

ASPECTS REGARDING THE ORNAMENTAL VALUE OF SOME ROSE NURSEY SPONTANEOUS IN IAȘI DISTRICT CONDITIONS

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Abstract

Wild species of the genus *Rosa* L. have importance for: creating green spaces, getting roses nobles and their use as rootstock for cultivated varieties. The purpose of this paper is to highlight the possibilities of identifying potential ornamental species in the genus *Rosa* sp. Observations were made at 6 species of wild rose “*Rosa californica*”, “*Rosa caudata*”, “*Rosa centifolia*”, “*Rosa damascena*”, “*Rosa multiflora*” and “*Rosa rugosa*”. To achieve that goal were made observations and measurements on the main morphological characters, growth of stems, number of buds and abundance of flowers.

Key words: roses, stems, buds, flower.

INTRODUCTION

One of the basic components of green spaces which assure a esthetical aspect of localities and contributes to the welfare and good mood of people, which also assure a favourable working and living climate is represented by floral and roses landscapes designs (Wagner Șt., 2002).

Rose was considered from ancient times “Queen of flowers”, due to its multiple qualities and particularly great wealth and beauty flowers, scented and with various colours and shapes (Zaharia D. et al., 2003; Wagner Șt., 2002).

In the multitude of dendrological species which contains ornamental shrubs, spontaneous species of *Rosa* L. have a real importance for design of green spaces, obtaining of noble roses, and many of them are utilised as parent stocks for cultivated sorts. (Mohan et al., 2010) The conditions from Romania are generally favourable for this specie.

Necessity for diversifying the assortments is a priority, having in view the diversity of biological material and the results obtained in the world. Literature shows, which in this genus are known over 400 species with more than 20,000 sorts (Bernardis R., 2011; Mohan et al., 2010; Zaharia D. et al., 2003; Wagner Șt., 2002).

Being known the diversity importance of *Rosa* L. spontaneous species, in the research method

was proposed to be realised phenological observations on: stems, leaf, flowers and fruits.

MATERIALS AND METHODS

Observations on roses were carried out at “Tudor Neculai” - Iași nursery. Nursery is placed outside Iași City, into a field belonging to Miroslava village, being destined for production of planting dendrological and floral material for decoration and beautification of Iași City green spaces. Nursery have also a rich assortment of spontaneous rose species from which we mention: *Rosa californica*, *Rosa canina*, *Rosa carolina*, *Rosa caudata*, *Rosa centifolia*, *Rosa corymbifera*, *Rosa damascena*, *Rosa davidii*, *Rosa davurica*, *Rosa foetida*, *Rosa gallica*, *Rosa multiflora*, *Rosa rugosa*, *Rosa virginiana* (Bernardis R., 2011; Zaharia D. et al., 2003; Wagner Șt., 2002).

Observations were made on 6 spontaneous rose species:

- *Rosa californica* (Figure 1);
- *Rosa caudata* (Figure 2);
- *Rosa centifolia* (Figure 3);
- *Rosa damascena* (Figure 4);
- *Rosa multiflora* (Figure 5);
- *Rosa rugosa* (Figure 6).

The aim of the current paper is to highlight the ornamental potential and identification possibi-

lities of *Rosa spontaneus* species in the genus (Bernardis R., 2011; Milică C. et al., 2010).

Were realised observations and determinations regarding: growing rhythm of stems; number of buds; abundance of flowers.

Observations and determinations regarding phenological particularities were realised for six *Rosa L. spontaneus* species, in three repetitions and in five different days, as follows: (28.04, 7.05, 9.06, 11.07 and 10.08). Observations were carried out during 2015-2016 and were studied the growing rhythm of stems, number of buds and abundance of flowers.



Figure 1. *Rosa californica*



Figure 2. *Rosa caudata*



Figure 3. *Rosa centifolia*



Figure 4. *Rosa damascena*



Figure 5. *Rosa multiflora*



Figure 6. *Rosa rugosa*

RESULTS AND DISCUSSIONS

From measurements made at the end of observation period (10.08) at analysed species regarding height of stems were recorded low growing rates of 11.33 cm at *Rosa californica*, 14 cm at *Rosa rugosa*, and the greatest growing rates were recorded at *Rosa damascena* with a stem growing of 19.66 cm and 16.33 at *Rosa caudata* (Table 1).

