


'He said that the manna is that called taranjebin': Ibn Ezra against Hiwi al-Balkhi's interpretation of the biblical story of the manna



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The biblical story on the miracle of the manna in the Sinai Desert aroused many discussions and interpretations over the generations. The current study focuses on Ibn Ezra's controversy with Hiwi al-Balkhi on the question of whether the manna was a natural or miraculous phenomenon. The article explores the claims of the two sides in light of the historical evidence and the literature describing the phenomenon of 'falling manna' in various areas of the Sinai Desert and Eastern countries. According to Hiwi, the manna that rained down on the Israelites is taranjebin, a semi-liquid resinous sweet secretion of insects (honeydew) that exudes onto plants. Ibn Ezra deals with Hiwi's claims through a series of refutations and arguments. He argues that the characteristics of the taranjebin do not fit the description of the biblical manna. For example, it does not come down in the Sinai Desert, it appears during a limited season, does not melt in the sun and does not rot during the night, and serves as a medicine rather than as food.

Contribution: This article contributes to the understanding of Hiwi al-Balkhi's identification of the biblical manna as honeydew and Ibn Ezra's claims against his thesis. It expounds the commentators' interpretations from a multidisciplinary perspective, such as the reality of harvesting the taranjebin in Iran and North Africa and its uses as food and medicine in the medieval culture.

Keywords: Bible; miracle; manna; taranjebin; Abraham Ibn Ezra; Hiwi al-Balkhi; Khorasan; Sinai Desert; Alhagi maurorum; gaz angebin.

The manna that came down in the Sinai Desert for 40 years is described by the biblical narrator as one of the miracles that occurred during the Israelites' sojourning in the dry and desolate desert. The manna, called 'bread from heaven' in the text, is described in a fairly detailed form. It accumulated on the ground in a white layer of dew, its individual form was spherical and its taste was sweet as honey. The manna came down during the night and was gathered in the morning, but once the sun came up and temperatures rose it melted and what remained of it became putrid and wormy (on the description of the manna in the biblical text, see Ex 16:4, 13–31; Num 11:6–9; Ps 105:40).

The miracle of the manna aroused many discussions and interpretations over the different periods. Theologians, commentators, travellers and modern researchers proposed a list of identifications and explanations for the phenomenon. In practice, two main outlooks were formed regarding the origins and nature of the manna. According to one version, often espoused by commentators and clerics, this was a divine-miraculous phenomenon that occurred for the Israelites alone (henceforth, the 'traditional approach').

In contrast, scholars who took a rational approach suggested identifying the manna with various natural phenomena (henceforth, the 'natural approach'), in the assumption that they were the foundations of the biblical story (e.g. see Bodenheimer 1947:1–6, 1957:297–302; Danin 1969:222–224; Dor 1997:204–205; El-Gammal 1994:17–19). Notably, the natural approach is not new and it was voiced by the ancients. The first to take this approach was Josephus Flavius of the first century AD, who claimed that 'even now in all that place this manna comes down in rain' (Flavius Josephus 1895: Book III, 26). Many researchers discussed the approach of Josephus to miracles, and some indicated his tendency of rationalisation of miracles (on miracles in Josephus, see Avioz 2012:1–25; Betz 1987:212–235; Feldman 1998:209–214; Moehring 1973:376–383). Josephus may have sought to convince his readers of the truthfulness of the biblical story and hence stressed that this is a realistic phenomenon that can be proven.

The purpose of the study

In recent decades, quite a few studies have been written on the story of the manna. Here I shall focus on Ibn Ezra's controversy with Hiwi al-Balkhi on the question of whether this was a natural or miraculous phenomenon. The purpose of the article is to explore the claims of the two sides in light of the historical evidence and the literature describing the phenomenon of 'falling manna' in various areas of the Sinai Desert and Eastern countries. Notably, despite the significance of this ancient argument, it has not yet received adequate attention, particularly with regard to the realistic grounds of the phenomenon.

