Olga Fedchenko – explorer of the Turkestan region: on the 175th anniversary

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Abstract. The paper presents data on the biography of an outstanding Russian woman-scientist Olga Fedchenko in honor of her 175-year anniversary. Olga Fedchenko is known internationally for her botanical works especially on flora of Turkestan region. Also, without formal university education, she managed to become a professional highly respected in scientific community, which resulted in her election in 1906 a correspondent member of the Imperial Academy of Sciences. Her professional career began in Turkestan region where she participated in the famous Turkestan expedition of the Fedchenko couple in 1868–1872 along her husband Alexei Fedchenko. Since then a lot of her research were related to flora of this place. In late 1890s, she made a few trips there again, this time with her son Boris Fedchenko who grown to become a fine botanist himself.

1. Introduction

History of geographic expeditions, of exploration of different territories is always on the forefront of the history of sciences. Historians are researching connected subjects and sometimes rethinking them [1–3]. One of the topics that were revisited and in fact reopened during the last decade was female role in the history of geography and especially in the history of geographic expeditions [4]. A number of papers and books were published about different countries and periods [5–7]. They reintroduced women explorers and travellers into general history of geography and outlined their roles in the process of discovery of new lands. Women travel narratives and data collections were researched carefully in order to gain more understanding [8, 9]. One of such women very well known in her day and time and even not fully forgotten in the 20th century was Olga Fedchenko. This article is describing the history of her expeditions in the Turkestan region.

2020 is the year of 175th anniversary of an exceptional Russian woman, an extraordinary mind and well-known scientist Olga Fedchenko (1845–1921). She was a renown explorer, cartographer, botanist, botanical artist, entomologist and one of the two participants in the famous so-called Turkestan expedition of the Fedchenko couple (1868–1872). For this expedition she received a medal from the International Geographic Exhibition in Paris in 1875 and thus became a very first Russian female who won an international award for scientific activity [10].
Figure 1. Portraits of Olga Fedchenko (1845–1921): a – in 1872; b – probably near 1888.

One can divide her life into three distinctive periods. The first one, the beginning of her scientific career was participation in the Turkestan expedition. The second one after she lost her husband Alexey Fedchenko (1844–1873) was the time when she organized and supervised processing and publication of scientific data collected by expedition and raised their son. The third one was the period of her botanical research, organizing her own botanical garden, several botanical expeditions, publications of her research papers and books. It is then when she was elected a correspondent member of Imperial Academy of Sciences in 1906 and became a first female elected because of her biological research [11]. This paper concentrated mostly on her first Turkestan expedition as well as her later expeditions in the same region.

2. Materials and methods
The main sources for my research were original books and papers published by Olga Fedchenko, her private correspondence and other documentation located in the Saint Petersburg branch of the Archive of the Russian Academy of Sciences (Sankt-Peterburgskij filial Arhiva Rossijskoj Akademii Nauk) as well as scientific periodicals of the time.

3. Olga Fedchenko’s expeditions in Turkestan region
The first and most famous expedition of Olga Fedchenko in Turkestan was organized as collaboration between Governor-General of Turkestan Konstantin von Kaufman (1818–1882) and Imperial Amateurs Society for Nature, Anthropology and Ethnography (Imperatorskoe Obshchestvo Lyubiteley Estestvoznanija, Antropologii i Etnografii) of Moscow University in 1868. Kaufman wanted a qualified scientist to explore his new territory and populace both, nature and economy. Society wanted a notoriety which such an expedition could possibly achieve [12]. The venture promised to be extremely dangerous, more a war expedition then a scientific one. And it had a strong need of a female participant. First of all, they needed a female to deal with female part of population to make some appraising of them as it was the only way in Muslim country. Secondly, they were planning to organize some tours to neighboring countries that still maintained their independence from Russian Empire in order to gather some intelligence and to make geographical maps. Maps being the most important part. And it was said that a company with a noble woman in its midst was more likely to gain an access. It is a strong possibility that von Kaufman was looking specifically for a lady capable of such adventures. And that Olga Fedchenko’s existence and willingness to participate was the sole reason Imperial Amateurs Society for Nature, Anthropology and Ethnography was involved as she was its founding member. Because usually such matters were resolved with the help of Russian
Geographical Society. So, Society elected one person from the list of its members to act as a researcher for Turkestan Governor-General. The selected researcher happened to be a young Moscow University graduate and newly wed husband to Olga Fedchenko Alexei Fedchenko. A young ladywife Olga Fedchenko was included into the package. She was not an official member of the expedition staff, but all concerned including commanding officers new that in reality she was an independent member of the expedition and not simply an attached wife.

