

**MICE PROBLEMS IN THE OTTOMAN EMPIRE AND MICE INVASION
IN TIRHALA IN 1866**

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Abstract

Mouse is a rodent vermin. This rodent family comprises many different species and it can be found everywhere in the world save for a few islands in the Pacific Ocean. They can also travel to other places in ships or trains. Mice can give birth 6-10 times a year and each female mouse can give birth to 10-12 offsprings each time. A newborn female mouse reaches sexual maturity to give birth within 3-4 months. A pair of mice reproducing regularly may reach a population of around 300 million in three years. Mice are smart animals. They will hardly be fooled with the same trick twice consecutively. Naturally the first group of mice eating poisonous bait will die but no other mice will eat that bait for a long period of time. Mouse species which is commonly referred to as rat is highly predatory. It is this species which spreads the plague by carrying fleas in their hair. Thus it can be said that rats were equally responsible for mass human deaths as wars throughout the history. This and other similar problems caused by mice were experienced within the boundaries of the Ottoman Empire from time to time, causing numerous villages to be wiped off the map and various others to incur damages. In addition to spreading the plague, mice have also damaged military ammunition, cultivated land, and official documents of the Ottoman Empire. Mice have caused food shortage and consequently price increases in various regions by damaging crops. The Ottoman Empire was forced to take various measures to prevent the damage caused by mice. These measures include but are not limited to special herbal liquids, importing pesticides from abroad, mouse traps and poison.

Keywords: *Tirhala, mice, the Ottoman Empire, plague, food shortage.*

Introduction

Natural disasters are among significant factors affecting social, economic, and cultural structures of communities. In general, ecological events disrupting the normal course of life requiring external aids for recovery are called natural disasters (Yılmaz, 2003). Natural disasters may also be referred to as events affecting the

social, economic and cultural life of the society negatively, causing significant loss of life and property (Şahin and Şengün, 2003). Natural disasters include earthquakes, floods, avalanches, tornados, hurricanes, landslides, volcanic activities, tsunamis and drought (Yılmaz, 2003; Gökçe, Özden and Demir, 2008; Demir and Aktaş, 2010). Disasters may be caused by humans or by geological or meteorological disturbances as well as biological events. Epidemic diseases and disasters caused by animals such as grasshoppers, mice and insects may be classified under the title biological disasters (Erler, 2002).

Mouse is a rodent vermin with many different species and it can be found everywhere in the world save for a few islands in the Pacific Ocean. They can also travel to other places in ships or trains. Mice can give birth 6-10 times a year and each female mouse can give birth to 10-12 offsprings each time. A newborn female mouse reaches sexual maturity to give birth within 3-4 months. A pair of mice reproducing regularly may reach a population of around 300 million in three years. Mice are smart animals. They will hardly be fooled with the same trick twice consecutively. Naturally the first group of mice eating poisonous bait will die but no other mice will eat that bait for a long period of time. Mouse species which is commonly referred to as rat is highly predatory. It is this species which spreads the plague by carrying fleas in their hair. Thus it can be said that rats were equally responsible for mass human deaths as wars throughout the history (Hayat Ansiklopedisi, 1961).

Mice problems that were experienced in the Ottoman Empire and the measures taken to fight this problem are examined in this study on the basis of the documents kept in the Ottoman Archives of the Prime Ministry. Then the mice invasion in Tırhala in 1866 is explicated.

Mice Problems in the Ottoman Empire

In the letter she sent to Sultan Abdulhamid in 7 November 1900, Ms. Marie Gericker from Germany had expressed her intention to give one of the most beautiful pair of mice she had recently domesticated to him as a present, appreciating his interest in laboratory mice (domesticated small mice) (Y.PRK.AZJ. 41/25). Although domesticated mice did not cause any problems, it is not possible to say this for all mice species. As a matter of fact, various problems were caused by mice within the boundaries of the Ottoman Empire from time to time. One of the problems caused by mice was that they used to eat official documents of the state. As explained in the letter sent to the Prime Ministry by the Ministry of the Interior on 25 December 1917 (25 Kânûn-ı sâni 1333) and the letter sent to the District Governor's Office in the Sanjak of İçil by the General Directorate of Civil

Registration on 1 January 1918 (1 Kânûn-ı sâni 1908), as a result of the inspection conducted in the district civil registration office in Gülnar it has been understood that, birth certification documents covering the period prior to 14 June 1914 (1 Haziran 1330) were destroyed by mice. Consequently numerous errors were made in transactions that were carried out on the basis of these documents (DH.SN.THR. 77/37). Another type of document which is destroyed by mice is banknotes. It is understood from the letter sent to the Ministry of Finance on 22 April 1862 (22 Şevvâl 1278) upon the application filed by a citizen named Ömer, a kavass in the Sublime Port, with the Ministry of the Interior, that banknotes amounting to 600 kurus, held by Ömer were eaten by mice. The claim of Ömer for replacement of banknotes amounting to 600 kurus which were eaten by mice was sustained. (A.}MKT.NZD. 414/89).