Suggested identifications of the biblical manna

Researchers who advocated the 'natural approach' tried to find similarities between the scriptural descriptions of the manna and the natural phenomenon they proposed. Some of the interpretations, however, are not compatible with the description in the text and also are not commonly found in the area of the Sinai where the plot takes place. Some claimed that this is a form of lichen (*Lecanora esculenta*) that in rainy years appears in large quantities in central Asia and is blown by the winds to the Asian steppes (on this identification, see Bodenheimer 1947:2; Danin 1969:222; Donkin 1980:12–85). However, there are two problems with this identification. This phenomenon was not recorded in the region of the Sinai and there is no similarity between the lichen and the biblical descriptions of the manna.

According to Terence McKenna, the manna is a mushroom (*Psilocybe cubensis*) (McKenna 1993:84). Aside from having no foundations in the verses, his suggestion disregards the fact that very few mushrooms grow in arid desert areas. Moreover, the distribution of the proposed mushroom does not include the area of the Sinai where the story occurs.

Simon Fritz Bodenheimer (1957:297–302) suggested identifying the manna with honeydew, a sweet secretion of the coccid scales *Najacoccus serpentinae minor* or *Trabutina mannipara* that grow on tamarisk trees (*Tamarix mannifera*, *T. nilotica*) in the Arava valley, the southern Negev and the region of the Sinai, whilst Avinoam Danin suggested that this is honeydew secreted from insects that feed on acacia trees (in Arabic: *man sial*) or on *Hammada salicornica* (in Arabic: *man rimt*) (Danin 1969:222–224, 1972:373–375). Scale insects secrete liquid drops that congeal to form granules with a sweet flavour. The Bedouin in the Sinai harvest these granules, which serve as an alternative for honey and they call them *mann*.

In fact, honeydew is a familiar phenomenon in desert areas throughout the world: Eretz Israel, northern Syria, Persia, and Iraq, and there are also types of manna in Europe, Australia and America (on the geographical distribution of the manna scale insects, see Donkin 1980). As we shall see below, Hiwi al-Balkhi and Ibn Ezra discuss the natural phenomenon of honeydew originating from the area of Persia, on which we shall elaborate below.

Hiwi al-Balkhi and Ibn Ezra – Personal background and different approaches to the meaning of miracles in the scriptures

Hiwi al-Balkhi was a 9th century philosopher who lived and operated in the city of Balkh, in the province Khorasan (خراسان), Persia, currently in Afghanistan. Hiwi was known as a sharp biblical critic with radical views and was therefore considered a heretic by believers. Hiwi composed a polemical book that did not reach us, and his critical interpretation of the scriptures is known through the words of the sages who disagreed with him. In his compilation, which included 200 questions and queries on the contents of the scriptures, he pointed out internal contradictions between the verses, suggested a natural explanation of the miracles described and refuted several biblical theosophical conceptions (Schechter 1901:345–374).

As a result of Hiwi's radical opinions, Jewish thinkers and scholars in his era subsequently argued with him with their opinions. The most prominent of these were R. Saadya Gaon (Rasag, 882/892–942), R. Moses ben Jacob Ibn Ezra ('Ha-Sallah', Granada c. 1055/1060–1138), R. Abraham Ibn Daud ('Rabad I', Cordoba, 1110–1180) and Karaite sages (Gil 1966:61). Hiwi's opinions and views had a considerable influence on medieval Jews, and as stated Ibn Ezra was amongst those who joined the battle against his opinions (on Hiwi al-Balkhi see at length Rosenthal 1947–8:317–342; Singer 1901–1906:Vol. VI, 429–430).

R. Abraham Ibn Ezra (c. 1090–1164) was born in Toledo, in Muslim Spain. He operated in Spain for the first five decades of his life, and during this period, he travelled to different countries in North Africa, such as Tunisia, Morocco and Algeria. Following the occupation of Al-Andalus (Muslim Spain or Islamic Iberia) by the Murābiṭūn (مرايطون) tribes in 1090, and then the Al-Mohads (al-Muwahḥidūn (الموحدون) in 1145, Ibn Ezra was compelled to migrate to Christian countries in western Europe, where he utilised the knowledge he had amassed in his youth and adulthood to interpret biblical literature (on Ibn Ezra's biography, see Kislev 2009:282–297; Levine 1970:9–46; Melamed 1978:II, 519–520; Sela 1999; Sela & Freudenthal 2006:13–55; Simon 2013; Veizer 1976:7–51).

