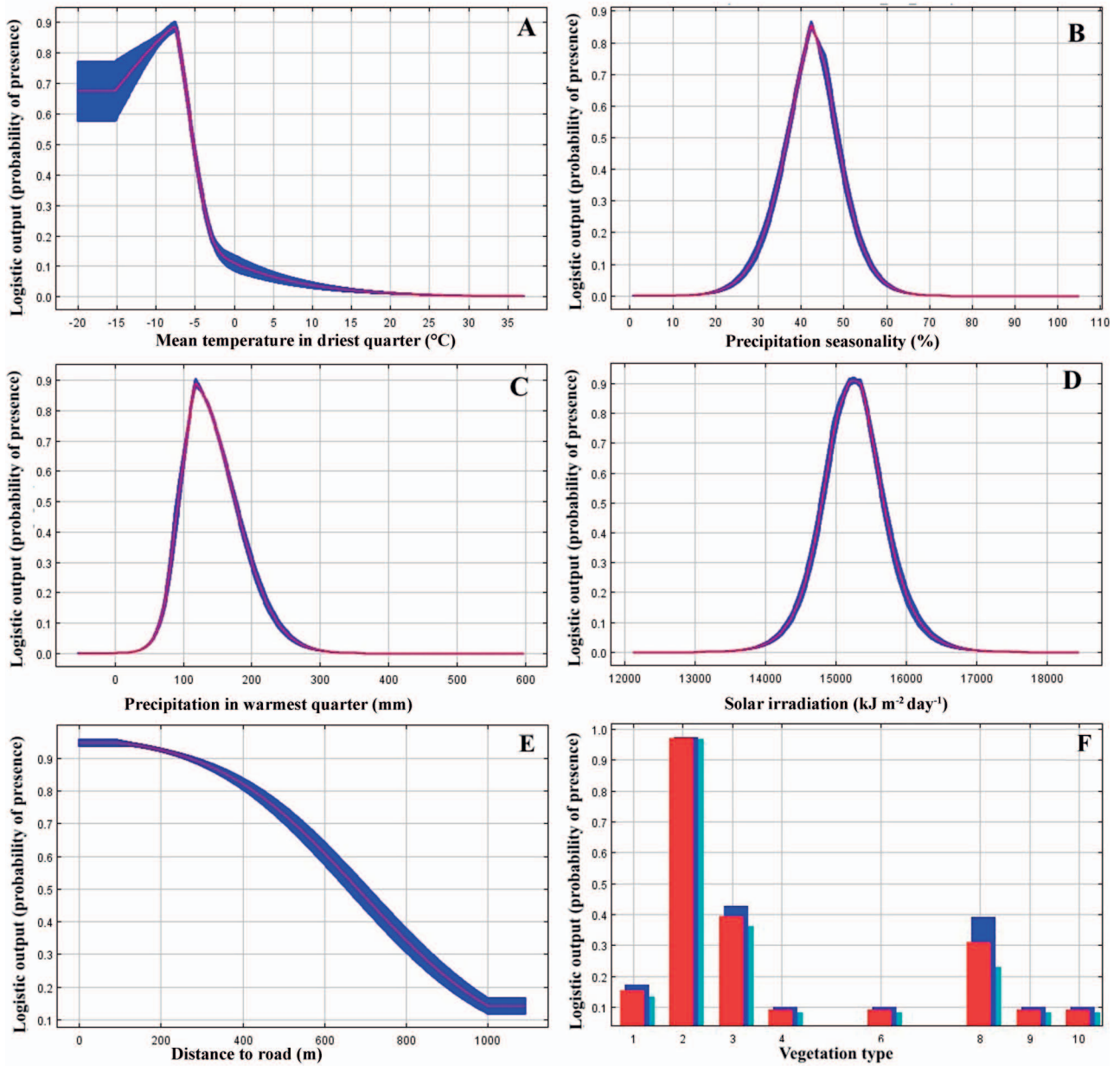
Species	Replication #	No. of Training samples	Regularized training gain	Unregularized training gain	Iterations	No. of test samples	Test gain	No. of Background points	Boyce index
D. armeniaca	1	89	2.23	2.38	460	10	2.30	10089	0.941
D. armeniaca	2	89	2.30	2.45	500	10	1.45	10089	0.919
D. armeniaca	3	89	2.25	2.40	500	10	2.18	10089	0.931
D. armeniaca	4	89	2.19	2.35	500	10	2.77	10089	0.917
D. armeniaca	5	89	2.21	2.37	500	10	2.53	10089	0.931
D. armeniaca	6	89	2.26	2.41	500	10	2.00	10089	0.917
D. armeniaca	7	89	2.26	2.41	500	10	2.06	10089	0.887
D. armeniaca	8	89	2.18	2.33	500	10	2.95	10089	0.964
D. armeniaca	9	89	2.27	2.44	500	10	2.00	10089	0.926
D. armeniaca	10	90	2.27	2.42	500	9	1.89	10090	0.927
Mean (±SD)			2.24 (±0.034)	2.4 (±0.037)			2.21 (±0.42)		0.926 (±0.019)
D. valentini	1	43	2.63	2.89	500	5	2.91	10043	0.906
D. valentini	2	43	2.61	2.90	500	5	3.06	10043	0.916
D. valentini	3	43	2.58	2.86	440	5	3.31	10043	0.906
D. valentini	4	43	2.57	2.86	500	5	3.58	10043	0.899
D. valentini	5	43	2.58	2.90	500	5	3.38	10043	0.906
