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Interrelation of Ecosystems in the Formation and Management of Components of a Biological Resource (Pedosphere)

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Abstract: The volume of humus and the total supply of nitrogen in the pedosphere, which is a component of biological resources, is of course inextricably linked to the presence in the terrain. In the article it was investigated that the Chatkal biosphere reserve and the pedosphere formed in the Nurota highlands differ sharply from each other's, the volume of humus and the total nitrogen supply in the pedosphere space are linked with the participation of the terrain.

Keywords: pedosphere, soil, nitrogen, phosphorus, potassium, humus, resource, climate, mountain.

Introduction

The national wealth of the soil is the main source, space for growing food raw materials and food products that are always necessary for human life. Pedrosphere formation is a very complex process, the formation of which directly and indirectly depends on environmental factors such as maternal gender, terrain, climate, flora and fauna, as well as on time [1].

Otherwise, this interdependence and stability (immutability) of the relationship between them are one of the main regularities of the formation of the pedosphere. The Republic occupies a large geographical latitude, the location of regions and features of environmental conditions differ somewhat from each other in terms of the size of its territories, the temperature of precipitation and other climatic indicators. From this point of view, environmental factors: climate can also be a factor that promotes natural soil formation, preserving the diversity of soil cover, such as topography.

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Depending on the state of the terrain, the temperature of the atmosphere, and the amount of precipitation in a particular area, vegetation also change their quantity and diversity [2].

In this part of our research, we tried to find out that these guidelines are interrelated and evolving, and that topography and climate are prioritized among the main environmental factors that shape pedospheric diversity-topography, climate, and vegetation cover.

Separately, the role of climate indicators in the formation and maintenance of pedrosphere diversity, as well as the presence of the law of vertical regionality of soils based on climate indicators, should be noted. Climatic environmental indicators: precipitation, wind, atmospheric pressure, and moisture levels of mountain parts and slopes first determine the rate of irradiation processes occurring in a particular region, and second, they serve as the main environmental factor determining the state of vegetation cover, the intensity and essence of the humus formation process [3-5].

According to Dokuchaev, "the climate in all soil-forming factors is the most universal". Recognizing the equality of all soil-forming factors and their importance for the soil, he makes them extremely important, imaginative, attractive, emphasizing that "the more food, water, and air a person needs, the more important these factors are in the formation of the soil."

Materials and methods

In our research, we found that the Chotkol biosphere reserve and the pedosphere formed in the Nurotamountains differ sharply from each other, and concluded that the climate in mountain areas must exist if there is a law of inversion. Because we were able to observe how the influence of the temperature of the Nurata region, the ability to perceive them from the temperatureus with different wavelengths, as a result of this, the amount of precipitation in this area is restored and, in turn, the accumulation of moisture in the mountain range, creating a phenomenon and processes suitable (specific) for

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this region. The data we collect and others are consistent with the idea that there is a law of inversion in mountainous areas.

A distinctive feature of the pedosphere from the maternal genus is its fertility. One of the main factors of fertility is its quantity, the supply of humus, its distribution among the genetic layers, in a word, the state of humus. Of course, in this place, the main macro-and microelements, such as nitrogen, phosphorus, and potassium, are also one of the factors that ensure the productivity and viability of all types of crops [6-7].

Many researchers have pointed out that the role of organic substances, including humus, is great in the literal formation of the pedosphere-the main component of biological resources-the pedosphere.

The soils of Central Asia are poor in organic matter compared to the soils of other countries. This is due to the conditions of soil formation - dry climate, high precipitation, poor vegetation development, and other factors [8-9].

Results and Discussion

From the conducted research, it became known that the change in the content of humus and nitrogen in the pedosphere occurs depending on the terrain conditions in the Chatkal and Nurota soils.

As can be seen in pictures 1,2, we have come to the conclusion that based on the data obtained to determine the content of humus, its reserves and distribution in the soil layers formed in the Chatkal and Nurata mountains, which differ somewhat from each other in geographical location and climate indicators, the laws of humus formation are preserved in mountain areas. Data describing some agrochemical properties of soils developed under different terrain and vegetation cover of the Chatkol and Nurata mountains indicate that they differ significantly from each other. It is obvious that the amount of humus and its stock and distribution along the profile, at first glance, depend on the

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state of the terrain, the slope, its location relative to the temperature, the slope and, finally, the cover vegetation.

