



Year of the Locust

The recent swarm
of locusts that invaded
southern Israel was
nothing compared to the
great plague of 1915.
Amid drought and world
war, the locusts brought
famine and death

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In a Western world controlled by pesticides, the dreadful plagues that once spelled disaster and famine are ancient history.

Within the Jewish collective memory, locusts conjure up little more recent than the plague that preceded the Exodus, descending upon Egypt and stripping it bare. Of all the ten plagues, only this one was so severe that Pharaoh begged Moses, “only remove this death from me!” (Exodus 10:17). But this was not the only time locusts struck the region.

In the West, we are blissfully ignorant of the tragedy that a plague of locusts brings in its wake, but swarms still threaten millions with starvation. Locusts pose such a global threat that the UN has a locust migration division, which uses satellite images to help predict where the next plague will hit and how best to combat it.

Locusts are actually a type of short-horned grasshopper. Their transformation from individuals into swarms is as spectacular as it is sinister. Given sufficient heat and moisture, numerous eggs laid in the ground hatch, and the offspring congregate. The resultant tactile stimulation of the inner hind legs triggers an avalanche of metabolic and behavioral changes, leading to a Hulk-like metamorphosis. The locust shrinks, changes color, and emits a pheromone that aids in swarm formation. The swarm then drifts with the wind, landing wherever it sees food. According to the UN News Service:

A desert locust adult can consume roughly its own weight in fresh food per day, equivalent to about two grams every day.

A very small part of an average swarm – or about one ton of locusts – eats the same amount of food in one day as about ten elephants or twenty-five camels or 2,500 people.

An Awesome Sight

Between March and October 1915, a massive swarm descended on the Holy Land, particularly Jerusalem, contributing to one of the worst famines in Israel in modern times. Food was already scarce as a result of World War I. On one of the last days of February, thick clouds of adult



One ton of locusts – eats the same amount of food in one day as 2,500 people

A plague of biblical proportions. The American Colony photographers' spine-chilling images document the entire locust invasion of 1915, including this shot of locusts attacking a cactus

All photos, unless otherwise specified: G. Eric and Edith Matson Photograph Collection, American Colony, Library of Congress Collection





The locusts penetrated every nook and cranny – including this windowsill

Eight months into World War I, thick clouds of adult locusts were spotted over the Judean Desert

locusts were spotted over the Judean Desert. By very early March, they had made their way to Jerusalem. Interestingly, whereas the plagues of the previous half century had begun in the south, this one blew in from the north, authenticating the biblical prophet Joel’s depiction – previously presumed allegorical – of a locust infestation coming from that direction.

The plague was so exceptional that it was featured in *National Geographic’s* December 1915 edition:

Once [the locusts entered] a vineyard, the sprawling vines would in the shortest time be nothing but bare bark.... When the daintier morsels were gone the bark was eaten off the young topmost branches, which, after exposure to the sun, were bleached snow-white. Then, seemingly out of malice, [the locusts] would gnaw off small limbs, perhaps to get at the pith within.... They stripped every leaf, berry, and even the tender bark. They ate layer after layer of the cactus plants, giving the leaves the effect of having been jackplaned. Even on the scarce

and prized palms they had no pity, gnawing off the tenderer ends of the swordlike branches, and, diving deep into the heart, they tunneled after the juicy pith. (p. 529)

