

Multivariate analysis of morphological diversity in carob pods (*Ceratonia siliqua*, Fabaceae) among different accessions collected from Algeria

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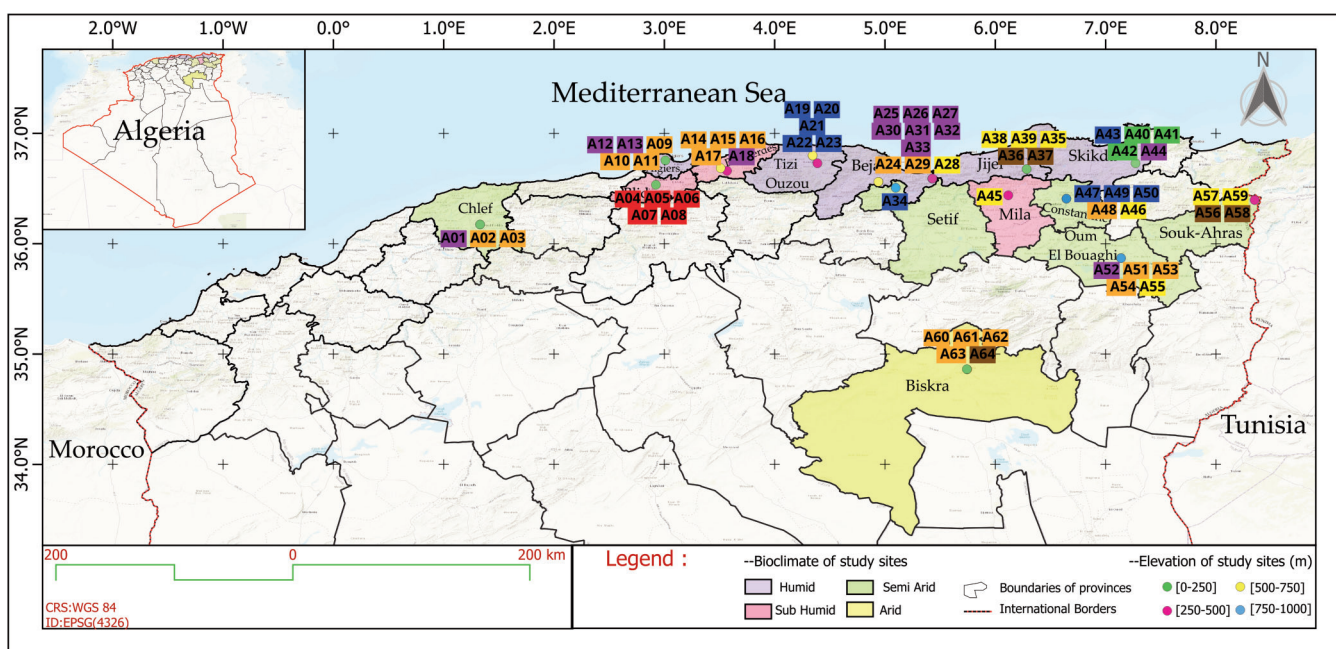
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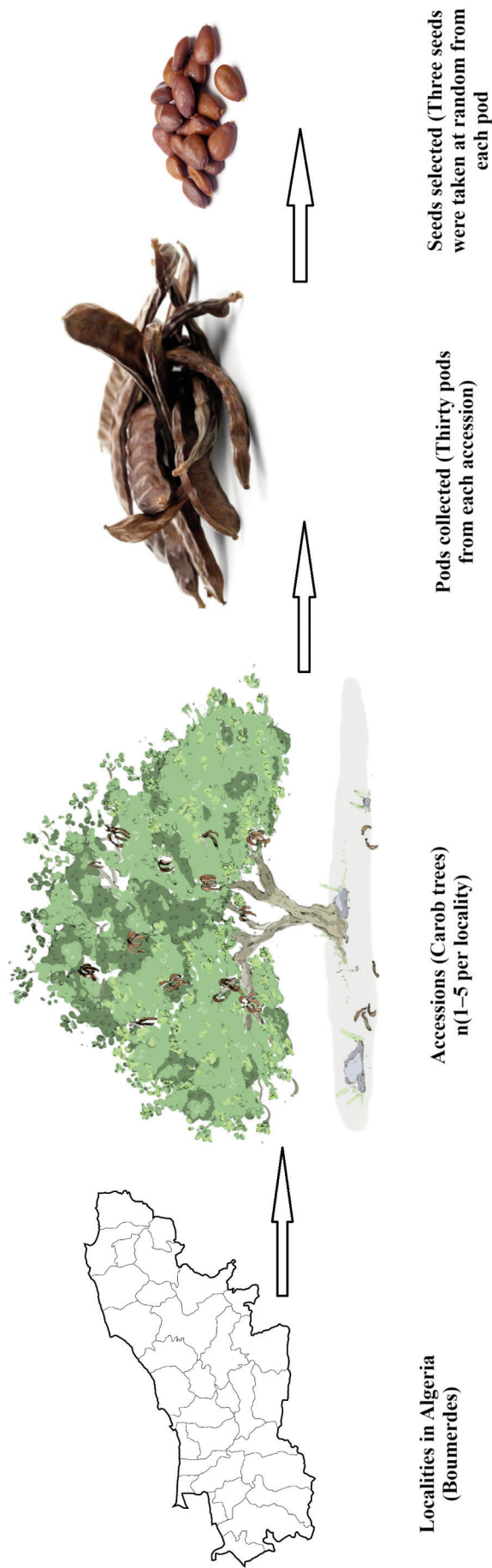
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Supplementary Figure 1. Geographical distribution of the 64 Algerian carob tree accessions sampled across 17 locations, classified according to their bioclimatic stage. The color of each accession point corresponds to its cluster assignment (Clusters I–VII), following the same color code used in the hierarchical cluster analysis.