D. valentini	6	43	2.72	3.01	500	5	1.98	10043	0.886
D. valentini	7	43	2.66	2.96	500	5	2.46	10043	0.954
D. valentini	8	43	2.66	2.95	500	5	2.64	10043	0.946
D. valentini	9	44	2.75	3.01	500	4	1.18	10044	0.939
D. valentini	10	44	2.82	3.09	480	4	0.49	10044	0.913
Mean (±SD)			2.66 (±0.082)	2.94 (±0.077)			2.5 (±1.00)		0.917 (±0.022)
D. mixta	1	36	2.13	2.47	500	4	2.97	10036	0.956
D. mixta	2	36	2.19	2.55	500	4	2.42	10036	0.887
D. mixta	3	36	2.19	2.54	500	4	2.29	10036	0.892
D. mixta	4	36	2.17	2.51	500	4	2.60	10036	0.859
D. mixta	5	36	2.19	2.54	420	4	2.39	10036	0.942
D. mixta	6	36	2.30	2.62	500	4	1.08	10036	0.85
D. mixta	7	36	2.20	2.54	500	4	2.20	10036	0.896
D. mixta	8	36	2.20	2.55	500	4	2.26	10036	0.951
D. mixta	9	36	2.19	2.52	500	4	2.25	10036	0.889
D. mixta	10	36	2.32	2.66	480	4	0.71	10036	0.958
Mean (±SD)			2.21 (±0.06)	2.55 (±0.05)			2.12 (±0.6)		0.908 (±0.041)

Supplementary Table S2. Variable percent contribution table obtained by MaxEnt ecological niche models for the different 10 replications. Table included only important variables. The most significant variables are highlighted in bold.