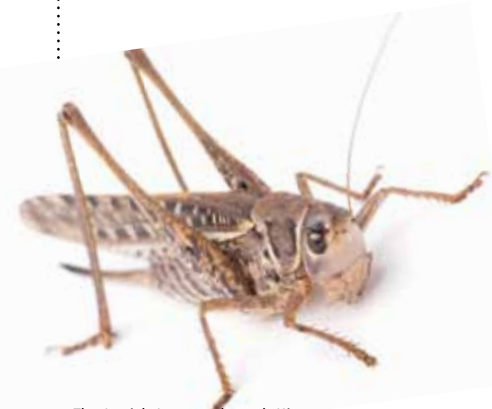
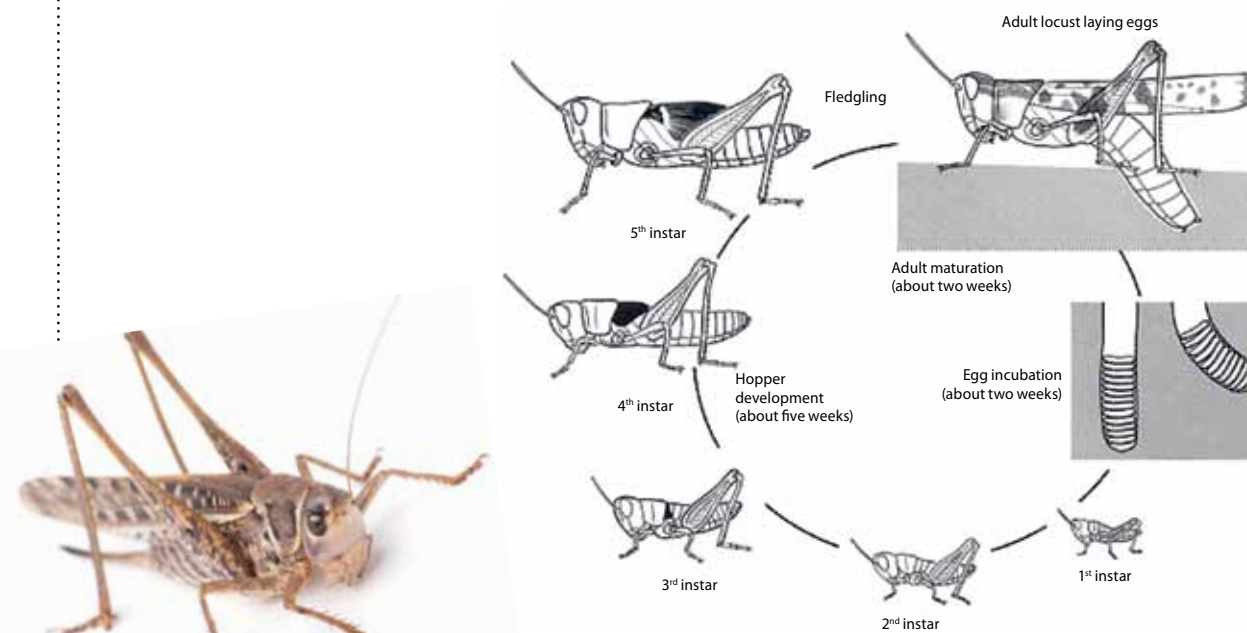
The graphic descriptions and striking hand-tinted photographs of the devastation produced for the magazine by the photography workshop of the American Colony Hotel in Jerusalem are shocking, especially today, when it is hard to comprehend the truly biblical proportions of such a plague.

The agricultural damage drastically increased food prices. On April 23, 1915, the *New York Times* recorded that “Flour costs \$15 a sack. Potatoes are six times the ordinary price. Sugar and petroleum are unprocurable and money has ceased to circulate. Many deaths from starvation have occurred.” The source cited was a group of seventy starving Jews who had arrived in Alexandria from Jerusalem, hoping to emigrate to Australia or America.

In fact, during every locust plague food becomes scarce. On the eve of Tammuz

Metamorphosis

Many careful observers have documented the locust’s remarkable transformation from egg to nymph to adult. Placed in the ground by the first invaders, the eggs hatch into wingless, crawling larvae, then into grasshoppers, whose pliable bodies slowly harden as their wings emerge and dry.



