

Occurrence of Collembola in Wheat Agroecosis in Spring Season in Northern Regions

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Abstract: Northern regions distribution of wheat field collembola in the soil was studied. Also, the spring season dynamics of the amount of collembola in the 0-30 cm soil layers in the wheat agroecosis was observed. When the amount of collembola was studied by layers, their most common soil layer was determined to be maximum in the middle (10-20 cm) layer of the soil. In the spring season, i.e. in March, April and May, agroecosis are averaged per 1 m² in soil layers 880 specimens were found.

Keywords: North region, seasonal dynamics, collembola, soil, spring.

Introduction. Seasonal dynamics of Collembola determined from different layers of the soil. The change of the seasonal dynamics of the collembola fauna is mainly related to changes in humidity and soil structure, and the dynamics of collembola meeting in the soil layers of agroecosis are less different from each other, and all this is due to the fact that in the researched areas, collembolas are adapted to live an active life in different soil layers. complete information is provided on the evidence.

In the world, collembola are a relatively small, evolutionarily ancient group that usually lead a secretive lifestyle and are closely associated with the soil. [2]. In the world, collembola participate in the decomposition of organic matter and the circulation of chemical elements as reductants, and play an important role in the exchange of organic matter in the environment, as well as in ensuring the stability and fertility of soils [1]. Collembola or arthropods are one of the most promising model groups for the comparative ecological analysis of soils. Due to their wide distribution and sensitivity to environmental changes, they are one of the most studied pedobiont taxa [3].

Collembola are a good indicator group for the assessment of anthropogenic impact on different types of soil, for the analysis of remediation processes of contaminated soils [4]. Collembola play an important role in waste processing, have an intensive metabolism, and consume up to 38 percent of food by weight every day [5]. Collembola participate in the decomposition of organic matter and the cycle of chemical elements, and they perform important functions in the environment, including ensuring the stability and fertility of soils.

Material and method. Research materials were considered for the North of Uzbekistan for 2022-2023 Wheat agroecosis were collected from the soil layers of "Yerboev Bakhodir", "Yakhshimurodov Ulug'bek", "Eshzhanov Odilbek", "Bodomzor-Abad" farms of Shavot district of Khorezm region. Samples of agroecosis 0-10 cm, 10-20 cm, 20-30 cm. a total of 880

samples of 1 m² were taken from the layers. The generally accepted "Berleze-Thulgren apparatus" was used to isolate collembola from soil samples [7].

Analysis of the obtained results. In northern regions, wheat agrocenoses are 0–30 cm of soil layers. In layers up to the dynamics of the amount of collembola by seasons was studied. In the spring, in March, April and May, agrocenoses are common in the soil layers per 1 m² 880 Specimen found (see Figure 1). Between March and May a large number of collembola were observed in the 10-20 cm layers of the soil of wheat agrocenoses, that is, 490-310 specimens were found in an average wheat agrocenose per 1 m² (1- see table). *Xenylla schillei* species dominate in the soil layers of wheat agrocenoses of Shavot district of Khorezm region and these species actively participate in increasing soil fertility and can be used as a bioindicator in assessing the condition of agrocenoses and natural ecosystems of these regions.

It was found that 490 individuals in March, 380 individuals in April, and 310 individuals in May were found in 1 m² of wheat fields in the 0-30 cm layers of agrocenose soil in the spring. In March, 200 specimens were found in the 0-10 cm soil layer, 190 specimens in the 10-20 cm layer, and 100 specimens in the 20-30 cm layer. In April, 150 samples were found in the 0-10 cm soil layer, 120 samples in the 10-20 cm layer, and 110 samples in the 20-30 cm layer. In May, 120 specimens were found in the 0-10 cm soil layer, 100 specimens in the 10-20 cm layer, and 90 specimens in the 20-30 cm layer. Table 1 (Fig. 1).

