

History of The Activities of The Entomological Station of The Turkestan Region At The Beginning of The XX Century

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Abstract: After the conquest of Turkestan by the Russian Empire, entomology stations will be established and monitored in order to turn the country into a raw material base, further expand cotton and horticulture in agriculture, and protect crops from various pests. This article examines aspects of the history of entomology stations established in Turkestan in the late XIX – early XX centuries.

Keywords: entomology, practical entomology, entomologist, entomology station, agricultural pests, insects, locusts, nature conservation.

INTRODUCTION

Since the middle of the XIX century, a number of studies in the field of entomology have been carried out in the country by Russian natural scientists (Fedchenko, A.P. *et al.*, 1875). As a result of these studies, in 1898, the “Locust Committee” was established under the Turkestan Agricultural Society to study agricultural pests. Before the formation of this organization, Russian specialists working in agriculture received assistance from the center, that is, from specialists from the Russian Entomological Society, to protect crops from pests. In this regard, the work of the Russian agronomist A. Vilknis, who worked on the localization of American cotton varieties in the Turkestan region, shows that it is advisable to seek advice from specialists from the Russian Entomological Society to combat any pests that damage cotton (Mirzaev, A. *et al.*, 2018).

The establishment of the “Turkestan Entomological Station” in Tashkent in 1911 by V. Plotnikov was of great importance in protecting agricultural crops from pests (Ziyaeva, D.H. *et al.*, 2019). The purpose of the station was to conduct scientific studies of harmful insects, as well as to provide practical assistance to the population in agriculture against them, to publish and distribute manuals and pamphlets, to organize a museum of practical entomology, and to provide local agronomists with knowledge and skills in combating harmful insects (Ziyaeva, D.H. *et al.*, 2019).

At the beginning of the XX century, a number of practical works were carried out by officials in the Turkestan region to protect agricultural crops from harmful insects. In particular, entomologists on nature study and pest control develop a project of an agricultural pest control organization (Entomology Station) in Turkestan.

The structural structure of the organization, its activities and tasks are defined in this project. According to the document, organizations managing the fight against agricultural pests in Turkestan are divided into regional and regional level agencies.

The regional offices included the regional entomological council, the Turkestan entomological station under the Turkestan administration, and the senior entomological specialist of the Turkestan region. The regional offices consisted of the regional entomological council and the entomological bureau.

The regional entomological council is chaired by the head of the region or a person specially appointed by him. In accordance with the order of the head of the region, the council may be convened when necessary to consider the organization's report on the work carried out, the future work plan, and their cost estimates. The regional entomological council includes leading employees and representatives of public organizations that are members of the regional Agronomic Council, as well as specialists in pest control (National Archives of Uzbekistan, 1913).

The Turkestan Entomological Station is the country's leading organization with extensive experience in pest control, tasked with studying agricultural pests and developing rational methods of combating them.

The senior entomologist is the responsible person, who is responsible for the effective and successful organization of measures to combat agricultural pests in all regions of the country. The senior specialist centralizes all measures to combat agricultural pests in the country and reports on

them to the Turkestan Department of Agriculture and State Property and the regional Entomological Council.

According to the project, the regional entomology bureau consists of: a bureau manager, an entomology specialist, subordinate instructors and other personnel involved in the fight against agricultural pests, as well as a warehouse of equipment, insecticides, etc. The said bureau has tasks related to the fight against agricultural pests in the regions and operates under the general leadership and supervision of a senior specialist.

The draft also stipulates that once a year in each region, a regional entomology council will be convened to discuss the work plan of the regional bureaus, chaired by the military governor or head of the region, with the participation of a senior entomologist, a representative of the Turkestan entomological station, and, in addition, senior officials and representatives from the regional Agronomy councils, and the head of the local bureau – an entomologist – will make a report to the regional entomology council (National Archives of Uzbekistan, 1913).

The decisions of the Regional Entomological Council are sent to the Turkestan Agricultural Department for the purpose of unifying the measures taken at the regional level and reporting to the Regional Council. In addition, the task of preparing the report is assigned to a senior entomologist.

The credits allocated by the Council of the Governor-General for the fight against locusts are transferred to the regional Department of Agriculture, and in the regions - to the military governors and the head of the Trans-Caspian region. Their spending is carried out, depending on the goals, through the entomological station of the Department of Agriculture, senior specialists and regional military governors, heads of regional entomological bureaus. The authority to verify the reports lies with the Control Chamber (National Archives of Uzbekistan, 1913).

This project shows that the Turkestan Entomological Station in Tashkent has achieved positive results in the fight against pests during its activities and has taken practical steps to open its own regional branches. The station's specialists used a number of new methods in the fight against locusts, namely, determining the breeding season and type of locusts, informing the relevant officials about the existing threat in advance, and jointly

combating them in order to take timely practical measures to combat pests (Turkestanskije Vedomosti, 1912). This, of course, served to grow agricultural crops as little as possible without losses and to harvest a high-quality harvest.