Although Ibn Ezra and Hiwi al-Balkhi lived and operated in different times and regions, they had something in common. Similar to Hiwi, Ibn Ezra too voiced opinions that can be considered biblical criticism (e.g. see his commentary to Genesis 12:6, Veizer 1976:51 and Deuteronomy 1:2, Veizer 1976:214–215).

In his search for the simple meaning of the biblical verses, he even confronted Midrashic interpretations by Talmudic sages, despite their indisputable authority (Lockshin 1989:173–186; Maori 2002:201–246; Sarna 1993:1–27). On the interpretative approach and the criticism of Abraham Ibn Ezra towards contemporary scholars, see Cohen & Simon

2007:28–35; Simon 1992:47–60). Nevertheless, on the meaning of biblical miracles, Hiwi and Ibn Ezra held very different opinions (see at length in the discussion).

The manna that rained down in the Sinai Desert – Natural or miraculous?

Abraham Ibn Ezra related to Hiwi's interpretation of the manna in both his commentaries on Exodus 16:13, 15 – the short and the long (on his two commentaries, see Simon 2013:337–339). In both commentaries, written several years apart, Ibn Ezra responded to the series of claims voiced by Hiwi, whereby the manna is a completely natural phenomenon. Ibn Ezra held to the uncompromising view that took the miraculous approach and he is particularly scathing in his attitude to Hiwi's heretic words. I shall cite Ibn Ezra in his long commentary, whilst noting the differences between the two commentaries when necessary. He writes:

May the name of Hiwi rot, as he said that the manna is that called *taranjebin* [or *taranjubin*] in Persian, and in Arabic *mann* and in foreign tongues *manna*, as there are many difficulties with his approach.¹ One is that it does not come down at present in the Sinai Desert, as the [*Sinai*] mountain is known. And I saw something similar to manna in the kingdom of אלצכיר [altzakhir],² and it arrives in the months of Nisan and Iyar and not in other months. What's more, if you place it in the sun, it does not melt and at night it does not rot. Also, it is not solid (חזק) and there is no need for one to pound it with a mortar and make it into cakes. Also, when it is placed on one's tongue it melts. Also, it is not filling and does not produce good blood, only it is inserted in medicines. Also, on Friday a double portion would come down. Also, it did not come down on Sabbath.³ Also, it appeared wherever they [=People of Israel] camped. Also, it [=the manna] crossed the Jordan with them and did not cease until the middle of Nissan, according to the simple meaning [of the verses]. (long commentary, Ex 16:13, Veizer 1976:103)

Hiwi contends that the manna that rained down on the Israelites is *taranjebin* (ترنجبین), a Persian term that refers to honeydew. Hiwi may have only mentioned the Persian name of the honeydew, but Ibn Ezra notes its names in Arabic (من) and Latin (Manna).

Honeydew is mentioned in medieval Muslim literature under several names, such as *man*, *taranjebin* and *manah al-asal* (منها العسل) (on the manna and its names in the medieval Muslim and Jewish literature, see Ibn al-Baytār 1874:vol. I, 137, vol. IV, 167; Ibn Sina 1894:vol. I, 443; Leclerc 1877:vol I, 408; Lev & Amar 2008:455; Rosner 1995:166, 386). Notably, the Persian name *taranjebin* is unique to sweet drops secreted by scale insects that feed on plants that exist in Iran (see below), whilst the sweet secretions of *Tamarix mannifera* or *Hammada salicornica* in Sinai area are called only *mann* in local Arabic.

1. In the short commentary, Veizer (1976:273): 'May the bones of Hiwi, the evil person, and his followers be pulverized who said that until today manna still falling in the desert.'

2. Veizer (1976:273): 'They [=Hiwi and his followers] said that like the manna [of the Bible] there is [manna] that comes down with the dew in eretz ma'arav ha-tikhon [= "the land of the mid-west"]'

3. Veizer (1976:273): 'And if it [=the manna] was something that is naturally created, why it did not come down on Sabbath?'