Mice have also caused damage to grains stored in warehouses as understood from the letter sent to the Ministry of the Interior by the Governor of Trabzon on 20 March 1920 (29 Cemâziye'l-âhir 1338). In this letter the governor explains mice as well as humidity have caused great damage to grains stored in warehouses. (DH.İ.UM. 20-09/2-41).

The state treasury had also incurred losses due to mice invasion. As a matter of fact some of the timars were not sold in regions that were evacuated and suffered due to the military expedition to Chios and mouse invasion. According to the revenue records of the period, timars at a total amount of 712122 coins were left idle in the year 1150 (1737-1738) in Kocaeli, Gelibolu, Biga, Suğla, Saruhan, Aydın and Kütahya due to the military expedition to Chios and mouse invasion, causing the state treasury to incur losses (D.BŞM.d. 803).

In the telegram sent to the Ministry of Finance by Ahmed Cevdet Pasha in 5 January 1875 (24 Kânûn-ı evvel 1290), the difficulty of protecting silk cocoon from mice was explained (Y.EE. 142/269). Consequently, the mice have also damaged silk cocoons.

However, mice have caused the greatest damage on cultivated land without doubt. As reported by Vizier Ahmed Pasha, the Custodian of Bender, on 7 November 1800 (19 Cemâziye'l-âhir 1215), grasshoppers and mice have invaded cultivated land in the town of Bender for a while. In addition to the problems caused by grasshopper and mouse invasion, negligent behavior of District Governor Sefir Ağa had caused some of the soldiers who were assigned the task of protecting the castle of Bender to escape. Consequently the state had sent 51,396 kurus to meet the needs of remaining soldiers. (C.AS. 892/38400). Mice and insects have invaded cultivated land in the villages around the town of Hama in Syria in June 1823 (Ramazan

1238). As a result of the appraisal survey conducted by Abdülkadir Bey and Hasan Ağa, it was understood that some villages around the town of Hama were not affected from the disaster but half of the cultivated land was destroyed in some villages, two thirds of the cultivated land was destroyed in others and almost all of the cultivated land was destroyed in still some others (HAT. 548/27100D). As a result of the appraisal survey, it was stated that cultivated land in 22 villages, the names of which were specified in the report was not affected from the disaster. However half of the cultivated land in 11 villages and two thirds of the cultivated land in 5 villages, which were not as lucky as the others, was destroyed by mice and insects. 23 other villages have also sustained damages at various levels depending on the variety of the crops (HAT. 548/27100B). The document sent by Salih Pasha, the governor of Damascus, on 5 July 1823 (25 Şevvâl 1238) explains that grasshoppers and mice have destroyed and spoiled the entire cultivated land around Harran plains, Hama and Hummus (HAT. 548/27100A). As described in the document dated 21 March 1852 (29 Cemâziye'l-evvel 1268) mice emerging in various villages around the Town of Asburli? have damaged cultivated land and they have started invading other villages as well with an increased population. (A.)MKT.UM. 97/3). According to the letter sent to the Prime Ministry from Bolu on 30 November 1865 (11 Receb 1282) mice have emerged in the villages around the central district of Bolu and have eaten and destroyed the crops that were planted until that time. The mice have not caused damage only by eating the crops but they have also dug holes in the soil like a mesh. These holes have prevented the villagers from planting crops although it was sowing time (MVL. 716/35). According to the letter sent to the Prime Ministry by the governor of Tırhala on 30 October 1866 (20 Cemâziye'l-âhir 1283), mice emerging in various regions around the town have caused damage to cultivated land. The price of wheat, barley and other foodstuff has increased due to the damage caused by mice as well as the increasing population of soldiers in the region (MVL. 1023/46). According to the petition filed by Bekir Efendi, acting on behalf of and representing the inhabitants of the district of Mihalic of the city of Hüdavendigâr on 7 February 1872 (27 Zi'l-ka'de 1288), almost all of the cultivated land was eaten and destroyed by a huge mice colony. It was stated that some of the livestock grown by the villagers will also be lost if the mice are not destroyed, causing the people who are already distressed, to become more vulnerable (ŞD. 2864/34). In the document dated 14 February 1895 (18 Şa'ban 1312) it is stated that field mice which have emerged the previous year have grown into an enormous colony damaging cultivated land to a great extent (ŞD. 519/14). According to the letter sent to the Ministry of the Interior from Salonica on 2 July 1902 (25 Rebî'ü'l-evvel 1320), local district governor's offices have reported that field mice have emerged and caused damages in some villages and farms of Kesendire town (DH.MKT. 551/13). In the letter sent to the Ministry of Interior

