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Characterization of the Habitat of *Rosa Canina* L

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ABSTRACT

The rosebush, genus Rosa, is the first ornamental species economically. It is part of the Rosaceae family which includes fruit and forest species. This preliminary work aims the study of *Rosa canina* L. existing in the mountains of Tessala (western Algeria). We wanted, through this study, to contribute to this species by characterizing its climate and substrate. The topics, on which the study was conducted, belong to three stations at different altitudes and exhibitions. The results we have Successful show that on all three of these stations, the species studied thrives on loamy soils rich in organic material, and low wet limestone and basic pH.
Keywords: *Rosa canina* L, climate, substrate, the mountains of Tessala

I. INTRODUCTION

This preliminary work aims the study of *Rosa canina* L. existing in the mountains of Tessala (western Algeria genus Rosa includes 150-200 species of wild roses. These roses have a wide morphological diversity and use wide enough. These are species exposed directly to all the biological factors leading to erosion (climate, pollution, farming techniques ...) [1]. Among the species of the genus Rosa, *Rosa canina* L. there is a shrub prickly, hermaphrodite, which is reproduced individually or in groups. Its large flowers are designed to pollination by insects and the crossing is probably common [2].

A complementary basis of this work, we are interested in the context of this present work, a preliminary study on *Rosa canina* L. part of the vegetation of Mount Tessala (wilaya of Sidi Bel Abbes, Algeria Western) . It is essentially characterize the environment within which this species

II. METHODS AND MATERIAL

This work involves three main steps. Initially, we did a survey in Mount Tessala (wilaya of Sidi Bel Abbes) to seek feet of *Rosa canina*.

Selecting Stations

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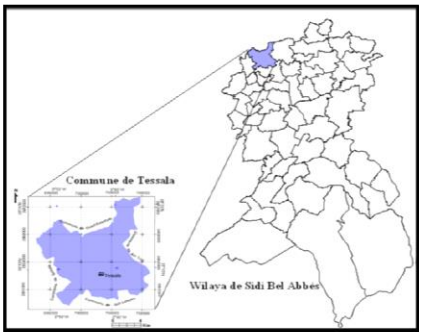

Figure 1: Location of the common Tessala(Algeria)

Tessala is an area where espouse very steep mountainous landscapes, steep to steep slopes and scenery of hills and plains. A Panoramic extraordinary view from the top of Jebel contemplated Tessala which has a high biological diversity sector. Our study is based in the mountains of Tessala(Fig.1).

Bioclimatic Study

The climate is a very important factor because of its major influence on vegetation. Presenting the climatology of the study area in order to place it relative to the general climatic conditions is a necessity. Among the limiting factors for the presence and distribution of forest species, the temperature is the most important determinant in characterizing the vegetation. Rain and temperature are climate hinge, they directly affect vegetation. Each species has a minimum or maximum threshold allowing it to stay alive. Beyond these limits the species' survival may be compromised [3].We used period (1980-2010) (ONM, 2011) to study the climate of the study area

Soil tests

Sample sites were for three selected stations. The samples were taken at a depth of 20 cm. These samples were all accompanied by a fact sheet informing on all soil characterization parameters from field observations (structure, color limits, humidity, etc.). They are then placed in the open air for 15 days. Once dried, the earth is sifted through a 2 mm sieve to separate the coarse elements of fine soil lower than 2 mm. After the screening, we will access to the physico- chemical analysis.

Soil samples of each station have been physico-chemical analyzes.

These analyzes were performed in soil science laboratory at INRA (National Institute for Agricultural Research) of Sidi Bel Abbes (Algeria).

III. RESULT AND DISCUSSION

A. Bioclimatic Variables

Precipitation [4] defines rainfall as the primary factor that determines the type of climate. Indeed, it affects the maintenance and distribution of the vegetation on the one hand, and environmental degradation by the phenomenon of erosion on the other hand especially in early spring.

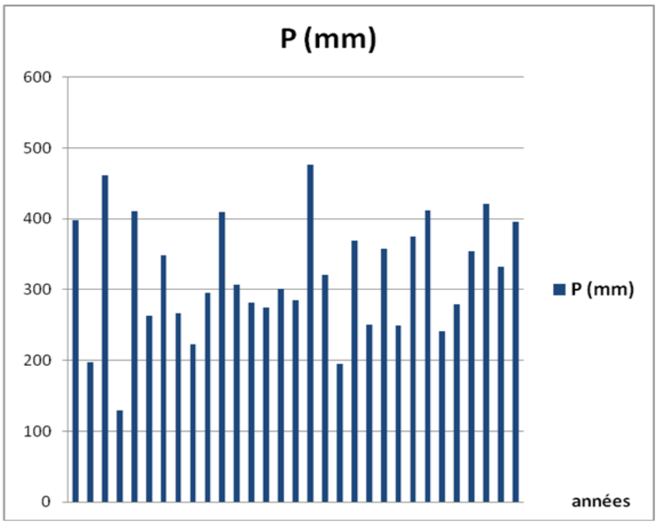

Figure 2 : Histogram comparison of annual rainfall (in mm) Town Tessala (1980-2010) (ONM, 2011)

Regarding annual precipitation in the region Tessala is low. The average annual rainfall recorded since 1980 to 2010 is indicative of the decrease in rainfall ; over a time duration of 30 years only the years (1982-1984-1990-1996-2004- 2008 and 2010) has registered more than 400mm ; the minimum is recorded in 1983with 129.5mm and the maximum is de530 mm in 2010(Fig.2)

Temperature

Each plant grows in temperatures and temperature variations that suit them. Low or high critical values cause the shutdown or restart of the vegetation. Vegetation starting temperatures are generally between 0 and 15 ° C. Below growth is often stopped or negligible. The optimum growth is generally between 25 and 35 ° C and the growth is stopped between 40 and 45 ° C; Note also that the temperature requirements are not constant . Some plants need cold periods to initiate processes such as dormancy (wake the seeds) or flowering .effect exercised temperature on biochemical reactions is well known

From the study of the knowledge of the following variables: the maximum temperatures (M), the minimum temperatures (m) and average monthly temperatures (M + m / 2) can characterize the temperature of a given location.