Hiwi ha-Balkhi was familiar with the phenomenon of honeydew from Iran, where he lived and operated. The use of *taranjebin* in Iran is very common and it was also described by his contemporary Persian scholar, al-Biruni (973–1048) (Meyerhof 1947:32–36; Said & Elahie 1973:309–310). In Iran, sugary drops are secreted by scale insects that feed on oak trees (*Quercus gallica*) and tamarisk trees (Figure 1). However, the term *taranjebin* is unique for the secretion of *Poophilus nebulosus* Leth., insect that feeds on the following species: *Alhagi maurorum* (= *Alhagi camelorum* Fisch. Common names: Caspian manna, Persian manna plant, Camel thorn, in Farsi: *Kar shutur*), *Alhagi persarum* Boiss. & Bushe, *Alhagi mannifera* Desf, *Astragalus brachycalyx* (= *A. adscendin* Boiss. & Hausskn. Common names: Persian manna or manna) (on these species, see Hooper 1937:81; Ramezany et al. 2013; Tavassoli et al. 2020:86–104).

The meaning of the Persian word *Taranjebin* is 'Tar-angabin', that is, 'wet honey'. Beside *Taranjebin*, there are other kinds of Iranian manna, such as *bid-khesht* and *gaz-alafi* (گَز علفی, found on *Quercus mannifera*), *shir-khesht* and *gaz angebin* (گَز انگیبن, found on *Astragalus*) (Grami 2020:Vol. X, 348–352; Yazdanparats, Ziarati & Asgarpanah 2014:1025).

Ziarati and Hochwimmer (2018:1–9) describes the *Taranjebin* as 'semi liquid resinous sweet substance that exudes onto the leaves and branches [...] [and] hardens into white



Source: Samsam Sanei, n.d., (صمصام صناعی), خواص درمانی آن (مجموعه صناعی), viewed 20 January 2021, from <https://rasekhoon.net/article/show/1372764>

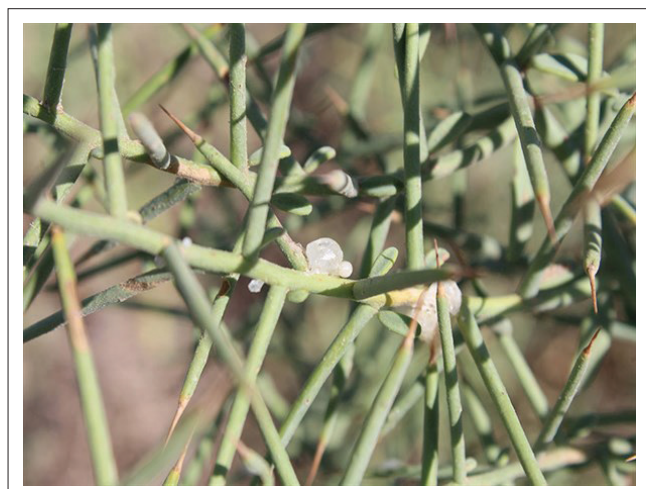
FIGURE 1: *gaz-alafi* (گَز علفی) that is found on oak (*Quercus mannifera*).

granules which gradually turn to yellow and brown colors'. They also argue that 'among various manna which have been observed in Iran, only *Taranjebin* has a tear like shape' (compare to the description of the manna in Numbers 11:7 as round).

The sweet drops are harvested by the locals and used to prepare a variety of delicacies and sweets (on the harvesting of the *tarangabin* and preparing sweets, see Grami 1998:183–191; Sabeti 1976:137–138). Meyerhof has shown that the *Alhagi* manna is found mostly in the eastern provinces in Iran, such as in Khorasan, where Hiwi lived and operated (Meyerhof 1947:34. see Figures 2 and 3).

Ibn Ezra deals with Hiwi's claims through a series of refutations and arguments based, so he says, on direct encounters with the *taranjebin*. In his long commentary to Exodus 16:13 (Veizer 1976:103), he relates that he was exposed to natural manna whilst in 'the kingdom of *altzakhir*', but in his short commentary (Veizer 1976:273), he notes that according to Hiwi and his followers, *taranjebin* is common in 'the land of the mid-west', that is the name of North Africa (The Maghreb, المغرب = 'the west'). Researcher Yehuda Leib Fleischer, who attempted to identify the geographical region mentioned in Ibn Ezra's commentary, hypothesised that he meant the city of Alcazar in northern Morocco, near the city of Fez (Fleischer 1926:241–243) and we indeed know that Ibn Ezra travelled and lived in Morocco, Algiers and Tunis (see above).