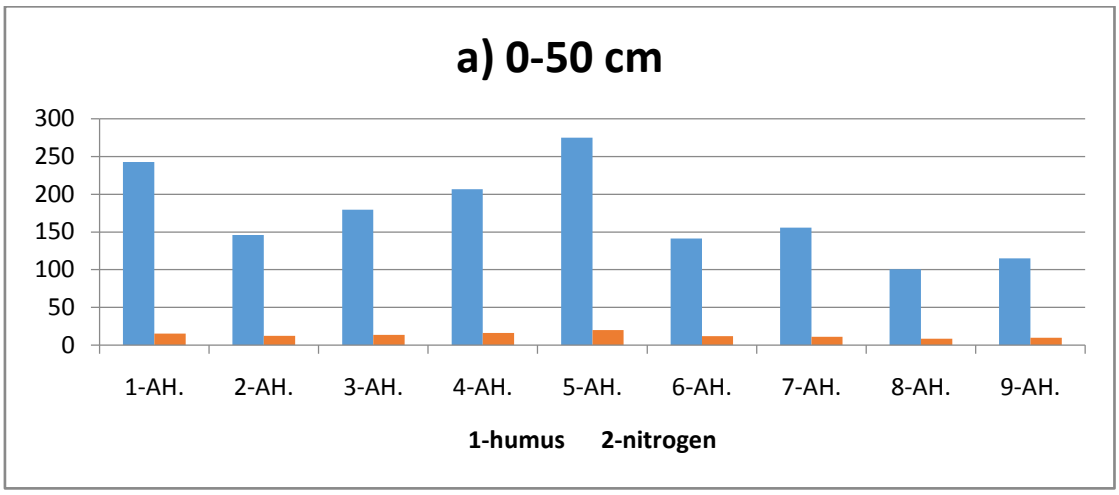

Figure 1. The content of humus in the soil, formed in the mountains Chatkal

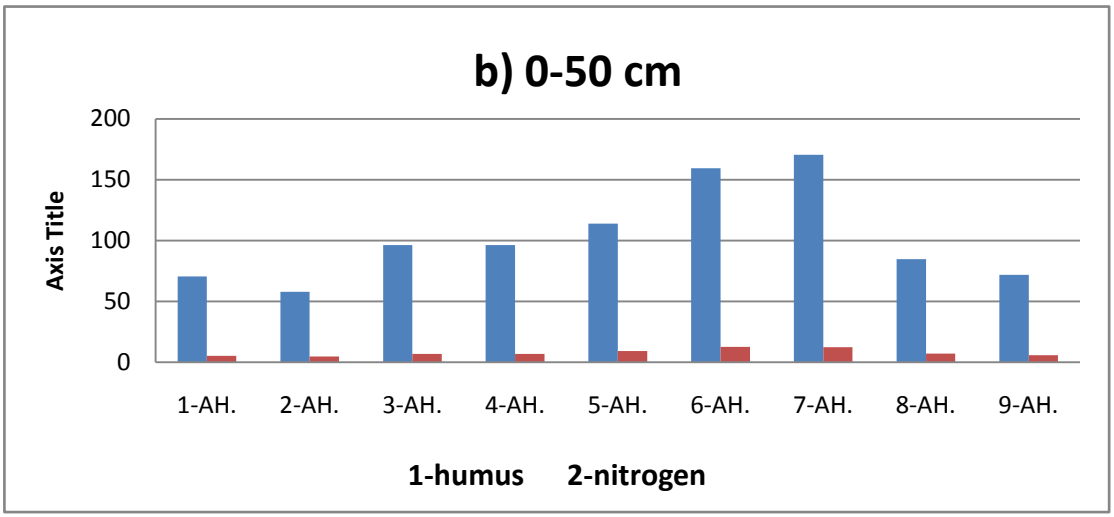

Figure 2. The content of humus in soils formed in the Nurata mountains

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Agrochemical properties of soils formed in various relief conditions of the Chotkolmountains

Depth, cm	Destruction %	Nitrogen, %	Gross, %		CO 2 Carbon dioxide,%	Poison, t/ga		
			Snap fastener	Potassium		Profound, cm	Destruction	Nitrogen
1-AH.Northern slope. Broad-leaved trees. Medium comet inclination 10-12^0								
0-6	6,23	0,39	0,16	1,15	2,03	0-50	242,67	15,14
6-26	4,01	0,26	0,19	2,20	3,60			
26-42	2,91	0,16	0,16	2,15	4,17			
42-60	1,15	0,09	0,15	2,00	5,25			
3-AH. North-west slope. Mixed grass-plants. Medium sand slope 5-7 gram								
0-7	4,17	0,32	0,17	2,20	3,73	0-50	179,65	13,45
7-20	3,01	0,22	0,17	2,15	5,44			
20-41	2,39	0,18	0,17	2,15	4,99			
41-59	1,09	0,08	0,17	2,05	5,29			
59-80	0,99	0,08	0,12	1,65	14,17			
5-AT.North west slope.Juniper green, modern sand, slope 20-22 gram								
0-12	7,82	0,46	0,16	2,15	1,64			
12-	4,54	0,39	0,15	2,10	2,15			

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27						0-50	274,91	20,12
27-43	1,88	0,17	0,15	1,80	3,82			
43-70	0,62	0,04	0,12	1,95	6,68			
6-AH. The northern slope.Grass-plants+bush+tress medium sand,seope8-10 gram								
0-7	3,52	0,33	0,16	1,95	4,10	0-50	141,27	11,80
7-30	2,47	0,19	0,17	1,55	5,20			
30-45	1,01	0,09	0,13	1,80	6,7			
45-70	0,86	0,08	0,11	1,55	7,0			
8-AH.KizilNura.watercan, herbaceous plants,meduem sand, slope 1-2 gram								
0-4	3,10	0,28	0,14	1,99	6,50	0-50	100,5	8,7
4-19	2,02	0,17	0,12	2,11	6,10			
19-43	1,03	0,09	0,11	1,86	6,50			
43-62	0,62	0,05	0,09	1,75	7,10			

The annual precipitation on the territory of the Chatkal highlands is 3.0-3.5 times higher than in the Nuratamountains, and, consequently, in the Chatkal soils, carbonates are washed out into deeper layers. In soils where the amount and supply of humus are formed in the southern parts, there is a slight increase in drainage.

