
(/)

TWINS PAN

pH :

(ANOVA)

C/N

Sorenson

) DCA

.ANOVA- DCA

// : : //

(E-mail: asalehi70@hotmail.com)

(Land Form)

Sorenson

x

TWINSPAN

DCA

pH

pH Kcl

Walkley &

Black

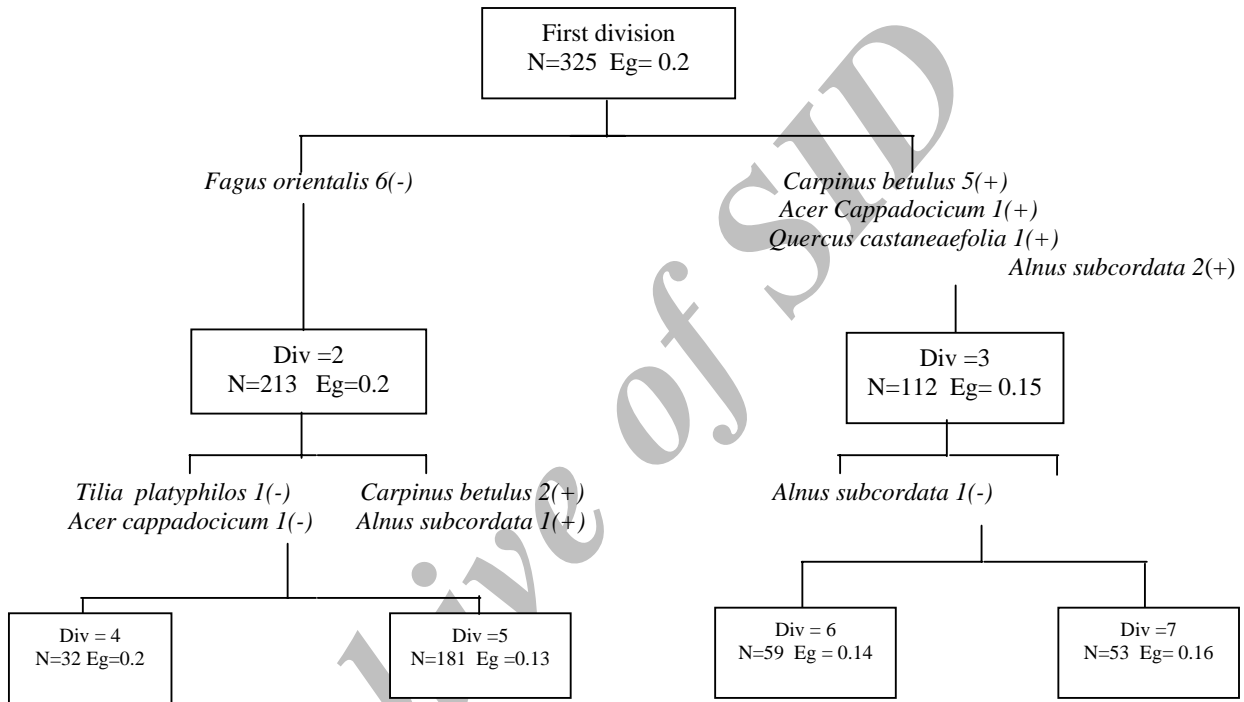
DCA

-Land Form

- Two Way Indicator Species Analysis
- Determend Correspondence Analysis

TWINSPAN

()



Div = Division
N= Number
Eg = Eigen Value

TWINSPAN

()

()

-Eigen Value

A,B,C,D

A
B A

D C

D

D C

TWINSpan

B A

B A

C

B A

D C

			()	
*		*	*	A
*		*	*	B
				C
				D

F-Value (P)	D	C	B	A	
/ (/)	/ c	/ c	/ a	/ a*	
/ (/)	/ c	/ c	/ b	/ a	
	/	/	/	/	
/ (/)	/ b	/ b	/ b	/ a	
/ (/)	/	/	/	/ a	
/ (/)	/ d	/ a	/ a	/ a	
/ (/)	/	/ b	/ b	/ a	
/ (/)	/ ab	/ ab	/ b	/ a	
	/	/	/	/	
	/	/	/	/	
	/	/	/	/	
	/	/	/	/	
	/	/	/	/	

*

()