Donkin, who investigated the phenomenon of honeydew around the world, showed that manna scales grow in North Africa on different species of *Alhagi sp.*, like in Iran (Awmack & Lock 2002:435–443; Donkin 1980:12–85). One of the species is *Alhagi maurorum*, and the local residents use the honeydew secreted on it for medical purposes (Batanouny et al. 2005:19). Hence, Hiwi and Ibn Ezra referred to the same phenomenon of a sweet secretion that exists in Iran and North Africa.



Source: Anonymous, n.d., (Khorasan Razavi Province Group, استان خراسان رضوی), (استان خراسان رضوی شهرستان خلیل آباد به روایت تصویر برداشت ترنجبین در شهرستان خلیل آباد به روایت تصویر), viewed 20 January 2021 from <https://www.dana.ir/news/442010.html/>

FIGURE 2: The white sugary drops (*taranjebin*), a secretion of scale insects on *Alhagi sp.*

Ibn Ezra's arguments against Hiwi's identification of the manna as *taranjebin*

1. *Taranjebin* does not come down in the Sinai Desert – Ibn Ezra claims that Hiwi ascribes the phenomenon familiar to him to the manna eaten by the Israelites in the Sinai Desert, although it is not common in the latter location. But as we showed above, the secretion of honeydew by scale insects exists in the region of the Sinai Desert as well, but not of the genera *Alhagi* and *Astragalus*. Ibn Ezra, who did not reach the Sinai Desert, was probably unfamiliar with the utilisation of honeydew by residents of the Sinai Desert.

In his short commentary, Ibn Ezra is worded in another way. He claims that Hiwi and his followers argued that the phenomenon of manna is common in the 'desert' and does not mention explicitly Sinai Desert (Veizer 1976:273). He contradicts their claim stressing that the manna came down in 'Desert of Sin' (Ex 16:1) although it was an inhabited place. However, his sources of knowledge that 'Desert of Sin' was an inhabited spot are unclear.

***Taranjebin* appears during a limited season** – Ibn Ezra claims that according to the biblical story, the manna came down throughout the year (with the exception of the Sabbath) and was the Israelites' main food. In contrast, the manna he encountered in North Africa comes down only during 2 months – Nissan and Iyar, that is, April–May (according to Ramezany, Kiyani & Khademizadeh 2013:35, the season of harvesting the *taranjebin* in Iran is from the end of spring to autumn, depending on the climate of the region). In fact, also testimonies of travellers and researchers who visited the Eretz Israel area in recent centuries report that honeydew comes down only during a limited part of the summer season. For instance, the German traveller Bernhard von Breidenbach (ca. 1440–1497) who journeyed through Eretz Israel and Egypt in 1483–1484 related that the manna is formed in the depths of the Sinai only during August–September (Donkin 1980:75–77; Purchas 2014:vol. VIII, 370),



Source: Anonymous, n.d., (Khorasan Razavi Province Group, استان خراسان رضوی), (استان خراسان رضوی شهرستان خلیل آباد به روایت تصویر برداشت ترنجبین در شهرستان خلیل آباد به روایت تصویر), viewed 20 January 2021 from <https://www.dana.ir/news/442010.html/>

FIGURE 3: Harvesting of the *taranjebin* in province Khorasan today.

whilst the Swiss traveller Johann Ludwig Burckhardt (1784–1817) related that the manna comes down in June (Burckhardt 1822:600).

Assuming that Hiwi too was familiar with the phenomenon of the natural appearance of manna during a short period of the year, it seems that he saw nothing wrong with the understanding that the manna was not widely available to the Israelites. Hiwi may have relied on the verse that ties the eating of the manna to the eating of the quail, which was undoubtedly seasonal (Ex 16:12. On the migration of the quails see Braslevsky 1946:339–347; Paz 1987:8–11). It is to be assumed that the Israelites' diet was not based only on manna rather they consumed other foods as well and therefore were not dependent on manna throughout the entire year. For instance, they had flour for ritual offerings in the Tabernacle and this was certainly used also to bake bread for other purposes (Ex 22:2; Bodenheimer 1957:297–302).