In the southern part of the Chatkal region, we analize a high content of humus and its reserves in sod-podzolic and sod-podzolic layers. In the Northern part, in contrast to the water bear and the southern part, we observed the

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formation of other craters, i.e. humification processes. Here, these processes are mainly associated with the predominance of moisture, since the decay of organic residues continues even at a lower soil temperature, in such conditions, individual groups of microorganisms are most likely absent. (Table 2)

The North-Western and North-Eastern parts of the Chatkal district together with shrubs and trees form thick sod-podzolic and sod-podzolic layers, which retain a high amount of humus. It is established that the humus in these layers will be about 3.7-4.0%, the reserve is 0-50 t / ha at 141-179 cm, not proportionally.

The area of all sections located in the Northern parts of The Aktau massif of the Nurata district is covered only by grassy vegetation (less often shrubby), and in sod-podzolic and sod-podzolic layers, it is established that the humus reserve of 2.73-4.13% per 0-50 cm is 113.94-170.53 t / ha.

Of course, the change in the amount of humus occurs due to surface and underground residues of vegetation. In the areas where the soils of our research are studied, the sections try to detect both ground and underground remains (only for herbivores) on the surface of 1 m2 of excavated areas in natural conditions. It should be noted that initially the Chatkol biosphere reserve is under state protection, that is, it is protected. The entire plant that grows here remains in its place.

Agrochemical properties of developed soils in various terrain conditions of the Nuratamountains

Depth, cm	Destruction, %	Nitrogen, %	Gross, %		CO 2 Carbon dioxide, %	Poison, t/ga		
			Snap fastener	Potassium		Profound, cm	Destruction	Nitrogen
1-AT.Water can,henchman, slope 3 gram								
0-3	2,75	0,229	0,131		8,1			

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3-15	1,16	0,087	0,111		8,1	0-50	70,50	5,3
15-37	0,98	0,071	0,091		8,3			
37-50	0,51	0,039	0,082		8,5			
3-AT. The lower part of the southern slope, henchman, slope 10 gram								
0-4	2,63	0,208	0,140		7,7	0-50	96,21	6,8
4-19	1,90	0,105	0,115		7,9			
19-42	1,10	0,091	0,091		8,1			
42-70	0,55	0,042	0,086		8,0			
5-AT.The middle part of the northern slope, henchman,slope15gram								
0-5	3,48	0,281	0,156		4,9	0-50	113,94	9,3
5-17	2,46	0,201	0,143		5,1			
17-39	1,10	0,091	0,133		5,6			
39-61	0,95	0,073	0,111		6,1			
61-75	0,52	0,039	0,096		7,0			
6-AT.The lower part of the northern slopes, henchman, slope5 gram								
0-7	4,17	0,296	0,166		5,50	0-50	159,43	12,6
7-23	2,88	0,220	0,155		5,50			
23-47	1.49	0,130	0,126		6,9			
47-68	0,95	0,083	0,111		7,1			
68-110	0,45	0,031	0,101		7,5			
8-AT. The middle part of the Western Slope, henchman, slope 13 gram								
0-4	2,86	0,226	0,141		7,8	0-50	84,70	7,0
4-17	1,65	0,152	0,113		7,8			
17-39	0,99	0,077	0,095		8,2			
39-57	0,53	0,041	0,081		8,5			

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The territory of Aktaunurlatskogo area is not guarded, here the inhabitants are pastures for domestic animals. Despite this, we observed the environmental situation in those parts where Pets use less.

Conclusion

In the area of the North-Western slope of the Chukchi highlands, the remains of land plants (1m2) are 583 g (dried in the air), underground-417 g, a total of 1000 g, which ensures the stay of 100 tons of organic mass per hectare. Nurota territory Octave grasslands (1m2) on the ground 211 g, under the ground 350 g, only 461 g or 46 t/ha, which is 2.2 times less than the territory of Chotkol. Therefore, we observed that in all types of soils formed in the Nuratmountains, the humus content is 1.5-2.5 times less than its reserve, the humus layer.

Indeed, it was confirmed that on the soils formed in the Northern and Western parts, the condition of plants was somewhat better than in the water litter and southern parts, and consequently, in soils where the humus content and its stock is much higher. All these data indicate that the content of humus and the total nitrogen reserve on the scale of the pedosphere, which is a component of biological resources, is of course inextricably linked with the participation of reliefs.

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