from Aydın on 7 April 1911 (25 Mart 1327) it has been stated that around three thousand square meters of most fertile land in Aydın could not be cultivated due to field mice (DH.İD. 99/3).

Indisputably, one of the most significant disasters experienced by the Ottoman Empire due to mice was the plague disease. Food shortages due to grasshopper and mice invasion, earthquakes and drought increase poverty and cause social problems (Gökbunar, 2007). Going through hard times due to food shortage, the people become more vulnerable to epidemic diseases as a result of malnutrition and lack of attention to hygiene. Local administrations that are concerned about persistence of food shortage replenish cereal warehouses as a precaution, which provide a suitable habitat for mice colonies that spread the plague (Aydiner, 2008).

The plague which is also referred to as “Black Death” by Western countries was first seen in Egypt and had spread to Palestine and to the rest of the world from there. It is a known fact that the plague is spread by mice. The plague had primarily affected major ports and sea towns due to the mice travelling in ships. Consequently, individual states have established quarantine zones for ships entering their territorial waters. The fear of death caused by the plague had caused the Austro-Hungarian Empire to establish a 1900 km long quarantine zone along the Ottoman border. However, the plague which was not effective in Europe thanks to the quarantine zone and other measures that were taken have affected Ottoman territory in the 18th century. A planned and organized fight was initiated against the plague after the Ministry of Quarantine was established in 1839 (Ceylan, <http://turkoloji.cu.edu.tr>). However many regions in Anatolia had suffered from the plague in the 18th and 19th centuries (Yılmazçelik, 2005).

It is possible to give some examples from the archives regarding the plague epidemic that broke out in the Ottoman Empire. For example a fourteen year old boy working in a coffee house in the waterfront promenade in Izmir was taken into isolation because he was infected with the plague. It was decided to place all ships leaving the port of Izmir from 17 January 1902 (4 Kânûn-ı sâni 1317) onwards, under quarantine for a period of two days and to subject such ships to mouse disinfestation (DH.MKT. 2580/24). As it is understood from various correspondences, the Ottoman Empire was suffering from the plague disease in 1902. The instruction stipulating that all mice in ships arriving from destinations infected with the plague should be destroyed, as endorsed by the Sultan, was notified to the relevant administrations as required in February 1902 (DH.MKT. 2586/9). In the letter sent to the Prime Ministry on 31 December 1903 (11 Şevvâl 1321), it is stated that the plague disease is seen in Izmir occasionally. Furthermore it is also stated that many mice were killed during the disinfestation on an Italian

flagged ship carrying pilgrims and that the mice were infected with plague cells. It is reported that necessary measures were taken to destroy mice in Izmir due to the fact that some individuals in Aydın, who were infected with the plague have arrived at Aydın from Izmir (A.}MKT.MHM. 568/9). In the document dated 31 March 1908 (27 Safer 1326) it is reported that the plague was not completely prevented in Jeddah, causing some casualties occasionally, but the number of casualties was higher in Yenbu (BEO. 3281/246075). In the letter sent to the Governor's Office in Hejaz province on 3 June 1910 (24 Cemâziye'l-evvel1328), it is stated that mice, which help the plague to be spread are required to be destroyed and killed in order to prevent the plague entirely (DH.MUİ. 100-2/22). Izmir was exposed to the plague again in 1919. It was decided to subject the ships arriving at Izmir to mouse disinfestation since the plague emerged occasionally in Izmir and it was not completely prevented, in September 1919, in addition to other measures that were previously taken (DH.İ.UM. 22-2/19). Measures taken against the plague in Izmir were discontinued on 4 December 1919 but they were started to be implemented again 3 days later when the plague was spotted again (DH.İ.UM. 22-2/38). The letter dated 26 October 1920 (26 Teşrîn-i evvel 1336) indicates that the plague was still infecting Izmir. As a matter of fact, the above mentioned letter requires passengers in transit Izmir to be examined in the first port to be visited by the ship and the ships to be subjected to disinfestation (DH.İ.UM.EK. 61/12).