2. *Taranjebin* does not melt in the sun and does not rot during the night – According to the scriptures, the manna was gathered in the early hours of the morning, as in the hot hours of the day it would melt. It had to be eaten immediately and not left for the next morning, as it would rot and become wormy (Ex 16:20–21).⁴

Haim Bar-Daroma who examined the phenomenon of the manna in the Negev desert, Israel reports that during the night, the secretion drips from the trees, and because it is relatively cold at night, it hardens. The sweet granules are gathered in vessels in the early hours of the morning and sold by the natives or in shops that sell medicaments in chunks (Bar-Daroma 1935:462–463). Menachem Dor notes that in practice, the manna in the Negev desert drips throughout the day and night, but during the day, the ants lick it up before it hardens and therefore it is not visible. In contrast, at night, the manna hardens and accumulates on the ground because of the cold temperatures in the desert and in the early hours of the morning, it can be gathered (Dor 1997:204–205). Bodenheimer argues that it appears that the 'worms' with which the manna was afflicted (Ex 16:20) were ants that gather the spheres, and the 'rotting' means that its quality was impaired and affected as a result of this activity. Moreover, the manna does not 'melt' because of the heat of the sun. It disappears as a result of the activity of the ants (Bodenheimer 1957:302).

Ibn Ezra claims that *taranjebin* does not melt in the sun and does not rot, and as he says in his short commentary, it can be preserved even for 'days and months and years' (Veizer 1976:273). He appears to be referring to solid crystals or chunks that are seemingly heat resistant. These chunks are generated by joining several secretions together, and they are sold in traditional shops in Eastern countries until present times (see Figures 4).

4. It shall be noted that, travelers who visited Sinai desert, such as Bernhard von Breidenbach and Johann Ludwig Burckhardt, reported that granules of honeydew melt in the sun or in fire and are therefore gathered in the early hours of the morning before sunrise (See Burckhardt 1822:600; Purchas 2014:170).



Source: Anonymous, n.d., ترنجبین, viewed 20 January 2021, from <https://basalam.com/salamtabib/product/235602>

FIGURE 4: The resinous sweet *taranjebin* which is produced from the *Alhagi maurorum* (= *Alhagi camelorum* Fisch).

3. *Taranjebin* is not solid substance and does not require pounding – According to the biblical story, the manna was eaten not only in its natural state as it was gathered but also underwent a process of culinary preparation and processing (Num 11:8). Ibn Ezra concludes from the fact that the manna was ground or pounded that the texture of the miraculous manna was solid, a quality that is not compatible with the *taranjebin*, which he claims is relatively soft and does not require pounding. In his short commentary to Exodus 16:15, he formulates this slightly differently: 'And it is not solid (קשה), that one can grinding it' (Veizer 1976:273). Namely, *Taranjebin* is not solid and maybe a little sticky, such that it cannot be pounded. In fact, when the *taranjebin* granules are gathered and accumulated into crystals or chunks, over time the sugary substance solidifies and can be pounded in order to receive a raw material that can be easily used to prepare dishes.

4. *Taranjebin* serves as a medicine rather than as food – Ibn Ezra assumed that the manna that came down miraculously served as a main component of the Israelites' diet. Hiwi's suggestion to identify it with *taranjebin* is unreasonable, as nutritionally it is unsuitable as a fundamental food product that can be used as the basis for a regular diet, rather its main use is as a medicament (Lev & Amar 2008:445–446; Ramezany et al. 2013:35–37; Shemesh 2013:177–178). Natural honeydew is not filling and it does not produce 'good enough blood' to maintain a proper lifestyle.