Table 1. Average of stem height (cm) during 28.04.2015 - 10.08.2015

Nr.	Species	28.04	7.05	9.06	11.07	10.08
1	<i>Rosa californica</i>	5.33	32	11.66	9.03	11.33
2	<i>Rosa caudata</i>	6	7.33	13.66	10.66	16.33
3	<i>Rosa centifolia</i>	6	7.66	21.66	1.8	15.33
4	<i>Rosa damascena</i>	5	12.66	13.66	14	19.66
5	<i>Rosa multiflora</i>	12	12	15	9.66	15.66
6	<i>Rosa rugosa</i>	11.66	5.33	14.33	13.66	14

Table 3. Average of flowers abundance during 28.04.2015 - 10.08.2015

No	Species	28.04	7.05	9.06	11.07	10.08
1	<i>Rosa californica</i>	-	-	1.66	3.33	1.33
2	<i>Rosa caudata</i>	-	-	2.33	-	-
3	<i>Rosa centifolia</i>	-	-	3.66	-	-
4	<i>Rosa damascena</i>	-	-	2	2.33	8.66
5	<i>Rosa multiflora</i>	-	-	8	3	4
6	<i>Rosa rugosa</i>	-	-	1.33	2.33	3

Analysing the number of buds, the lowest values were recorded at specie *Rosa californica* (4.66), and the greatest values were recorded at species *Rosa multiflora* (8.66) and at *Rosa damascena* (10.66) (Table 2).

Table 2. Average of buds number during 28.04.2015 - 10.08.2015

No	Species	28.04	7.05	9.06	11.07	10.08
1	<i>Rosa californica</i>	1	1	4.33	6.66	4.66
2	<i>Rosa caudata</i>	-	3.33	1	-	-
3	<i>Rosa centifolia</i>	1	2	3.33	-	-
4	<i>Rosa damascena</i>	-	1.33	3.33	6	10.66
5	<i>Rosa multiflora</i>	-	3.33	11.33	6.66	8.66
6	<i>Rosa rugosa</i>	1	1	3	5.33	7

Table 4. Total average stems height, buds number, flower abundance during 28.04.2015 - 10.08.2015

Nr.	Species	Height of stems (cm)	Number of buds	Abundance of flowers
1	<i>Rosa californica</i>	13.93	3.53	1.26
2	<i>Rosa caudata</i>	10.79	0.86	0.46
3	<i>Rosa centifolia</i>	13.66	1.26	0.73
4	<i>Rosa damascena</i>	13	4.26	2.60
5	<i>Rosa multiflora</i>	21.44	6	3
6	<i>Rosa rugosa</i>	11.79	3.46	1.33

Table 5. Average stems height, buds number, flower abundance during 9.06.2015 - 9.06.2016

No.	Species	Average at 9.06.2015			Average at 9.06.2016		
		Stems height (cm)	Buds number	Flowers abundance	Stems height (cm)	Buds number	Flowers abundance
1	<i>Rosa californica</i>	11.66	4.33	1.66	13.33	6.33	2.33
2	<i>Rosa caudata</i>	13.66	1	2.33	15	2	4
3	<i>Rosa centifolia</i>	21.66	3.33	3.66	24	5.33	5.33
4	<i>Rosa damascena</i>	13.66	3.33	2	15.66	5	3.33
5	<i>Rosa multiflora</i>	15	11.33	8	16.66	13	10.33
6	<i>Rosa rugosa</i>	14.33	3	1.33	15.66	4.33	3

Study realised regarding recorded abundance of flowers at the end of observation period appreciate that the lowest values were recorded by *Rosa californica* (1.33) and the highest values were recorded at *Rosa damascena* (8.66) and *Rosa multiflora* (4) (Table 3).

Also was realised a total mean regarding stems height, buds number and flowers abundance in period 28.04.2015 and 10.08.2015 (Table 4) and average for period 09.06.2015 - 09.06.2016 (Table 5), and based on them were designed 6 graphs for year 2015 (Figures 7-12) and 6 graphs for year 2016 (Figures 13-18).