DCA

F-Value (P)	D	C	B	A	
/ (/)	/ d	/ ad	/ ad	/ a*	(%)A
/ (/)	/ Ab	/ b	/ b	/ a	A (gr/cm ³)
/ (/)	/ ab	/ ab	/ b	/ a	B
					A
	/	/	/	/	A PH
	/	/	/	/	(%) A
		/	/	/	A C/N
	/	/	/	/	B PH
					B
	/	/	/	/	(gr/cm ³) B

*

A

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C
DCA

B1

A

A

A C/N

B1

B

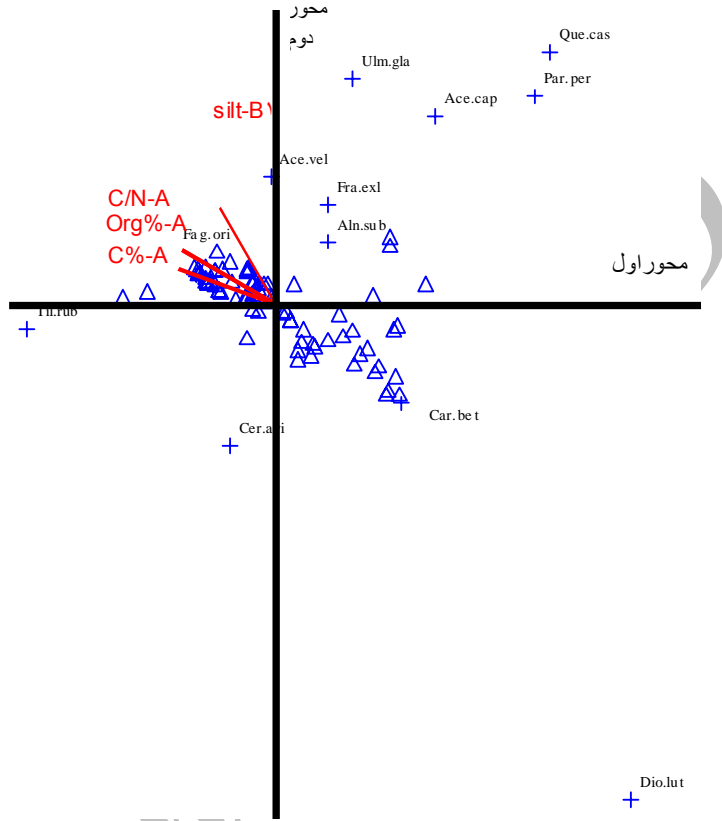
DCA

D A

B

A

...



DCA

()

()

A

B

B A

A,B

()

D C

()

()

D C
D

D

()

D

C

C/N

C/N

(C/N)

A

C/N

(

) B

(B A)

C/N

(D C)

C

C/N

)

()

)

(

(

(.)

(.)

()

(.)

-Edward
-Come llissen

A

C B

A

C B

A

A

C

C

A

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A Study of Soil Physical and Chemical Properties in Relation to Tree Ecological Groups in Nam-Khaneh District of Kheirood-Kenar Forest

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R. Marvi Mohajer⁴

Abstract

The main aim in this research was the studying of variations in soil physical and chemical properties as related to tree ecological groups (tree types) in Nam-Khaneh district of Kheirood-Kenar forest. To determine the ecological groups, square plots of 50 × 50 m (2500 m²) were established on each of which trees with more than 7.5 cm diameter at breast height (dbh: 1.3 m above the ground level) were assessed. The basal area for each tree species in each sample plot was calculated, then using these variables, classifications of the sample plots was carried out through TWINSpan (Two Ways Indicator Species Analysis). On the base of this, four tree groups were determined. In order to select sites for soil study through sampling, the forest was divided into landform units based on differences in altitude, slope and aspect. Within each landform unit, every tree plot was compared with its two nearest neighboring plots on the basis of their species compositions using the Sorenson index. Eighty five sample plots were selected, for soil study through soil profiles, from among the original 325 tree plots. For all soil samples, pH, texture, bulk density, percent organic carbon, N, P and lime were determined. In order to study relationships between soil properties and variations in tree compositions One-way ANOVA, Deterrded Correspondence Analysis (DCA) were used. The results indicated that among studied soil properties, percentage of organic carbon, C/N ratio, soil texture, and soil bulk density were the most significant factors that varied and determined the distinction among tree ecological groups (forest types).

Keywords: Nam-Khaneh district, Physical and chemical soil properties, tree ecological groups (forest types), ANOVA, DCA.

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