The Jewish Journey through History



The governor of Jerusalem ordered every male from the ages of fifteen to sixty to collect twenty kilos of locust eggs

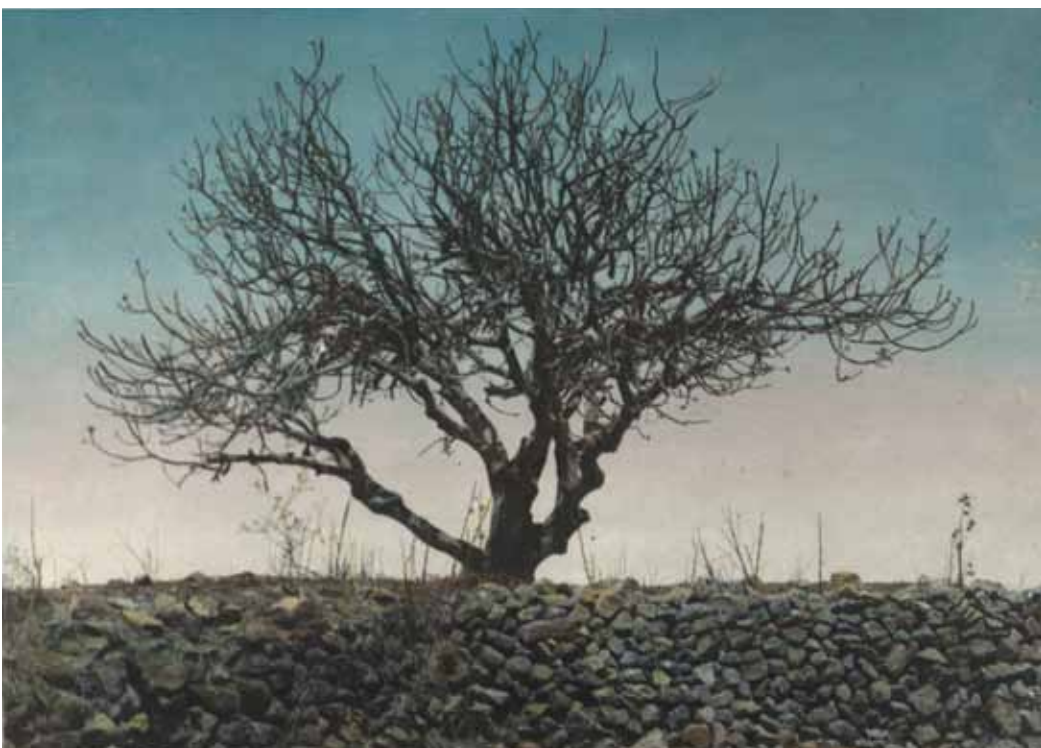


Fig tree before and after a locust attack

(June–July) 1865, locusts appeared over Jerusalem. The Jewish community's *Ha-levanon* newspaper had this to say:

They have eaten every vegetable and all the summer produce, like sorghum and sesame ... as a result everything is expensive. Around Jaffa in particular, all the orchards

and gardens have been destroyed. A multitude of locusts arrived in Jaffa just this week, filling all the yards and houses. There was also an earthquake, so people either could not or were afraid to sleep in their houses, going out to sleep in the fields instead.

A typical swarm can include millions of individual locusts. Larval locusts crossing a wall

The situation grew so desperate that an Amsterdam-based fundraising committee for the Jewish community in the land of Israel published a heartfelt plea:

Dearest brethren! A great wail, rending heart and soul, is heard in our ears from our Jewish brothers dwelling in the land of our fathers. A terrible famine has struck them. Twice, at the beginning and in the middle of this summer, locusts have swarmed over the Holy Land and eaten all the produce. God has also closed up the heavens and there has been no rain, until even drinking water is lacking. Prices are rising from day to day. On 28 Sivan, all our brethren in Jerusalem called a public convocation and gathered in all the synagogues, praying and fasting all day to beseech our Father in Heaven to have pity on their terrible affliction.

Dear brothers in all the lands of America and Europe! We know the goodness of your hearts and the joy with which you do charitable deeds. We know you are willing to offer help at any time of need, and we have never cried out to you in vain. We know how you love the land of our fathers, the Holy Land imbued with all our nation's history. Many times you have hastened to aid your brothers who embrace the dust of Zion and its ruins. Hunger, disease, and poverty come daily to the gates of Jerusalem, Hebron, Safed, and Tiberias. ... Only the donations of the people of the God of Abraham from abroad have kept

these wretched people alive. ... Starving, miserable, they roam the streets; their children beg for bread, but there is none to give them. ("The Cry of the Daughter of Zion," *Ha-maggid*, August 23, 1865)

Fighting a Losing Battle

Even when a swarm finally rises on the wind, leaving devastated fields behind, the problems are far from over. A new menace lurks underground, in the shape of egg pods laid by female locusts, each pod containing up to eighty eggs. Over a thousand eggs have been found in a single meter of earth.