As noted above, the station achieved positive results during its activities and expanded its territorial activities. The demand for the station's services from various regions of the Turkestan region increased. In particular, the station's specialists conducted entomological research in Bukhara, Samarkand, Fergana and other regions, studying in-depth from a scientific point of view dangerous pests in those areas, namely Moroccan and Italian locusts, Tetranychus mites, Caradrina butterflies and Heliotis cotton bollworms, and other harmful insects. In fact, in 1912, at a meeting with the participation of representatives of the cotton industry, a decision was made to revive the activities of the Bukhara Agronomic Organization and establish the Bukhara Entomological Station in order to combat insects damaging crops (Studenov, N., 1913).

On July 1, 1913, the agronomist of the Bukhara Khanate, I.V. Shumkov, informed the head of the Turkestan Entomological Station, V.I. Plotnikov, that a sharp increase in pests of cultivated plants, including the prusik (Italian locust), was expected this year, which was a kind of disaster, and that a number of measures should be taken against insects in the territory of the Bukhara possessions, as well as in the local Turkestan regions.

On this issue, on July 1, 1913, the head of the Turkestan Entomological Station, V.I. Plotnikov, taking into account that information about the sharp increase in the Prusik locust had also arrived from other regions of local Turkestan, held a meeting under his chairmanship and with the participation of his assistant M.M. Siyazov, the agronomist of the Bukhara Khanate I.V. Shumkov, and his assistant V.P. Kolchenkov-Nikolaev.

The head of the Turkestan Entomological Station, V.I. Plotnikov, took the floor and expressed the following thoughts: "It became clear at this meeting that the sharp increase in the number of Prusik locusts this year, given that their egg laying coincides with the ripening period of crops on arable lands, poses a serious threat to agriculture and, in particular, to the harvest of irrigated crops next year. The fight against the Prusik locust will be much more difficult, because it multiplies faster than the Moroccan locust, does not move in a

uniform manner like the Moroccan locust, but given that it moves slowly from one place to another, its distribution area may be much smaller (National Archives of Uzbekistan, 1913a).

Based on this, the meeting noted that this year it is necessary to inspect the areas 40 versts wide along the steppe line around the directly irrigated lands, and in addition, if the lands around the line are being prepared for non-irrigated crops, they should also be inspected. Next year, the fight against the Prusik locust should be carried out on a strip no more than 20 versts wide. The fight should be carried out with the help of insecticides used against the Moroccan locust, namely arsenic (marginate) sodium hydroxide. Hand sprayers should be used as a sprayer. Arsenic (marginate) sodium hydroxide should be prepared for Bukhara in the fall of this year. In addition, in order to study the locusts in the areas and methods of combating them, it is appropriate to establish the position of the 3rd assistant to the khanate agronomist - entomologist at the expense of the Bukhara Khanate funds (National Archives of Uzbekistan, 1913b).

Based on the above considerations, I would ask the military governors of the three local regions of the country to develop an estimate of the costs of reconnaissance to be carried out in order to find the foci of the eggshells of the Prussian locust and send them to the Department of Agriculture. As for the issue of the Bukhara Khanate, reconnaissance activities will be organized by the Bukhara Agronomic Organization at the expense of the funds at its disposal, and I would consider allowing the said organization to order 1,000 pounds of arsenical (arginous) sodium hydroxide from the Rublev Plant with the condition of delivery by the fall of this year, and including these costs, totaling about 12,000 rubles, in the funds allocated by the Bukhara government for the fight against locusts in 1914 (National Archives of Uzbekistan, 1913c).

Regardless of this, I would contact the Bukhara government through the Russian political agent in Bukhara and consider the need to allocate funds to invite an entomologist as the 3rd assistant to the khanate agronomist. I will bring the above information to the attention of His Excellency" (National Archives of Uzbekistan, 1913d).

On August 13, 1916, the Entomological Station submitted a program of station activities to the Department of Agriculture (National Archives of

Uzbekistan, 1916). This program outlined the main content of the station's activities, its tasks, the protection of agricultural crops, including horticulture, viticulture, melons and field crops, and the fight against them, as well as the implementation of permanent cooperation with entomological stations abroad in this regard.

It should be emphasized that the activities of the Turkestan Entomological Station were of particular importance for the interests of the empire, as it was important to protect agricultural crops, mainly cotton, horticulture and melon crops, from insects, grow crops without losses, and deliver them to the empire's markets in good quality. From this point of view, despite the large expenses incurred by the center, the requests made by the station's management were almost always positively resolved. In particular, a separate building for the station, apartments for employees, and a plot of land for an experimental site on the outskirts of the city were allocated (Ziyayeva, D.H, 2019a).

In general, the entomological station opened in Tashkent and its specialists provided great assistance to agricultural entrepreneurs, farmers, and gardeners in combating pests. In particular, the station provided free consultations on combating insects that were pests of horticultural, field, and homestead crops. In addition, the station organized special courses on measures to combat harmful insects in Turkestan. In addition to graduates of rural and urban educational institutions, these courses also included representatives of the local population who had graduated from Russian-style educational institutions. The station's chief entomologist published special scientific literature, brochures, and manuals aimed at combating harmful insects, which were available to those who wanted to read for free (Ziyayeva, D.H, 2019b).