The Ottoman Empire had closely and carefully monitored the plague epidemics. The city of Odessa, which is in the Ukrainian territory today and which was occupied by the Russians in 1789, was named Hocabey during the Ottoman era. The document dated 8 May 1903 (25 Nisan 1319) reports that Hocabey was infected with the plague spread by the mice escaping from two ships in the port, causing the death of the wife of a port worker (Y.PRK.AZJ. 47/90). The document dated 25 September 1922 (25 Eylül 1338) (DH.İ.UM.EK. 64/38) and the document dated 21 October 1903 (8 Teşrîn-i evvel 1319) (DH.MKT. 781/28) report that the plague had broken out in Italy and in the Naples Bay respectively, asking the necessary measures to be taken against ships arriving from those regions. Again in 15 May 1904 (2 Mayıs 1320) (DH.MKT. 852/20) and 31 December 1904 (18 Kânûn-ı evvel 1320) (DH.MKT. 920/32), in 1 June 1920 (1 Haziran 1336) (DH.İ.UM.EK. 120/38) in 2 July 1905 (19 Haziran 1321) (DH.MKT. 983/75) in 10 July 1920 (10 Temmuz 1336) (DH.İ.UM.EK. 121/15) and in 21 September (21 Eylül 1336) (DH.İ.UM. 22-2/82) it was instructed that due to the plague break out in Aden, Sevastopol, Port Said, Port Said and Beirut and Salonica, respectively, causing deaths, ships and passengers arriving from those regions shall be placed under quarantine and the ships shall be subjected to mouse disinfestation. The Ottoman Empire had strictly controlled arriving and departing vessels with the quarantine zones established in its

ports and had subjected the ships to mouse disinfection (For detail please see DH.İ.UM.EK. 63/21; DH.İ.UM. 19-18/1-22; DH.İ.UM.EK. 117/86; DH.İ.UM. 22-2/45; A.}MKT.MHM. 598/2; Y.MTV. 222/44).

Instructions regarding mouse disinfection to be applied in ships are clearly described in the document dating from 1901. According to these instructions, first of all foodstuff and other commodities and utensils shall be removed from the cellars, stores and tween decks and cheese and similar food shall be placed at various locations to attract the mice. Secondly, at least six charcoal burners shall be placed in each store and tween deck and at least two charcoal burners shall be placed in the cellar, after sealing these places with airtight insulation a while later and ten grams of sulphur and twenty grams of charcoal shall be burnt on these burners for one cubic meter of space or ten kilograms of sulphur and twenty kilograms of charcoal shall be burnt one thousand cubic meters of space. Ten hours later the doors of these areas shall be opened and a liquid mixture, at the quantity of one kilogram for hundred cubic meters of space and ten kilograms for one thousand cubic meters of space, containing sulphuric acid and various other gases, transforming into choking gas after contacting the air, shall be sprayed in various locations in the stores, tween decks and cellar of the ship, then all holes shall be closed and opened three hours later. Thirdly dead mouse bodies to be found inside the ship following this procedure shall be taken carefully with tongs and burnt in the boilers of the ship or in special containers with paraffin oil. Fourthly the stores, tween decks and cellar shall be washed with ample water. Moreover, raw acid, soap and caustic soda at the quantity of fifteen kilograms each, will be added to one hundred liters of water and the walls will be carefully cleaned with this mixture and the water accumulating in the cellar shall be cleaned with lime. Fifthly all equipment, furniture, sails, ropes and other tools and devices in the decks, halls, cabins and toilets shall be cleaned individually with a special lotion. Then a report describing the procedures that were carried out on the ship shall be submitted to the ship masters by the health officers (İ.SH. 3/46).