Ibn Ezra's claim is indeed justified and weighty. In practice, the *taranjebin* mainly contains sugars (such as glucose, sucrose and galactose) and it does not include the major food groups necessary for building the body, for instance protein (on its ingredients, see Ramezany et al. 2013; Yazdanparats et al. 2014:1025–1029). Moreover, historical circumstances indicate that honeydew was used mainly as a sweetener and

an alternative for honey (as a spread and to prepare sweets), as well as for medical purposes, rather than as an important foundation of one's diet. This insight is reflected in descriptions by travellers, the ethno-folkloristic and ethno-medical literature, as well as the conduct of traditional societies known at present to gather the drops of manna, such as the Bedouin in the Sinai or villagers in Iran (Bar-Daroma 1935:462–463).

Moreover, without relating to the complicated question of the estimated number of the Israelites in the desert, it is clear that the amount of *taranjebin* gathered is incapable of feeding an ethnic group, the size of a clan, and certainly not an entire nation. *taranjebin* secretions are given to multi-annual fluctuations and in rainy years, its quantity increases. Even if we assume that the miracle that occurred was manifested in increasing the quantity of manna secreted by the scale insects, there is still the problem of the *taranjebin*'s low nutritional value (Feliks 1992:46).

5. The manna in the biblical story came down miraculously – Hiwi's claim that the manna that descended on the Israelites is honeydew detracts from the miraculous dimension of the phenomenon as described in the scriptures. Whilst *taranjebin* operates according to defined and steady laws of nature, and according to the biblical descriptions, the appearance of the manna followed unnatural rules that cannot be rationally explained. For instance, on Friday a double quantity would appear, whilst on the Sabbath, there was none (Ex 16: 22–27). Manna is presented in the text as a miraculous phenomenon also in other respects not discussed by Ibn Ezra, for instance the fact that those who gathered a lot and a little eventually discovered that they had an equal amount (Ex 16:17–18).

6. The manna came down only in places where the Israelites were camped – Ibn Ezra claims that the miraculous nature of the manna is reflected not only in the temporal dimension (week-days and the Sabbath) rather also in the spatial dimension. Whilst *taranjebin* accumulates in certain places, the miraculous manna came down for the Israelites only in their camps. The claim that the *taranjebin* is located in certain places is certainly true, as it has already been established that the phenomenon is related to the ecosystemic combination of plants and scale insects that suck their carbohydrate-rich resin and secrete the remnants in the form of liquid drops. Ibn Ezra knew about the connection between trees and the natural manna and he hinted at this in his short commentary: 'Because that which comes down in the west does not come down all the time, and not on every leaf' (Veizer 1976:273). Namely, whilst the miraculous manna came down systematically and orderly as necessary, the natural manna appears under the vegetation but not equally (depending on the existence of scales).

7. The manna continued to come down after the Israelites crossed the Jordan – This argument continues the previous one regarding the different conduct of the natural and miraculous manna. In Joshua 4:19; 5:12, it is related that the

Israelites camped at Gilgal in Transjordan on the tenth day of Nissan, and that they ate from the product of the land only on the day after Passover (16 Nissan), namely they ate manna within the borders of Eretz Israel as well. This means that the miraculous phenomenon 'moved' with them and was not limited to areas characterised by natural manna (compare his argument above whereby the phenomenon in fact does not exist in the Sinai Desert). In other words, this is a controlled and intentional miraculous event that accompanied the Israelites according to their needs rather than according to natural circumstances.

Discussion and conclusion

The significance of the debate between Ibn Ezra and Hiwi on the fundamental matter of the manna is that as far as we know, this is the most ancient argument on the question of whether the manna that descended on the Israelites in the desert was a miraculous phenomenon or a natural event. As we saw above, the reference to the manna as a natural occurrence was already articulated previously. However, Ibn Ezra's responses to Hiwi's claims are unique as they constitute one of the most ancient Jewish sources dealing individually with the 'natural approach' to the story of the manna based on direct knowledge of the phenomenon and its characteristics.

In principle, a miracle is a surprising event that believers can explain only as direct divine intervention in natural routine events. In fact, from the time of Hiwi ha-Balkhi to the present, philosophers have related it to the question of whether the miracles in the Bible are events that disrupt the natural order or whether these are natural but rare phenomena, or alternately do they arouse amazement because they involve a certain timing or increase of a natural phenomenon, such as the plague of frogs or the plague of locusts described as a mega-event controlled by God. This question is clearly irrelevant for the scriptures themselves, as the biblical narrator does not doubt the creator's ability to carry out any action, whether naturally or unnaturally (on the meaning of the miracles in the Bible, e.g. see Kasher 1986:40–58; Licht 1968:vol. V, 874–879; Pritchard 1950:97–109; Urbach 1969:81–102; Zakovitch 1987).