In 1915, aware of this looming threat, the Ottoman authorities fought back. Djemal Pasha, governor of Greater Syria (which then included the land of Israel), appointed agronomist Aaron Aaronson of Zikhron Yaakov to help control the damage. In mid-April, Aaronson instructed Midhat Bey, governor of Jerusalem, to issue an order "requiring every male residing in the cities from the ages of fifteen to sixty years to collect twenty kilos (forty-four pounds) of locusts [i.e., eggs] or pay an exemption fee of one Turkish pound (\$4.40)" (*New York Times*, November 21, 1915). The eggs collected turned out to be a mere drop in the bucket. The rest hatched anyway:

Countless numbers of young poured into the broad walled road leading into the city from the west, past the United States Consulate to the Jaffa Gate. For three





Hidden menace. Locust egg pouches 15cm beneath the surface of a sand dune

Fighting back. Arab laborers destroy locusts by trampling them in a pit – evidently a smelly job. Hoppers land on any available surface, including clothes

or four days an incessant and unending stream filled the road from side to side, like numberless troops marching on parade, and in spite of the traffic at this junction, which is to this city like Lower Broadway is to New York, their ranks, though thinned, entered the ancient gateway and the new breach. “Though in among the weapons they fall, they shall not stop” (Joel 2:2). (*National Geographic*, December 1915, p. 529)

Aaronson’s disgust with his corrupt Ottoman counterparts became a contributing factor (albeit overshadowed by Ottoman persecution of Jews throughout the empire and his fear that the Turks would massacre them as they had the Armenians) in his formation of Nili, the Jewish spy network that informed the British of Ottoman troop movements prior to the British invasion of Palestine toward the end of the First World War.

Meanwhile, the powers that be continued trying to trap the locusts. As millions of wingless young marched on relentlessly, little tin walls placed in the dirt diverted them to ditches or bags, which were then burnt. The results were almost indiscernible, however. Jews from Jerusalem approached the pasha and asked to fulfill their quota of locust eggs by clearing the ground in the Jewish agricultural

settlements on the coastal plain rather than in the Arab fields around the city.

He answered their request with three special trains, each carrying more than five hundred people directly to the Lod station.... The remaining Jews of Jerusalem worked in the fields around the city and collected three thousand kilos of eggs. All their efforts affected no more than one percent of the crawling young. (Pinhas Grayevsky, *Zikaron Le-hovavim Ha-rishonim*)

Just as in the Exodus narrative, the locusts filled every nook and cranny. Windows and doors had to be kept closed despite the terrible summer heat. Even the traffic was disrupted:

The roads now became so slippery from the masses of little, greasy bodies crushed beneath the horses’ hoofs that the horses could scarcely keep a footing, and had consequently to be driven slowly and with great care. Afterwards it was heard that likewise trains throughout the country had been stopped for hours at a time. (*National Geographic*, December 1915, pp. 524–5)

According to the Mishna (*Ta’anit* 3:5), a

The roads became so slippery from the masses of little, greasy bodies that the horses could scarcely keep a footing

Anyone for Locust?

Locusts are a traditional crispy snack in certain Jewish communities

Now that locusts have eaten all your food, can you at least eat *them*? That is, are locusts kosher? Well, it’s complicated. The Torah states:

Every flying insect that walks upon all fours shall be an abomination unto you. Yet these you may eat of all the flying insects that walk upon all fours, which have jointed legs above their feet, with which to leap upon the ground. These among them you may eat: the red locust (*arbeh*) and its kind, the yellow locust (*sal’am*) and its kind, the spotted gray locust (*hargol*) and its kind, and the white locust (*hagav*) and its kind. (Leviticus 11:20–22)

The Mishna (*Hullin* 3:7) explains that a kosher locust has four legs, another two jumping legs, and four wings covering most of its body. In addition, it must be traditionally defined as a member of the *hagav* family. These laws are discussed in the *Shulhan Arukh* (*Yoreh De’a* 85) and were historically observed by locust-eating Jewish communities. Another common sign of the kosher species is the shape of a Hebrew letter *het* on the abdomen. The most easily identified kosher variety is the desert locust (*Schistocerca gregaria*). Over the years there has been some controversy regarding this identification, its most famous critic being the 18th-century Moroccan scholar Rabbi Haim ben Moses ibn Attar (known as the Or Ha-haim, after the name of his Bible commentary).