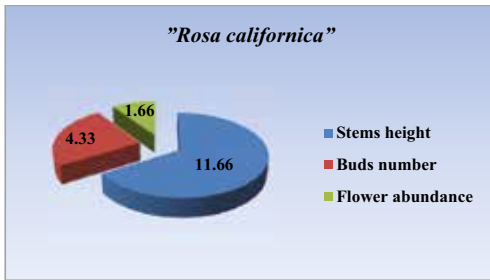


Figure 7. Average stems height, buds number, flowers abundance at 09.06.2015 for *Rosa californica* variety

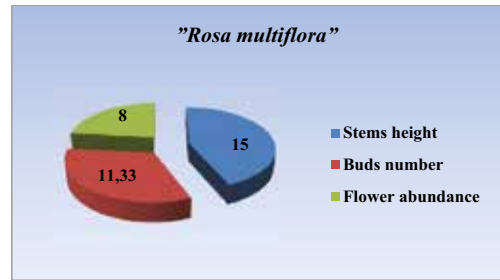


Figure 11. Average stems height, buds number, flowers abundance at 09.06.2015 for *Rosa multiflora* variety

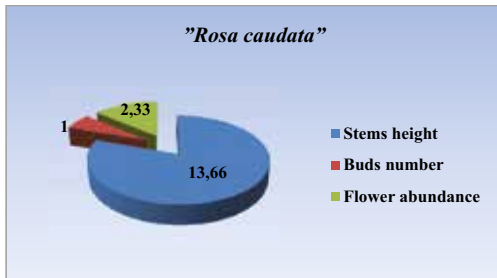


Figure 8. Average stems height, buds number, flowers abundance at 09.06.2015 for *Rosa caudata* variety

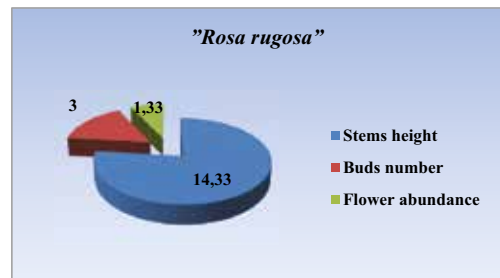


Figure 12. Average stems height, buds number, flowers abundance at 09.06.2015 for *Rosa rugosa* variety

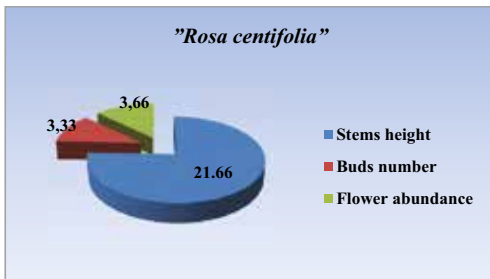


Figure 9. Average stems height, buds number, flowers abundance at 09.06.2015 for *Rosa centifolia* variety

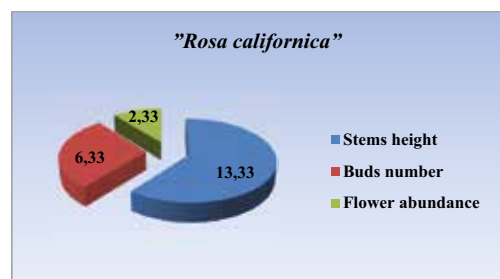


Figure 13. Average stems height, buds number, flowers abundance at 09.06.2016 for *Rosa californica* variety

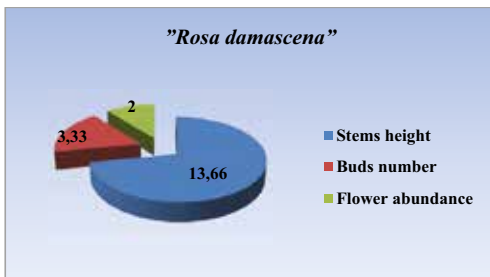


Figure 10. Average stems height, buds number, flowers abundance at 09.06.2015 for *Rosa damascena* variety