Pursuant to the resolutions adopted at the board meeting of the sanitary affairs office on 22 October 1901 (9 Teşrîn-i evvel 1317), ships arriving from any region that is infected with the plague shall not be allowed to land even if the ship holds a certificate stating that it is disinfested from mice. This is because the certificate is issued only with respect to disinfection of the stores. But there are other locations in the ship where the mice can hide. The fact that the measures were tightened can also be understood from the resolution stipulating that "Any ship discharging cargo at any Ottoman port shall be subjected to mouse disinfection if it intends to land in another Ottoman port". (Y.MTV. 222/44).

However the procedure was somewhat moderated pursuant to the instructions dated December 1901. Accordingly ships arriving from a port infected with the plague, holding a certificate that the ship is disinfested from mice, may land at the docks after obtaining another certificate attesting that the ship is free from mice. Any ship arriving from an Ottoman port or foreign port which is not infected with the plague may land at the docks if it declares that forty days have elapsed since the date of the certificate it holds. Log books of ships arriving from a port which is not infected with the plague shall be checked to verify that they have not visited any port that is infected with the plague within the last four months and they shall be allowed to land if they had not visited any port that is infected with the plague. Ships landing at the docks shall be kept at a distance of one meter from the dock as a minimum, they shall remove their ladders from the docks and protect their ropes with thornbushes or cones at night (İ.SH. 3/46). Sea trade of the United States of America was affected negatively from the instructions stipulating that the ships shall not be allowed to land at the docks unless forty days have elapsed since the date of mouse disinfestation and the Ottoman Empire was warned with a memorandum. However in the letter sent by the Sanitary Affairs Office of Istanbul Port and Bosphorus it was stated that “mice surviving disinfestation in a ship can reproduce offsprings within a period of forty days, thus the period of forty days is required to be elapsed” (HR.İM. 97/28).

Although it was decided not to allow ships arriving from regions that are infected with the plague to land at the ports in 1902, this decision caused several problems. Consequently it was asked to allocate special moorings specific to ships arriving from places that are infected with the plague instead (A.}MKT.MHM. 598/2).

Hygiene is very important to prevent the spread of the plague. As a matter of fact it is understood from the document dated 10 August 1901 (28 Temmuz 1317), that the municipality had conducted detailed sanitation and health screening in Istanbul addressing mice. To this end measures were taken against mice at hotels, bakeries, coffee houses, outdoor cafes, public baths, bars, bed-sitting rooms, butchers, similar shops, streets and houses and those places were cleaned as required. Meanwhile the citizens were subjected to health screening. Other measures were also taken against mice such as placing steel traps, whitewashing buildings, flushing sewers, installing flush tanks at toilets, bituminizing the covers placed on vehicles used for sanitation purposes, burning the mice that are caught with oil and burying dead mice in pits dug at appropriate locations and covering the pits with lime (Y.PRK.ŞH. 11/63).

In a report written by the Ministry of the Interior in 1909, it is stated that the most significant means of spreading the plague is mice. It is reported that infected mice hide in all types of vessels and ships and in the commodities carried by these vessels

and ships, escape in the port of discharge and spread the plague. The mice escaping from the ships first go to customs offices and warehouses. Thus porters working at customs offices, grocers, spice sellers, bakers and cereal sellers are infected with the plague first because the mice seek and find groceries, cereal shops, flour shops and bakeries after leaving the port. Consequently observing the measures that are required to be taken in order to protect against the plague is of critical importance. First of all dead mice must be searched and found. Then, their bodies must be burnt with oil after being scalded with boiled water. The awareness level of the public is very important in the fight against the plague. It was recommended for the municipality to pay a certain sum of money for each mouse to be caught by the citizens in order to include the public in the process of fighting against the plague. Hygiene is very important in preventing the plague. Simple precautions to be taken by the public such as observing personal hygiene, not walking on barefoot, sleeping at places well above the ground and using bednets are of critical importance in the prevention of the plague (DH.HMŞ. 22/27).

Measures taken against mice

Related agencies of the Ottoman Empire have issued reports covering the measures to be taken against mice. For example the provincial director of agriculture in Kala-i Sultaniye, currently Çanakkale, has prepared a report regarding measures to be taken against field mice and sent this report to the Ministry of the Interior, from where it was sent to the Ministry of Economy and Agriculture (DH.İ.U.M. 19-17/1-03).

The state also followed articles related to the methods of destroying mice. An article authored by Apri, a chemist, which was published in a newspaper overseas was sent to the government of the Ottoman Empire by the Embassy in Berlin in 1902. The article authored by chemist Apri was communicated to the related agencies for information (İ.HUS. 92/85; A.}MKT.MHM. 599/12).