Like fish, grasshoppers are pareve. No ritual slaughter is required (try finding a windpipe on a grasshopper!), nor is salting necessary to remove the blood. Some say grasshoppers taste like peanuts, or like fish, but all agree that they were a treat in the Yemenite and Moroccan Jewish communities.

An adult desert locust is about sixty-two percent protein and seventeen percent fat. The Talmud (*Shabbat* 65a and 90b) also mentions that children used to play with locusts, and describes locust eggs as a cure for earaches.

Playing with Locusts

In *The Ways of Yemen*, Rabbi Yosef Kapah (1917–2000) describes his native land’s recurrent locust plagues.

For children, he explains, an infestation was a festive occasion. In a society so strictly segregated that a man who met his wife in the market would not speak to her, a locust plague was an opportunity for boys and girls to interact freely while collecting locusts out in the fields.

At sunset, the locusts would settle in for the night, lying motionless on the ground. Waking before dawn, the children would rouse the Muslim guard to unlock the city gates, so they could go out to gather locusts before the swarm took off. There were competitions to see who could collect the most, and sometimes the youngsters would tie a slender thread to one of the insects and let it fly about, whizzing around their heads like a toy airplane on a string.

Considering that the locusts ruined the entire crop, how could Rabbi Kapah recall them with such delight? He once explained, with a twinkle in his eye, that in Yemen “Land could not be owned by Jews; only Muslims were landowners.”