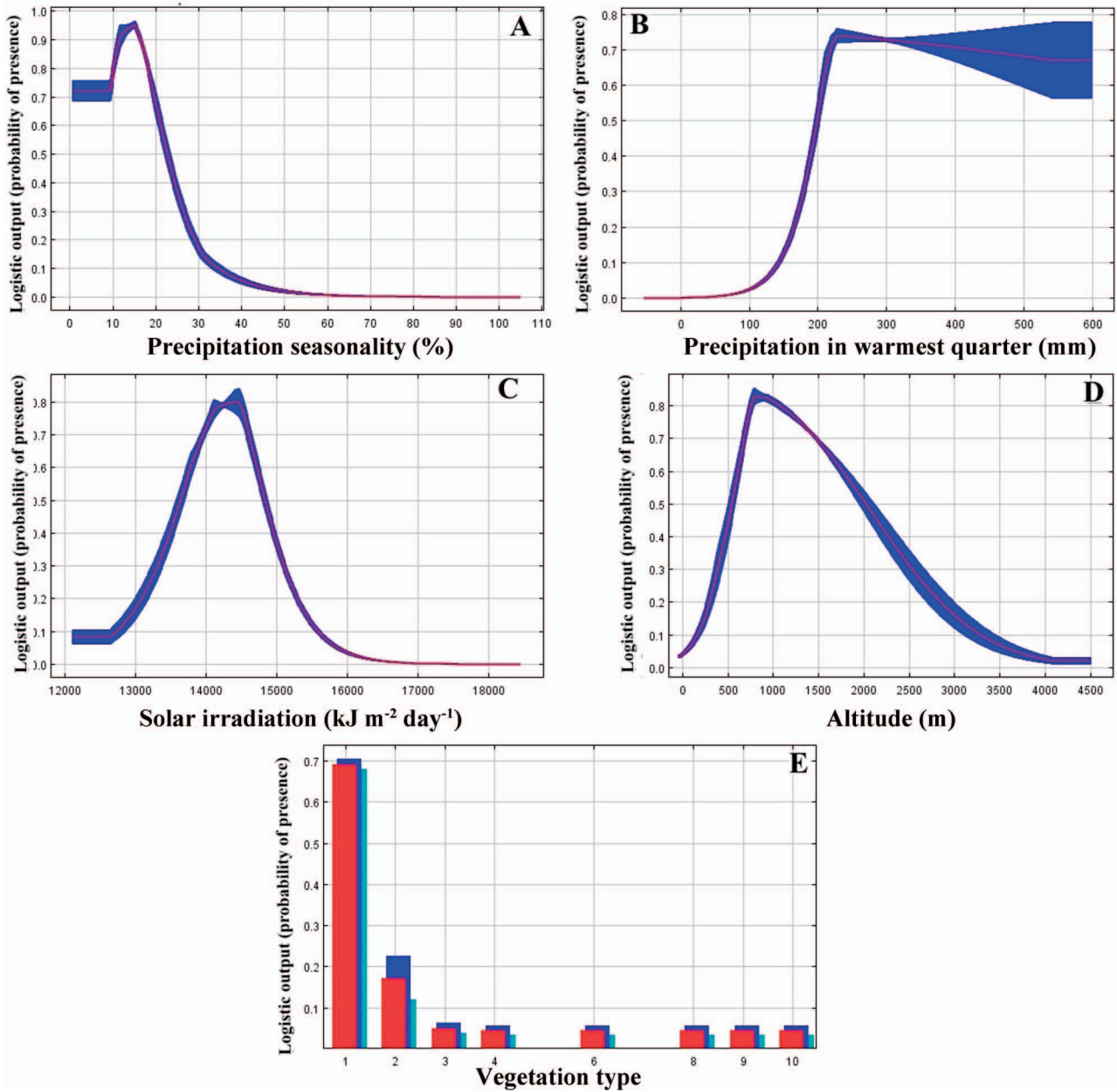
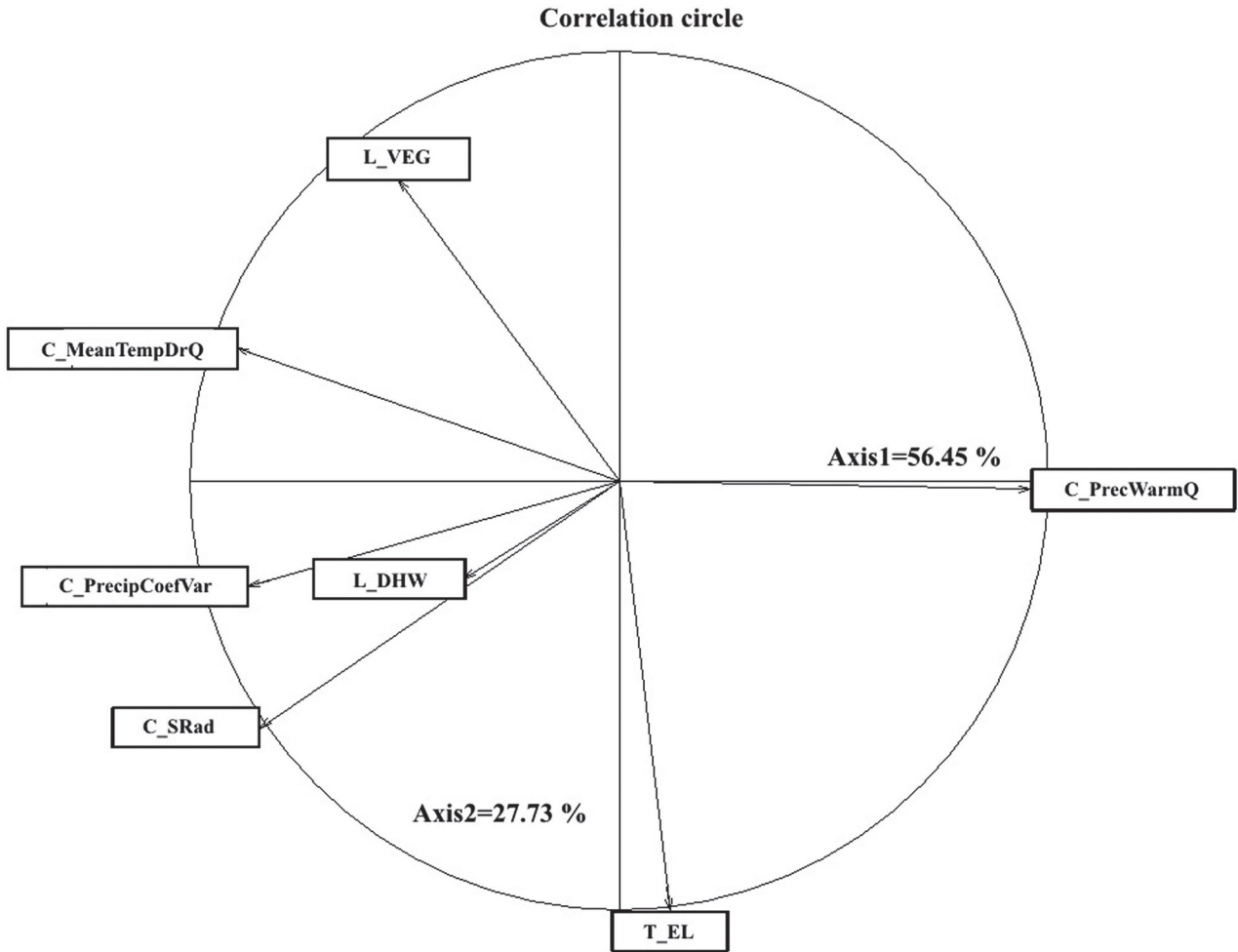| Species	Replication #	C_MeanTempDrQ	C_PrecipCoefVar	C_PrecWarmQ	C_SRad	T_EL	L_DHW	L_VEG
D. armeniaca	1	28.3	6.3	14.2	28.7	2.3	19.0	1.2
D. armeniaca	2	35.4	10.6	8.8	26.6	1.6	16.7	0.3
D. armeniaca	3	29.1	5.8	14.0	29.2	2.1	19.4	0.5
D. armeniaca	4	32.9	5.7	11.5	30.6	2.2	16.8	0.3
D. armeniaca	5	29.7	5.7	14.4	29.5	2.2	18.0	0.5
D. armeniaca	6	27.6	6.5	14.8	30.3	2.8	17.6	0.5
D. armeniaca	7	33.4	6.3	10.2	29.6	2.0	17.6	0.8
D. armeniaca	8	31.8	5.2	12.8	31.1	2.9	15.8	0.4
D. armeniaca	9	25.9	5.5	18.6	30.9	2.2	16.3	0.5
