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Research Article

Asteraceae (Compositae) in the Northwest region of Macedonia

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ABSTRACT

In the researched region, are found and specified 262 taxons of compositae (Asteraceae), where 209 are species, 42 subspecies and 11 plant varieties which are included in 2 subfamilies, 68 genus and 2 subgenus. From these taxons of compositae, 177 belong to subfamily of Asteroideae (Tubuliflorae) and 85 belong to the subfamily Cichorioideae (Liguliflorae). From the 177 taxons of subfamily Asteroideae, 150 are species, 16 are sub species and 11 of them are plant varieties, grouped in 50 genus. From 85 taxons of subfamily Cichorioideae, 59 are species and 26 sub species, that belong to 18 genus and 2 belong to plant subgenus.

Keywords: Asteraceaea, life forms, floristic elements, Macedonia.

1. INTRODUCTION

In this research are explored composites in the northwest region of Macedonia. The bulk of this region includes the mountain region of Shar and the lowlands as: Pollog's, Kërçova's and Dibra's, mountain of Bukovik, and the west slope of Dry Mountain. This region, mountainous in general, represents the highest region of Macedonian territory in general. Geological construction of this region varies a lot. The bulk of it is consisted of lime-paleozoic slates, metamorphic and dolomite lime and magmatic rocks. Pedological covering of this region is quite heterogeneous and is consisted of various types of land. Mostly we face rendzine land with dolomite or lime rocks, as far as red and brown land on strong lime formation. There are 3 main types of climate in this region: variable climate-Mediterranean spread mostly in the valley along the river Vardar, and with less influence on lowland of Dibra, central continental climate present especially in lowland of Kërçova, mountain climate, which is represented more than the above mentioned since the bulk of the researched region, presents high mountain terrene. The researched and the general territory of Macedonia are identified with high floristic richness, a lot of endemic and relict types and also with representatives of different floristic elements [1, 6, 7].

Besides tercier's flora, there are also found representatives of glacial flora, which find suitable conditions for their further existence. From this point of view, the Macedonian vegetative covering since the earlier times has gained the attention to a lot of foreign and native researchers.

2. MATERIALS AND METHODS

For the realization of this study are applied standard methods for floristic research. Such studies involve the identification of individual species and also the assessment of abundance of species [2, 3, 4, 5, 6, 11]. The techniques applied are known as floristic methods of vegetation description [13, 15]. Is used the literature necessary for determining the species of composites. Specimens of these species are deposited in the Herbarium of the Department of Biology, State University of Tetova.

3. RESULTS AND DISCUSSION

In the researched region, are found and specified 262 taxons of compositae, where 209 are species, 42 subspecies and 11 plant varieties which are included in 2 subfamilies, 68 genus and 2 subgenus. From this taxons of compositae, 177 belong to subfamily of Asteroideae (Tubuliflorae) and 85 belong to subfamily Cichorioideae (Liguliflorae). From the 177

taxons of subfamily Asteroideae, 150 are species, 16 are sub species and 11 of them are plant varieties, grouped in 50 genus. From 85 taxons of the subfamily Cichorioideae, 59 are species and 26 sub species, that belong to 18 genus and 2 belong to plant subgenus [10, 12, 14]. For many taxons, except the confirmation of the known location the new locations of their spreading are described as well [8, 9].

The compositae of the researched region are included with the analysis of life forms according to Horvat (1949), Graćanin and Ilianić (1977). According to this analysis, the bulk of the taxons around 178 belong to Hemicriptophyta (67,81 %), then 62 belong to Terophyta (23,77 %), with 11 taxons belong to Geophyta and Chamaephyta (4,21 %).

In a historical - genetically aspect, fitogeographical indeed, the compositaes of this region, can be classified in several floristic elements. Eurasian floristic elements dominate with 56 taxons (21,07 %), Euro-Caucasian with 29 taxons (11,11 %), Southeast-European and Euro–Mediterranean with 19 taxon (7,27 %), Sub-Balkanic with 18 taxons (6,89 %), etc.

4. CONCLUSION

Based on what was said above, we can conclude that:

1. During this research in the northwest region of Macedonia are found 262 taxons of compositae (*Asteraceae*), where 209 are species, 42 subspecies and 11 plant varieties which are included in 2 subfamilies, 68 genus and 2 subgenus.
2. Of these taxons in Compositae, 177 belong to subfamily of Asteroideae (Tubuliflorae) and 85 belong to the subfamily Cichorioideae (Liguliflorae).
3. From the 177 taxons of subfamily Asteroideae, 150 are species, 16 are sub species and 11 of them are plant varieties, grouped in 50 genus.
4. From 85 taxons of subfamily Cichorioideae, 59 are species and 26 sub species, that belong to 18 genus and 2 belong to plant subgenus.
5. According to the analysis of life forms, the bulk of the taxons, around 178 belong to Hemicriptophyta (67,81 %), then 62 belong to Terophyta (23,77 %), with 11 taxons belong to Geophyta and Chamaephyta (4,21 %).
6. According to the analysis of floristic elements, dominate Eurasian floristic elements with 56 taxons (21,07 %), Euro-Caucasian with 29 taxons (11,11 %), Southeast-European and Euro–Mediterranean with 19 taxon (7,27 %), Sub-Balkanic with 18 taxons (6,89 %), etc.

Table. 1
Overview taxonomic research results.

Sistematic category	Species	Subspecies	Varieties	Total number of taxons
Subfamily *Asteroideae* with 50 genus	150	16	11	177
Subfamily *Cichorioideae* with 18 genus and 2 subgenus	59	26	___	85
Family *Asteraceae* with 68 genus and 2 sugenus	209	42	11	262

Table. 2
Life forms of composites in researched region.

S. No.	Life forms	Number of taxons	Percentage
1.	Hemicryptophyta (H)	178	67, 81
2.	Terophyta (T)	62	23, 77
3.	Geophyta (G)	11	4, 21
4.	Chamaeophyta (Ch)	11	4, 21
Total		262 taxone	100%

Table. 3
Floristic elements of composites in researched region.

S. No.	Floristic elements	Number of taxons	Percentage
1.	Eurasian	56	21,07
2.	Euro-Caucasian	29	11,11
3.	Southeast-European	19	7,27
4.	Euro–Mediterranean	19	7,27
5.	Sub-Balkanic	18	6,89
6.	Central European	14	5,36
7.	Balkans Endemic	14	5,36
8.	European	14	5,36
9.	South European	13	4,98
10.	Boreal	11	4,21
11.	Balkanic	10	3,83
12.	South American	7	2,68
13.	Sub-Mediterranean	7	2,68
14.	North American	6	2,29
15.	Arctic - Alpine	3	1,14
16.	Southeast European Endemic	3	1,14
17.	Central European Endemic	3	1,14
18.	European Endemic	2	0,76
19.	Mediterranean	2	0,76
20.	Eastern Mediterranean	2	0,76
21.	South European Endemic	1	0,38
22.	Alps - Dinaric	1	0,38
23.	Tropical - American	1	0,38
24.	Pontic European	1	0,38
25.	Southeast Azian	1	0,38
26.	Eastern European	1	0,38
27.	Southwest European	1	0,38
38.	Alps - Balkanic	1	0,38
39.	Southern Mediterranean	1	0,38
30.	North Mediterranean	1	0,38

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