Table 1. The number of collembola in the soil layers of agrocenoses of Khorezm region in spring

Soil layers	Wheat agrocenosis		
	March	April	May
0-10 cm	200	150	120
10-20 cm	190	120	100
20-30 cm	100	110	90
Total	490	380	310

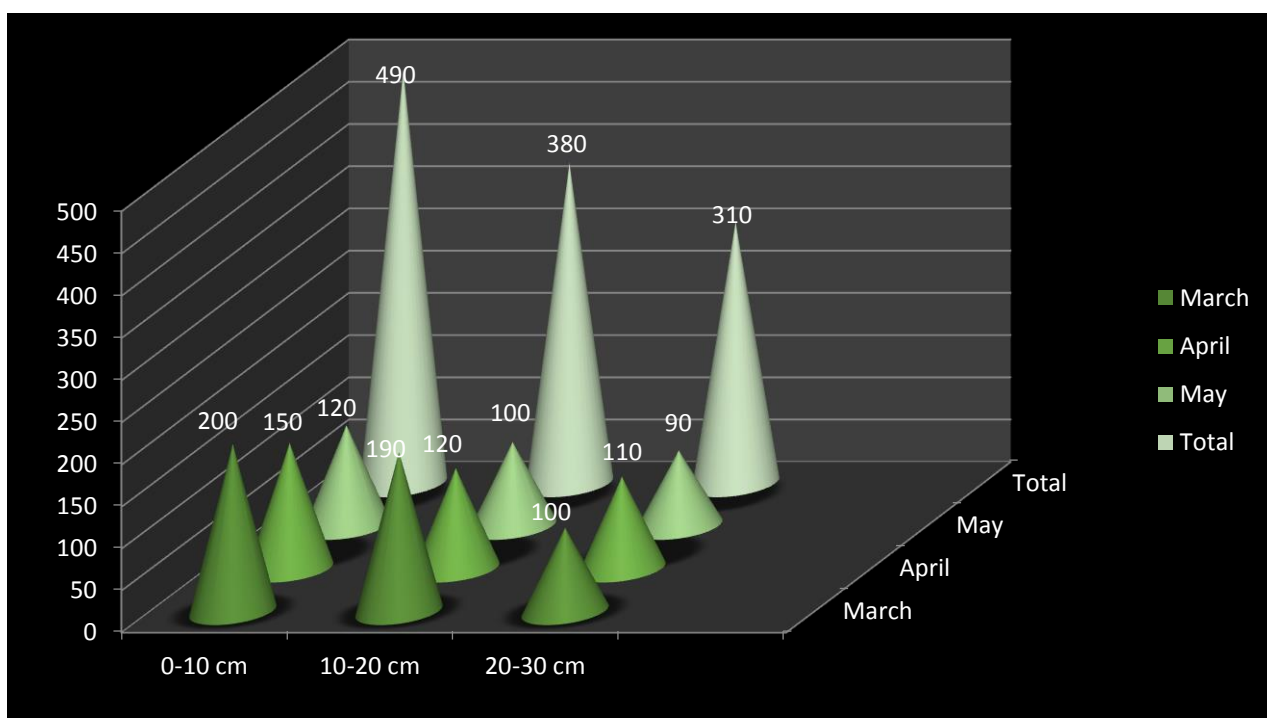


Figure 1. The number of collembola in the soil layers of agrocenoses of Khorezm region in spring.

Conclusion. In northern regions, wheat agroecosystems are 0–30 cm of soil layers. In layers up to the dynamics of the amount of collembola by seasons was studied. In the spring, in March, April and May, agroecosystems are common in the soil layers per 1 m² 880 exemplary encounter was found. The species composition and amount of collembola in the agroecosystems of Northern Uzbekistan are maximally distributed in the 10-20 cm layer of the soil. Wheat agroecosystems are dominated by *Xenylla schillei* species in the soil layers.

Changes in the seasonal dynamics of collembola fauna in different soil layers are mainly related to changes in humidity and soil structure. The dynamics of collembola meeting in the soil layers of agroecosystems differed less from each other, and this is due to their adaptation to active life in different soil layers. indicates. The largest number of Collembola is observed in the spring season. Changes in the seasonal dynamics of collembola fauna determined from different soil layers are mainly related to changes in moisture and soil structure. The dynamics of collembola meeting in the soil layers of agroecosystems differed little from each other. All this is due to the fact that in the researched areas, collembola have adapted to live an active life in different layers of the soil indicates.

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