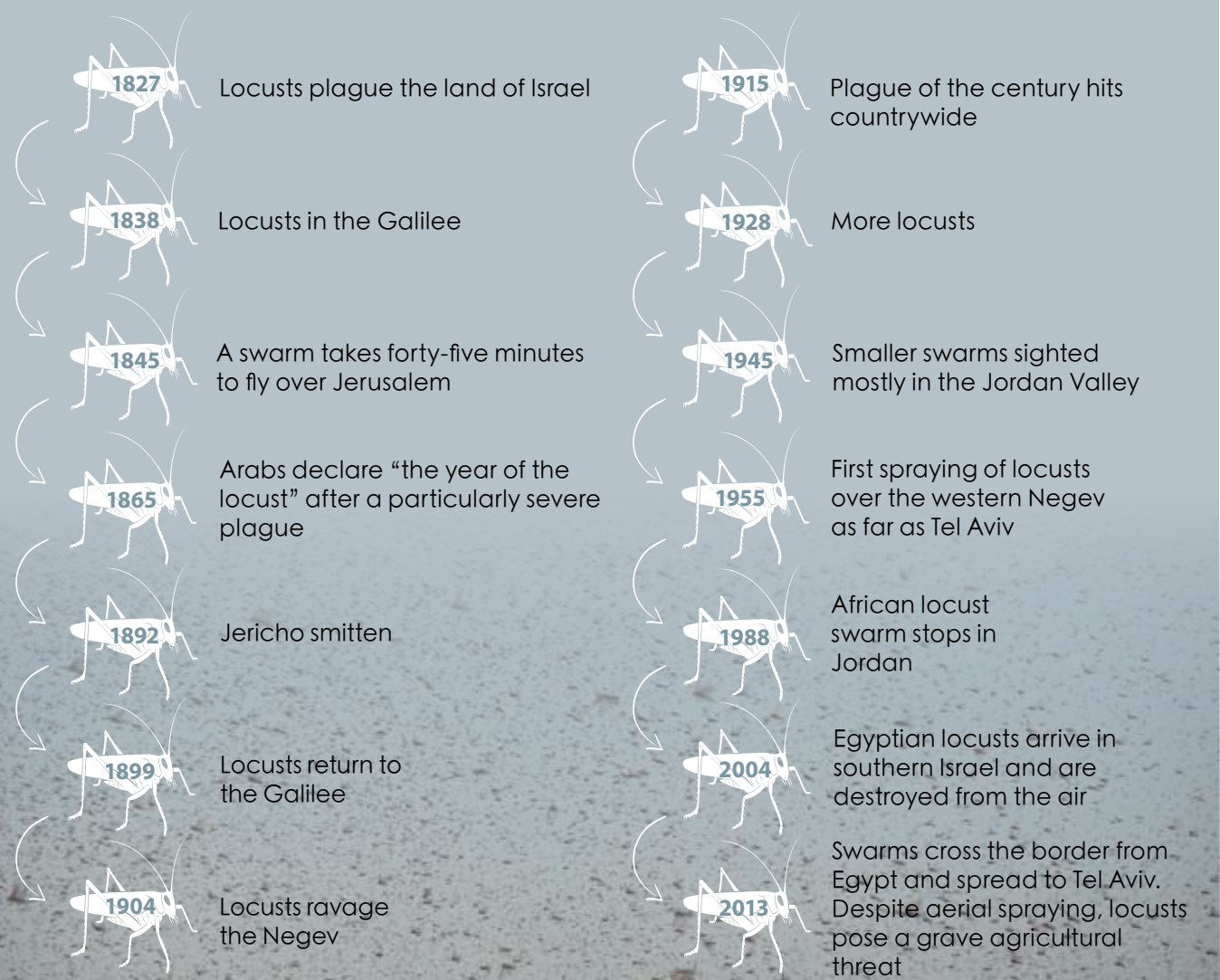
Jews were not the only ones to enjoy an occasional locust. A group of shipwrecked American sailors captured by Bedouin tribes in 1815 and forced to roam the Sahara Desert with them described their captors’ reaction to a plague of locusts. Seaman Archibald Robbins, age twenty-two, of Stepney, Connecticut, reported: “The Arabs who are compelled to inhabit the desert of Zahara, so far from considering a flight of locusts as a judgment upon them for their transgressions, welcome their approach as a means, sometimes, of saving them from famishing hunger” (Dean King, *Skeletons on the Zahara* [Little, Brown and Company, 2004], p. 247).

An ancient culinary tradition. Yemenite Jew with fried locusts
Photo: Ari Greenspan



Green Invaders

In modern times, locust swarms have struck the Holy Land roughly once a decade. Advanced pesticides have minimized the threat



Locust swarm over Retamim junction, in the northern Negev, March 2013
Photo: Shai Neuhaus, Kfar Retamim

Rabbi Akiba recommended a series of fasts if even one locust was spotted in the land of Israel



locust plague warrants a public fast, and in the Talmud (*Ta'anit* 22a), Rabbi Akiba recommends a series of fasts if even one locust is spotted in the land of Israel. Indeed, in both 1865 and 1915, the Jews reacted to the onslaught by declaring a day of fasting and prayer.

By October 1915, with nothing left to eat, the locusts flew away. The entire population of the Holy Land breathed a sigh of relief, but life remained far from normal. As battles raged closer and closer to the land of Israel, much of the remaining food reserves were confiscated to feed the Ottoman troops. Opinions differ as to what proportion of the Jewish population died as a result of the First World War. Several authorities cite a figure of thirty thousand, most of them casualties of the famine. Only in 1918, when the British conquered the area, did the Jews begin to recover. ■

Further reading:
Zohar Amar, “The Eating of Locusts in Jewish Tradition after the Talmudic Period,” *The Torah u-Madda Journal* 11 (2002–3), pp. 186–202; <http://halachicadventures.com/mesora-and-kashrut-of-chagavim-or-locusts/>;
Amar and Hananel Seri, “The Kashrut of the Locust,” *Tehumin* 19 (1999), pp. 283–99 [Hebrew].

Desperate measures. With no insecticides to aid them, the authorities combatted crawling locust larvae with zinc walls and pits as well as flamethrowers