Supplementary Figure 2. Pod and seed sampling procedure in each locality.

Supplementary Table 1. Means and standard deviations of pod and seed morphometric traits for each carob accession cluster.

Cluster	Pods				Seeds			
	Length (cm)	Width (mm)	Thickness (mm)	Weight (g)	Number of seeds	Length (mm)	Width (mm)	Thickness (mm)
Cluster I	19.13 ± 1.41 ^a	25.37 ± 0.55 ^a	11.55 ± 0.56 ^a	33.27 ± 4.17 ^a	13.13 ± 1.70 ^a	8.91 ± 0.09	7.36 ± 0.10 ^a	4.64 ± 0.06 ^a
Cluster II	13.46 ± 1.59 ^d	22.67 ± 1.72 ^c	6.64 ± 1.21 ^{cd}	11.90 ± 1.19 ^c	9.13 ± 1.63 ^{cd}	9.16 ± 0.71	7.18 ± 0.48 ^a	3.89 ± 0.31 ^b
Cluster III	12.62 ± 0.98 ^d	25.00 ± 0.33 ^{ab}	9.21 ± 0.37 ^b	17.51 ± 1.78 ^b	7.27 ± 1.34 ^d	9.51 ± 0.08	6.67 ± 0.18 ^{ab}	4.02 ± 0.06 ^b
Cluster IV	15.51 ± 1.57 ^{bc}	23.98 ± 0.98 ^{ab}	8.34 ± 1.05 ^b	17.23 ± 2.16 ^b	12.18 ± 1.18 ^a	9.44 ± 0.58	7.07 ± 0.28 ^{ab}	4.06 ± 0.40 ^b
Cluster V	15.60 ± 1.45 ^b	20.03 ± 1.75 ^d	6.92 ± 0.99 ^c	12.15 ± 1.84 ^c	13.10 ± 1.34 ^a	9.00 ± 0.54	6.85 ± 0.40 ^{ab}	3.97 ± 0.34 ^b
Cluster VI	12.66 ± 1.07 ^d	19.46 ± 1.07 ^d	5.83 ± 0.44 ^{cd}	7.98 ± 0.78 ^d	10.31 ± 1.06 ^{bc}	9.09 ± 0.46	6.58 ± 0.35 ^b	3.69 ± 0.32 ^b
Cluster VII	12.60 ± 2.10 ^d	16.89 ± 0.90 ^e	5.46 ± 0.83 ^d	6.27 ± 1.05 ^d	11.44 ± 1.13 ^b	8.86 ± 0.74	6.55 ± 0.41 ^b	3.81 ± 0.45 ^b
								27.13 ± 3.22 ^a