The state, local administration and the public have taken various measures against the damages caused by mice. One of these methods was whole-wheat dipped in ethyl alcohol. The whole-wheat method was first tried against field mice damaging cultivated land in Tırhala region and then it was commonly used in Turhala region in 1866 after it was seen that mice were killed when they eat whole-wheat dipped in ethyl alcohol (MVL. 1019/73).

Another method was to use imported pesticides. As it was stated in the document dated 1895, field mice that have emerged in Adana the previous year, and grown into a huge colony have significantly damaged the crops. The directorate of the sample field in Adana had written a letter to the head office for procurement of the

pesticide invented by Monsieur Lafer which had proved to be successful in Greece, since simple measures taken by the public were of no use. An order was placed for this pesticide for one hundred units, at the amount of 500 Francs (ŞD. 519/14; BEO. 667/49972; BEO. 599/44915). Also correspondence was made in 1902 to place and order with the “Darüt-ta’lîm” (Private School) in Paris for 10 dozens of pesticides to be used against mice damaging the crops in Aydın (DH.MKT. 2575/140).

Poison was another method used to fight against mice. Field mice emerging in the province of Salonica have caused tremendous damage in 1902. As a result of the examinations made by Agricultural inspectors, no other means than poisoning the mice with various chemicals was found as an effective measure. However this method was not very successful since poisoned food was not attractive for the mice which were feeding on fresh food at the time due to the season. Authorization was demanded to harvest crops which were already reaped or still not reaped, immediately, in order to minimize the loss (DH.MKT. 551/13). The general directorate of the Police Force has used the method of poisoned paste to protect its documents against mice in 1909. Poisoned wheat was also used against mice. In 1905 two kilograms of poisoned wheat was found in a crate sent to Trabzon from Marseille in the name of an Italian citizen. As a result of the investigation it was understood that poisoned wheat belonged to pharmacist Ladini from Erzurum, who was an Italian citizen, intending to use the wheat against the mice in his house (DH.MKT. 1023/16).

Traps were also used against mice. The general directorate of the Police Force has used the method of traps to protect its documents against mice in 1909 (DH.EUM.LVZ. 50/103). In 1910 quarantine inspectorate in Jeddah had reported that mice spreading the plague were required to be destroyed in order to prevent plague in Jeddah. Since Jeddah municipality was unable to procure one thousand traps that were required to destroy the mice, it was decided for the traps to be procured by the sanitary board in Hejaz and sent to Jeddah (DH.MUI. 100-2/22).

Another method recommended to be used to destroy mice was sulphur carbon. This method was asked to Hamdi Pasha, lecturer of bacteriology at the medical school. According to the detailed report prepared by Hamdi Pasha, it was highly dangerous to purchase sulphur carbon to destroy mice, and it was very difficult to use this method. Hamdi Pasha had stated in the document dated 22 July 1902 (9 Temmuz 1318) that it was more appropriate to use the method of burning sulphur which was commonly used in quarantine zones (Y.A.HUS. 432/67). As it is known sulphur carbon is a poisonous and malodorous volatile liquid. On the other hand sulphur used for destroying mice, which is not as dangerous as sulphur carbon is obtained by burning brimstone.

In the letter sent to the Ministry of the Interior by the medical school on 6 July 1902 (23 Haziran 1318), it was stated that as a result of the investigation carried out by sanitary inspector Ahmed Reşad Bey, regarding the deaths in Galata, Istanbul due to the plague, it was found out that the disease broke out in the region between Galata and Tophane and at Balıkpazarı. It was alleged that the mice that were infected with the plague have arrived in Istanbul on ships landing at the docks. It was recommended to control the ports and to cover open sewers on the streets in order to prevent the disease (DH.MKT. 543/75). One of the methods used to destroy the mice in the sewers was sulphur balloons (Y.MTV. 222/44).

Apart from scientific methods, other methods which were believed by the public to be of use were also tried. One of these methods was to use the fluid obtained from corn poppy. In 1872 Mihalic town in Hüdavendigâr province was suffering from mice. Inhabitants of Mihalic have asked their representative Bekir Efendi to request the state to procure the fluid obtained from corn poppy from Ankara in order to destroy the mice, since they did not have economic power to procure this fluid by their own means. The state had decided to pay 2000 kurus, which was the cost to procure the fluid obtained from corn poppy from the local treasury agency (ŞD. 2864/34). The state had allocated a certain budget for each province to fight against mice. For example the total amount paid by the province of Beirut to destroy the mice and insects in the town of Cüneyn was five thousand kurus in 1904 (BEO. 2355/176590). The budget allocated for the province of Adana to destroy mice and insects was fifty thousand kurus in 1895 (ŞD. 519/14; BEO. 667/49972).