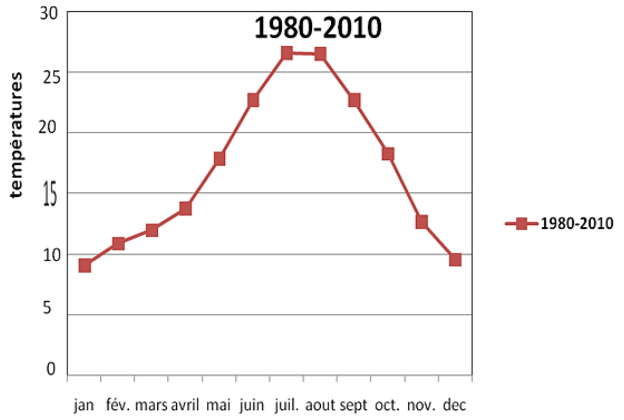

Figure 3 : Average monthly temperatures on the period 1980-2010 (ONM, 2011)

Monthly mean temperatures given by the formula (M + m / 2) show a maximum in July (26.6 ° C) and minimum (9.1° C) for January (Fig.3)

Aridity index of De Martonne

To evaluate the intensity of the drought index From Martonne , offers more ease and efficiency calculations

I = P / (T + 10)

P: average annual rainfall (mm)

T: Average annual temperature (° C)

WITH:

20 <I <30 the climate is temperate,

10 <I <20 the climate is semi-arid,

7.5 <I <10 the climate is steppe,

5 < I < 7.5 the climate is desert,

I < 5 the climate is hyper.

So I = 360.9 / (16.9 +10) = 13.42

The aridity index is around 13.42, registered Tessala the region in a semi-arid climate.

Ombrothermic diagram of the period (1980-2010)

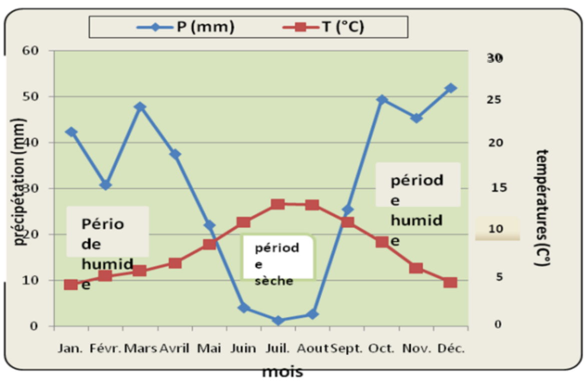

Figure 4: Diagram ombrothermic (p = 2t) of the Tessala station the period (1980-2010)

B. Soil Tests

The physical parameters

Color and structure

The color and structure of the soil of the three stations of study are shown in Table 1.

The st1 and st3 stations are similar in color and structure while st2 sol is dark brown with a lumpy structure (Tab.1).

stations	color	structure
St1	Dark brown	lumpy
St2	Dark brown	polyhedral
St3	Dark brown	lumpy

Table 1.Color and structure of Soil samples

Moisture

The soil moisture varies from one station to another for the first station (st1) is 19.5 % for the second (st2) 10.76 % station and the third station (st3) 16%.

Elemental composition and texture

The results of the granulometric analysis of the various soil samples show that:

The proportions of sand for soil samples of the three stations is 30 % for st1 and st3 stations and for ST 2 it is 35%; silts on their rate is heterogeneous with 45 % for the first station; 38% for the second station and 55% for the third station; clays also vary with amounts of between 25% to st1; 27% to 15% st2 and st3. After projection of the particle size results on the triangle textures, we noticed that the texture of the three stations is silty (Tab.2)

Table 2. Textural characterization of soil samples from selected stations

Stations	Granulometry (%)			Texture
	sand y	cla y	loam	
St1	**30**	**45**	**25**	silty
St2	**35**	**38**	**27**	silty
St3	**30**	**55**	**15**	silty

C. Chemical parameters

The hydrogen potential (pH) of the samples was almost the same: 8.00 for st1 and st 3; 8.02 for st2.

The electrical conductivity (Ce) is between 0.09 and 0.14 (ms / cm). After projection of the results on the scale of salinity, we find that the different soils of the three stations belong to the category of non-saline soils (Ce <0.6 ms / cm).

Soil organic matter rate of the three stations, projected on the scale of determining the organic content, shows that the samples belong to the category of soils rich in organic matter (MO%> 4) with respectively 14.5% ; 14.33% and 12.5% for st3, st1 and st2. This links the work of Michel Caron (2005) showing that *Rosa canina* L. grows in any soil, but with still a preference for humus-rich land, exposed to the sun

The projection results on the total limestone scale interpretation carbonates highlights low load calcareous soils ST3 and average charging station limestone for st1 and st2 stations. For the active limestone, we obtained the following results st1 of approximately 2.61%, st2 is 3.34%, while st3 is too small to be calculated.

IV. CONCLUSION

Our job is to study a medicinal- plant, part of the floristic Mount Tessala (western Algeria). This is *Rosa canina* L. the study of climate and substrate *Rosa canina* L opens search fields to better study this vegetable for better value.

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