D. armeniaca	10	30.2	5.6	12.6	29.1	2.7	18.6	1.1
Mean (± SD)		**30.4 (±2.9)**	**6.3(±1.6)**	**13.2(±2.7)**	**29.6(±1.3)**	2.3(±0.4)	**17.6(±1.2)**	0.6(±0.3)
D. valentini	1	32.4	2.1	1.0	26.1	0.6	23.8	14.2
D. valentini	2	33.4	3.1	0.7	25.8	0.2	18.8	18.1
D. valentini	3	35.7	3.9	1.0	27.0	0.4	18.7	13.4
D. valentini	4	32.5	2.5	1.5	25.8	0.4	19.1	18.3
D. valentini	5	36.0	3.1	1.2	26.2	0.8	18.8	13.9
D. valentini	6	25.4	2.1	2.2	22.3	5.7	26.3	15.9
D. valentini	7	28.3	2.1	1.4	22.1	9.2	28.6	8.5
D. valentini	8	33.7	1.8	1.6	27.1	0.7	21.8	13.3
D. valentini	9	38.1	1.5	0.5	26.9	0.7	18.8	13.5
D. valentini	10	33.5	2.2	0.5	24.3	0.7	23.6	15.2
Mean (± SD)		**32.9(±3.7)**	2.4(±0.7)	1.1(±0.5)	**25.3(±1.9)**	0.9(±1.0)	21.8(±3.6)	14.4(±2.8)
D. mixta	1	0.3	35.4	38.4	8.9	10.8	0.3	5.9
D. mixta	2	0.0	37.0	33.7	9.4	12.7	0.6	6.6
D. mixta	3	0.0	41.9	30.7	8.6	10.9	1.0	6.9
D. mixta	4	0.3	38.9	33.0	7.6	13.1	0.6	6.6
D. mixta	5	0.4	32.6	38.5	10.4	11.4	0.2	6.5
D. mixta	6	0.1	31.9	36.3	11.6	13.2	1.1	5.7
D. mixta	7	0.2	42.3	31.2	7.4	10.7	1.0	7.1
D. mixta	8	0.1	38.0	36.7	8.9	9.9	0.7	5.8
D. mixta	9	0.1	39.8	34.3	10.2	10.5	0.0	5.1
D. mixta	10	2.9	41.8	20.6	8.7	7.2	0.4	18.3
Mean (± SD)		0.4 (±0.9)	**38.0 (±3.7)**	**33.3 (±5.2)**	**9.2 (±1.3)**	**11.0 (±1)**	0.6 (±0.4)	**7.5 (±3.9)**