Another method that was used against the mice was the “grasshopper spring water”. The mice problem in the town of Asburli? in 1862 was resolved by sending the water which is one of the wonders of his excellency Şeyh Ali es-Semerkandi, whose tomb is located in the town of Yabanabad in the Sanjak of Ankara, known as the “grasshopper spring water” by Seyh Ahmet Efendi who was a descendant of his excellency Şeyh Ali es-Semerkandi (A.}MKT.UM. 97/3). In the letter sent to the Prime Ministry from Bolu, which was suffering tremendously from mice in 1865, it was requested for “grasshopper spring water” which is found around the town of Yabanabad in Ankara, the benefits of which was commonly acknowledged, to be sent province together with a sheikh to use that water (MVL. 716/35). Şeyh Ali Semerkandi, a descendant of Hz. Ömer was born in Esfahan in 1320. Arriving at Anatolia with the spiritual sign given by the Prophet, Şeyh Ali Semerkandi had visited various regions in Anatolia, giving advices to and guiding state officials. While Şeyh Ali Semerkandi was residing in Eskipazar, which is a district of Karabük today, he had demonstrated his wonders by creating a water spring on the soil through praying, and “Starling Birds” which have emerged at the location

where the spring was created have destroyed the insects that were damaging the crops. Şeyh Ali Semerkandi had ultimately resided in a village, the name of which was later changed to Şeyhler in commemoration of Şeyh Ali Semerkandi, in the town of Yabanabad, which is called Kızılcahamam today. The village of Şeyhler had subsequently developed into today's town of Çamlıdere. Seyh Ali had demonstrated his wonder also in this village and crated another spring by praying, and the water from this spring was used against grasshoppers and insects. The region of Çamlıdere was exempted from taxes under the reign of the Ottoman Empire by virtue of an imperial order, thanks to this water which is also known as "grasshopper spring water". This water obtained in the region where the tomb of Şeyh Ali Semerkandi is located, was taken to the region facing insect problems by a descendant of the sheikh and sprayed on the places infested by insects with religious rituals. The insects were destroyed by "Starling Birds" emerging as a wonder of this water (<http://www.seyhalisemerkandi.com/>).

It was of critical important that the public observed the measures taken by the central administration or local administrations. The probability for the fight against mice to be successful is very low in case of failure by the public to observe the measures taken. For example in the year 1911, a significant portion of the most fertile land in Aydın could not be cultivated and remained idle due to mouse invasion. According to the information provided by the agricultural inspector in Aydın, each pair of mice reproduces thirty offsprings every year and each mouse eats around ten kıyye of cereals per year, which corresponds to thirteen kilograms approximately. This calculation made by the agricultural inspector alone is sufficient to demonstrate the severity of the situation. However, despite all efforts and hard work of the office of the district governor of Aydın, the situation had worsened due to failure by the public to observe the measures that were taken (DH.ID. 99/3). The necessity to involve the public in this procedure was also underlined in another document. Another method to destroy mice was to pay a certain sum of money to the public from the budget of the municipality, to kill mice in İzmir, which was also practiced in various locations in Europe, as explained in the document dating from 1904. The bodies of dead mice were destroyed by burning them (A.)MKT.MHM. 568/9).

Mice invasion in Tırhala in 1866

In the letter sent to the Prime Ministry in 17 January 1866 (29 Şa'bân 1282), field mouse invasion on cultivated land in the Sanjak of Tırhala was reported. Although the mice did not currently damage cultivated land, it was thought that it would be better to take precaution for the future just in case. To this end, they intended to try whether a mixture of whole-wheat and ethyl alcohol would destroy the mice and it