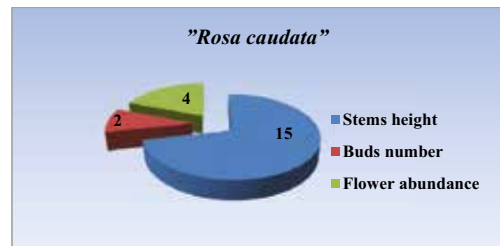


Figure 14. Average stems height, buds number, flowers abundance at 09.06.2016 for *Rosa caudata* variety

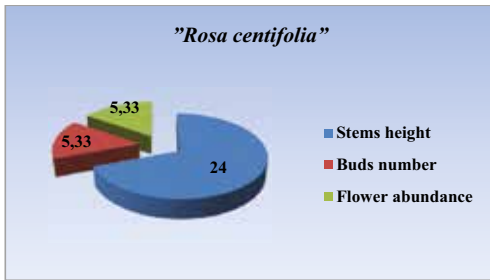


Figure 15. Average stems height, buds number, flowers abundance at 09.06.2016 for *Rosa centifolia* variety

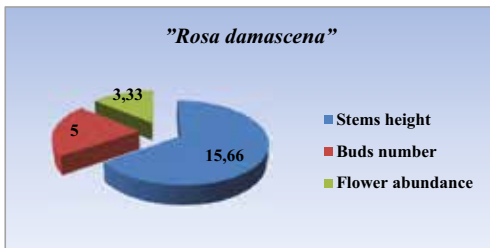


Figure 16. Graphs regarding average stems height, buds number, flowers abundance at 09.06.2016 for *Rosa damascena* variety

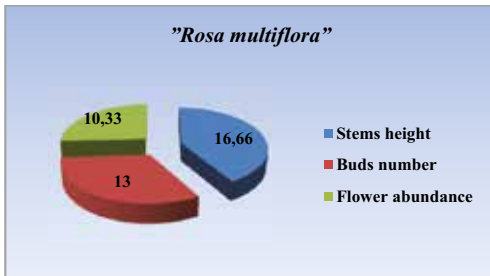


Figure 17. Average stems height, buds number, flowers abundance at 09.06.2016 for *Rosa multiflora* variety

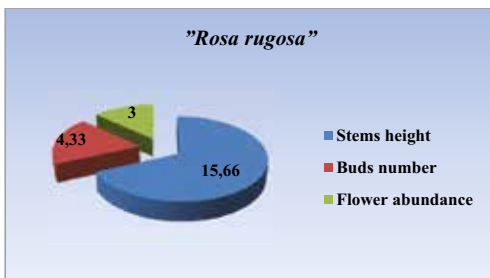


Figure 18. Average stems height, buds number, flowers abundance at 09.06.2016 for *Rosa rugosa* variety

CONCLUSIONS

Based on the effectuated determinations, observations and analyse of the obtained results we could draw the following conclusions:

1. Regarding the stems growing rhythm:

- spontaneous species of *Rosa* have a different growing rhythm;
- the highest growing rate: *Rosa multiflora* with an annual mean of 21.4 cm, and the lowest one at *Rosa caudata* 10.79 cm.

2. Regarding number of buds:

- buds number is different function of their appearance period on stems and function of specie;
- at *Rosa californica*, *Rosa centifolia* and *Rosa rugosa*, buds appear in the second decade of April and have a mean of 1 bud. At *Rosa multiflora* and *Rosa caudata* buds appear on stems in the first decade of May with a mean of 3.33 buds.

3. Regarding abundance of flowers:

- flowers differs through abundance and decoration period;
- *Rosa centifolia*, decoration period is in June with a flowers abundance mean of 3.66, and *Rosa damascena* have a decoration period between June-July-August with an average of 2.60.

4. Regarding development of *Rosa* spontaneous species between 9.06.2015 and 9.06.2016 we could appreciate that:

- growing rhythm of stems is between 1.33 cm (*Rosa rugosa*) to 2.34 (*Rosa centifolia*);
- buds number in these period increase in average from 1 (*Rosa caudata*) to 2 (*Rosa centifolia* and *Rosa californica*);
- flowers abundance at majority of studied *Rosa* species increases with a mean value around 1.67.

Having in view the tradition of rose cultivation, their biological potential and high decorative value, it is recommended utilisation of *Rosa* genus spontaneous species for:

- parent stock for noble sorts;
- decorative purposes in the majority of landscape designs.

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