Supplementary Figure S1. Relationships between each of the most important environmental predictors (see Table 3) and the likelihood of *D. armeniaca* occurrence.
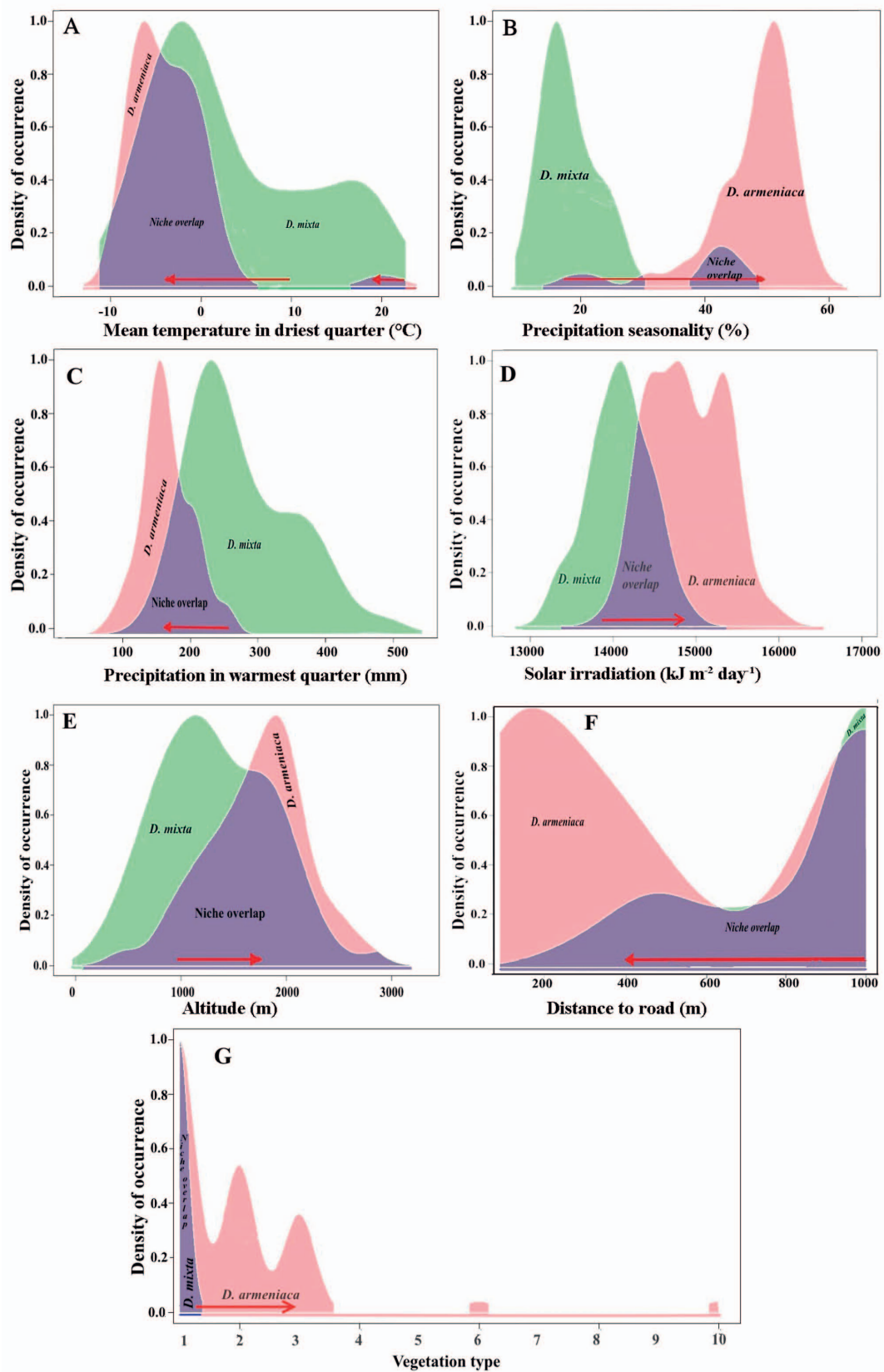
Supplementary Figure S2. Relationships between each of the most important environmental predictors (see Table 3) and the likelihood of *D. valentini* occurrence. Vegetation type: 1 – Mountain forest zone, 2 – Mountain meadows, 3 – Mountain steppe, 4 – Arid mountain steppe, 5 – Nival zone, 6 – Semi-desert, 7 – Cultivated areas, 8 – Wetland areas, 9 – Alpine zone, 10 – Urban areas.