was observed that mice eating whole-wheat dipped in ethyl alcohol were killed. Consequently a fight was initiated against mice by placing whole-wheat dipped in ethyl alcohol in various locations (MVL. 1019/73). Although this method had proved to be very successful in the fight against mice, the mice have emerged again after the rain season as stated in the letter sent to the Prime Ministry in 22 May 1688 (10 Mayıs 1282). Mice which were never seen during day time started to damage cultivated land to a high extent at night. The farmers were highly concerned since harvest-time was very close. Some individuals filed petitions for authorization to remove reaped crops to harvest areas with a view to avoiding further damage. In the letter written to the district governor's office in Tırhala from the central government on this issue, it was instructed for the necessary measures to be taken (A.)MKT.MHM. 357/62). It is understood that the fight against mice in Tırhala was not very successful. As a matter of fact, in the petition stamped by various village headmen (mukhtar) and inhabitants in August 1866, it was stated that the crops were destroyed by mice while they were still in the field. No cereal could be harvested in the winter or the summer season due to mice, as stated in the petition. This had caused problems for the villagers as well as for their livestock. As a matter of fact some of the villagers who were experiencing an economic bottleneck since they were unable to earn money from their crops over the last couple of years, have bankrupted and some others were highly indebted. Some of the villagers had much less quantities of wheat and barley seeds than required for planting for the new season, and most of the villagers had no seeds at all. In the petition submitted by the villagers, it was stated that the villagers would be really miserable if these conditions had persisted. Consequently, the villagers have asked the state to provide seed subsidy to them (MVL. 1022/63). Accordingly local administrators of Tırhala have asked the central administration to lend fifteen thousand Istanbul bushels of seed. The total amount of seed requested was 384,840 kilograms, in other words 385 tons, since one Istanbul bushel corresponds to 25,656 kilograms. Since it was understood that the villagers will be unable to plant new crops if seed subsidy was not provided, which would result in a reduction in the revenues of the state, it was decided to subsidize the requested amount of seeds as a result of correspondence made with the Ministry of Finance (MVL. 1024/11; MVL. 1022/63; A.)MKT.MHM. 358/88).

In the letter sent to the Prime Ministry on 23 October 1866, it was stated that the villagers, suffering due to mice, were pleased by the subsidy provided by the state. However it was requested for the assessment of taxes on the inhabitants of the towns of Kardiçe and Alasonya in Tırhala, who had suffered from mice, to be postponed (MVL. 1023/399). This request was found to be reasonable for the villages of the town but it was rejected for the town centers because they were not

affected from the disaster (MVL. 1029/113). Another problem of the inhabitants, who were already suffering from the damages caused by mice, was the increase in the prices of wheat, barley and other commodities due to mice and due to the increasing population of soldiers in the region. As stated in the document dated 30 October 1866 (18 Teşrin-i evvel 1282), it was decided to ban exportation and transportation of cereals, livestock, oil and charcoal from the province to other regions until the requirements of the region were met, in order to prevent price increases (MVL. 1023/46). As a matter of fact the precaution to ban exportation of products to other regions was one of the measures implemented by the state to control the prices (Demirtaş, 2004).

Conclusion

The public had suffered problems due to animals such as crows, insects, mice and grasshoppers in the Ottoman Empire. Grasshopper was the most harmful vermin. However mice have caused as much damage as grasshoppers. According to the documents in the archives, problems caused by mice may be listed as, destroying valuable papers and damages given to silk cocoons and cultivated land. Indisputably, the fatal plague caused by mice had frightened the public the most.

The state and local administrations and the public have taken various measures against the mice. These measures can be listed as, mouse disinfestation in ships, using whole-wheat dipped in ethyl alcohol procurement of pesticides from abroad, using various poisons and chemicals and setting traps. Apart from these the fluid obtained from corn poppy and grasshopper spring water, which were believed to be of benefit by the public, were also used.

Mice problems were experienced in Tırhala region in 1866. Going through hard times, the inhabitants have fought against mice with whole-wheat dipped in ethyl alcohol. Although this measure had proven to be partially successful, the mice have emerged again after the rain season and caused tremendous damage on cultivated land. According to the petition submitted by various village headmen and villagers in August 1866, some of the villagers have bankrupted and some others were highly indebted. The state was asked to subsidize 15,000 bushels of seed, corresponding to 385 tons, to relieve the villagers who did not have any seeds to cultivate the land. Although this state subsidy had relieved the villagers to some extent, the villagers, who still had other problems, have requested their tax assessment to be postponed. Another problem that was caused by mice was the increase in prices which had devastated the villagers. The prices of wheat, barley and other commodities have increased due to mice and due to the increasing population of soldiers in the region. The precaution to resolve this problem was to ban exportation of exportation and

transportation of cereals, livestock, oil and charcoal from the province to other regions until the requirements of the region were met.

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