Turkestan expedition of the Fedchenko couple was not a grand tour from point A to point B and back which took several years. It consisted of several journeys they undertaken in the period from 1868 till 1872 mostly in summer months in different directions prescribed to them by Governor-General. Their base of operations was first in Samarkand and later in Tashkent. Usually they travelled with military convoy and several times were involved in military skirmishes. One must add to that rugged terrain, travelling through mountains and deserts some times in extremely bad whether. And trying to achieve as much and as quickly as possible in the short period of time as summer was short, workload large and travelling in winter even more difficult. Although difficulties couldn’t stop them. Alexei and Olga Fedchenko first arrived in Tashkent in December 1868 and immediately proceeded to Samarkand where they spent winter researching the city and surrounding area. Then their work began in earnest.

In summer 1869 their itinerary was: Samarkand, Katta-Kurgan, Peishambe, Dzhizman village, Dzhizman gorge, Peishambe village, Katta-Kurgan, lake Charik-Kul, Charik-tube village, Ulus village, Jam village, Jam gorge, Kara-tube gorge, Kara-tube village, Khoja-Duk village, Urgut, Ghuz village, Chim-Kurgan village, Penjikent, and then further up Iori village, Penjikent and home to Samarkand.

Summer of 1870 they spent with military unit of General Aleksandr Abramov (1836–1886). The route was: Tashkent, Yany-Aryk village, Ura-tube, Basmandinsky gorge, Oburden village, Pahut village, Varzaminor village, Fana river valley, Sarvada fortress, Iskander-Kul Lake, Mura pass, Sarvada fortress, Makshevat cave, Rawat village, Marzich village, summer place of Anzob and Marzich residents, Anzob village, Kan-tag (ore mountain), Sarvada fortress, pass Kshtutsky, Kuli-Kalon lake, Kshtut fortress, Penjikent.

In April and May 1871 they travelled through Kyzyl Kum desert [13].
After that they began preparing for the main adventure, culmination of the Turkestan expedition the journey to Kokand khanate – independent and hostile territory with extremely suspicious inhabitants. It was for intelligence purposes of course and with the main aim to make a reliable map. The burden of this task fell mostly to Olga Fedchenko because their local escorts did not pay much attention to female. The task she fulfilled beautifully. However, there are only few brief mentions about that side of expedition in the data available. But there is more then enough about scientific part. Olga Fedchenko in particular was the expedition’s only botanist. She collected extensive collections of Turkestan flora as well as that of the nearby territories they visited. She also acted not only as a general artist for the expedition but as botanical and entomological artist. There were also plenty of other tasks she fulfilled during the expedition helping her husband with zoological collections especially entomological one, conducting correspondence with foreign colleagues and so forth and so on. All in all, Turkestan expedition was a huge success. After returning home in 1872, husband and wife became famous as it were predicted. For her efforts Olga was awarded with a bracelet made of precious stones from the government. Her husband got the Order of St. Vladimir of the 4th degree given for the civil service.

With the main mission fulfilled the pair went to Europe looking for the best way to publish the results of their journeys. They were full of plans for future research and new expeditions. In 1872 Olga birthed their son. But in 1873 Alexei died because of an accident in the mountains during his climbing to the glacier Col du Geant not far away from Chamonix. Olga was left alone to raise their son, to publish the results of Turkestan expedition. For the next two decades she had nor time nor opportunity to travel.

Only in 1891 she retuned to the expedition activities. At the time her son Boris Fedchenko (1872–1946) was studying in Moscow University to become botanist himself and gladly accompanied her. Their first expeditions were to South Urals. Later – in 1893–1894 – they went to Crimea and the Caucasus. Every one of those enterprises were finished with the book about the region’s flora published by mother and son together. Only in 1897 Olga Fedchenko returned to Turkestan and to its flora she loved so dearly. In 1901 mother and son travelled through Pamir. These late expeditions were strictly botanical and resulted in publication of fundamental scientific monographs on flora of said regions [14, 15].

4. Conclusion
Olga Fedchenko was the first in many things. The first Russian woman who participated in nearly military expedition with great success, who became internationally known scientist, who had 66 plants named in her honor, who published more then one hundred scientific books and papers and edited 24 more, who was elected a member of no less than 10 scientific societies and institutions including
Imperial Academy of Sciences. All that and much more she managed in the time when in Russia females were denied access to the universities and to intellectual professions at large. So, she never graduated from university and having no official diploma never had an opportunity to teach in one. But all the same she became a hero and an example for young girls who dreamed about scientific career and young men who worked along her and to whom she showed what it meant to be a real scientist. Among those men were a future outstanding scientist Nikolay Vavilov (1887–1943) and Vladimir Komarov (1869–1945) future president of the USSR Academy of Sciences.

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