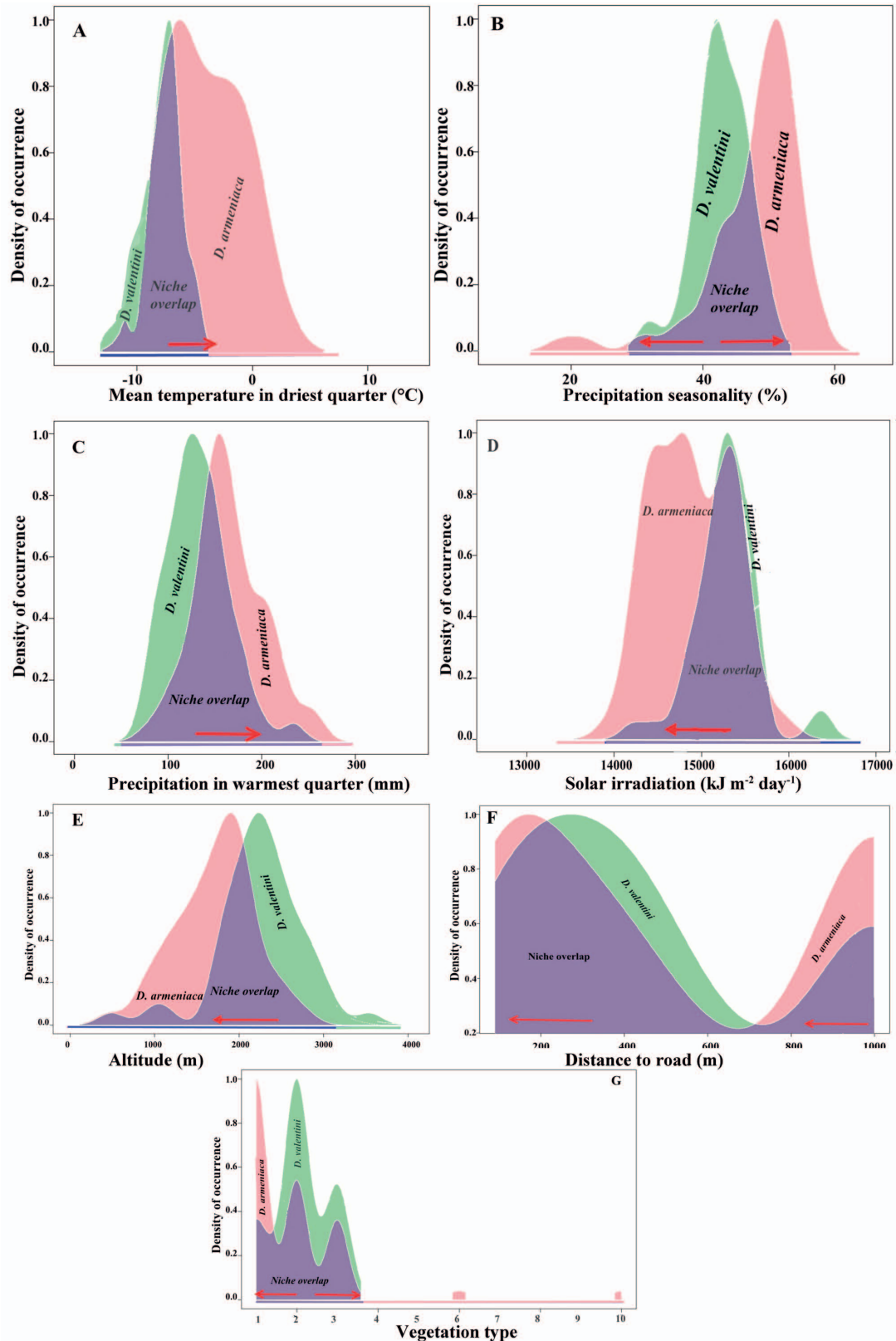
Supplementary Figure S3. Relationships between each of the most important environmental predictors (see Table 3) and the likelihood of *D. mixta* occurrence. Vegetation type: 1 – Mountain forest zone, 2 – Mountain meadows, 3 – Mountain steppe, 4 – Arid mountain steppe, 5 – Nival zone, 6 – Semi-desert, 7 – Cultivated areas, 8 – Wetland areas, 9 – Alpine zone, 10 – Urban areas.

Correlation circle

Supplementary Figure S4. Correlation between predictor variables and the first two components of the principal component analysis calibrated on extent of the environmental conditions in parental and "daughter" species. The first and second components explain 84.18 % of the total variation. The abbreviations of variables are explained in Table 3.

Supplementary Figure S5. Graphic representation of the shifts of the niche centroids of the "daughter" species *D. armeniaca* relative to the maternal species *D. mixta* along the most important environmental gradients. Red arrows indicate the direction of niche shifts.

Supplementary data Figure S6. Graphic representation of the shifts of the niche centroids of the "daughter" species *D. armeniaca* relative to the "paternal" species *D. valentini* along the most important environmental gradients. Red arrows indicate the direction of niche shifts.