It should be noted that entomologists in the Turkestan region have studied not only insects that harm plants, but also insects and parasites that pose a threat to humans and animals, their occurrence, and the consequences of the harm they cause, based on scientific research and observations (Fedchenko, A.P, 1870; Fedchenko, A.P, 1875; Verkhovsky, N.P, 1910).

CONCLUSION

In conclusion, it can be said that before the establishment of entomological stations in the Turkestan region, farmers and gardeners who were engaged in agriculture suffered greatly from the

damage caused to plants and crops by insects and various pests. They used local methods to combat insects. The naturalists sent to the region by the empire involved specialists from the Russian Entomological Society to combat pests. First, their long-distance travel required a lot of money, and secondly, their late arrival and short return did not allow for effective control of pests. From this point of view, it was important and beneficial for the center and the Governor-General of Turkestan to organize permanent entomological stations in the region, open their regional branches, and create the necessary conditions for their employees.

REFERENCES

1. Fedchenko, A. P. & Oshanin, V. F. "Journey to Turkestan. Part 2. In the Kokand Khanate." – St. Petersburg, 1875: 160 pages.
2. Oshanin, V. F. "Bibliographic Index for the Study of the Hemipteran Fauna." – Tashkent, 1916.
3. Oshanin, V. F. "Zoogeographic Characteristics of the Hemipteran Fauna of Turkestan." – St. Petersburg, 1891: 116 pages.
4. Studenov, N. "Expansion of the Entomological Organization in Turkestan." Turkestan Gazette, (1913): No. 12.
5. Mirzaev, A. "From the History of Cotton Cultivation Development in Turkestan." Intellectual Heritage in Central Asia in the 19th – Early 20th Century: Traditions and Innovations. Edited by D. Kh. Ziyaeva, Tashkent, (2018): 127.
6. Ziyaeva, D. Kh. (Ed.). "Scientific Research and Expeditions in the Field of Natural Sciences in Uzbekistan (19th Century – Early 20th Century)." Tashkent: Akademnashr, (2019): 239–240.
7. Ziyaeva, D. Kh. (Ed.). "Scientific Research and Expeditions in the Field of Natural Sciences in Uzbekistan (19th Century – Early 20th Century)." Tashkent: Akademnashr, (2019): 240.
8. National Archives of Uzbekistan, Fund I.7, List 1, Case 3523, Sheet 333a.
9. National Archives of Uzbekistan, Fund I.7, List 1, Case 3523, Sheet 333b.
10. National Archives of Uzbekistan, Fund I.7, List 1, Case 3523, Sheet 334.
11. "Locust Outbreak." Turkestan Gazette, 1912, No. 61.
12. Studenov, N. "Expansion of the Entomological Organization in Turkestan." Turkestan Gazette, 1913, No. 13.
13. National Archives of Uzbekistan, I.7-fund, List 1, Case 3286, Sheet 9.
14. National Archives of Uzbekistan, I.7-fund, List 1, Case 3286, Sheet 9a.
15. National Archives of Uzbekistan, I.7-fund, List 1, Case 3286, Sheet 10.
16. National Archives of Uzbekistan, I.7-fund, List 1, Case 3527, Sheet 89.
17. Ziyaeva, D. Kh. (Ed.). "Scientific Research and Expeditions in the Field of Natural Sciences in Uzbekistan (19th Century – Early 20th Century)." Tashkent: Akademnashr, (2019): 240.
18. Ziyaeva, D. Kh. (Ed.). "Scientific Research and Expeditions in the Field of Natural Sciences in Uzbekistan (19th Century – Early 20th Century)." Tashkent: Akademnashr, (2019): 241.
19. Fedchenko, A. P. "Structure and Reproduction of *Dracunculus* (Guinea Worm)." – Moscow, 1870.
20. Fedchenko, A. P. "Journey to Turkestan. Part 2. In the Kokand Khanate." – St. Petersburg, 1875: 43.
21. Fedchenko, A. P. "Notes on Human Parasites Found in Turkestan." Turkestan Collection, Vol. 57 (1872): 276–286.
22. Svyazhsky, I. "On the Study of the Origin and Development of *Dracunculus*." Turkestan Gazette, (1882): Nos. 38–39.
23. Useful Note, M. B. "Fighting Bites of Black Flies." Turkestan Gazette, (1895): No. 42.
24. Useful Note, M. B. "Dispatch of Specialists to Turkestan." Turkestan Gazette, (1910): No. 74.
25. Useful Note, M. B. "Experimental Rice Plantations for the Study of the Malaria Mosquito." Turkestan Gazette, (1910): No. 135.
26. Verkhovsky, N. P. "Turkestan in the Area of the Tashkent Railway and the Cargo of This Railway." – St. Petersburg, (1910): 170–171.

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