Both approaches to the concept of the miracle in the scriptures are evident in the philosophical argument between Ibn Ezra and Hiwi. Ibn Ezra, who accepts the descriptions of the manna according to their simple meaning, rejects the identification of the biblical manna with the *taranjebin* because as he sees it there is a large discrepancy between the features of the manna as described in the Bible and its actual qualities. Hiwi, in contrast, contends that similarities can be found between the *taranjebin* and the biblical manna, although his actual words were not preserved, and we do not have access to his detailed justifications for this approach.

There are several similarities between the descriptions of the manna in the scriptures and the *taranjebin*, such as its sweet

taste, pale colour (in the beginning) and the way in which it 'comes down'. Nevertheless, there are quite a few difficulties with this proposal, such as its nutritional value and its relatively small quantity.

The difference in approach between Hiwi and Abraham Ibn Ezra regarding the meaning of miracle stories in the scriptures is reflected not only in the case of the manna but in their interpretation of several narratives. For example, in his long commentary on Exodus 14:27, Ibn Ezra notes that Hiwi explained the parting of the Red Sea as related to the low and high tides (Veizer 1976):

May the bones of Hiwi *ha-Kalbi* [meaning: *the dog*] be pulverized for saying that Moses was aware of the sea's low tide and subsequent high tide and took his people through the low tide accordingly, while Pharaoh was unaware of the sea's ways and thus drowned. (p. 94)

Hence, Hiwi contends that the splitting of the sea on one hand and its renewed inundation are a result of the regular cycle of high and low tides. This means that Moses did not have the ability to command nature, rather he was familiar with the features of the sea and utilised the natural cycle to deliver the Israelites to safety.

Another example of their different attitude to scriptural miracles is evident in Ibn Ezra's sharp response to Hiwi's interpretation of the verse on Moses' shining face when descending from Mount Sinai. He writes:

May the bones of Hiwi the criminal be pulverized for saying that the reason Moses' face was dry as a horn [*keren*] is that he had not eaten bread [...] and the reason that they [*the Israelites*] were afraid is because his face was ugly [...] and how did this accursed one not see with his eyes. (long commentary, Ex 34: 29, Veizer 1976:225)

Hiwi claimed that naturally, Moses' 40 days and 40 nights on Mount Sinai with no food and drink had caused his face to dry up and harden like animal horns. Hence, he concluded that his face looked ugly, which is why he had to wear a mask (on 'horns of Moses' versus Moses' shining face, see Mellinkoff 1970; Philpot 2013:1–11; Sanders 2002:400–406; Suhr 1963:387–395). Ibn Ezra, like many others, understood that the verse reflects a miracle that sings Moses' praise rather than the opposite. Following his spiritual experience upon encountering God, his face radiated a light that blinded those around him and this was the reason for the mask.

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References

- Anonymous, n.d., (Khorasan Razavi Province Group, استان خراسان رضوی), برداشت ترجمین در شهرستان خلیل آباد به روایت تصویر <https://www.dana.ir/news/442010.html/>.
- Anonymous, n.d., ترجمین, viewed 20 January 2021, from <https://basalam.com/salamtabib/product/235602>.
- Avioz, M., 2012, 'Josephus' concept of miracles', *Zutot: Perspectives on Jewish Culture* 9(1), 1–25.
- Awmack, C.S. & Lock, J.M., 2002, 'The Genus *Alhagi* (Leguminosae: Papilionoideae) in the middle east', *Kew Bulletin* 57(2), 435–443. <https://doi.org/10.2307/4111121>
- Bar-Daroma, H., 1935, *The Negev*, Anonymous Publisher, Jerusalem.
- Batanouny, K., Hammouda, F.M., Ismail, S.I., Abdel-Azim, N.S. & Shams, K.A., 2005, *A guide to medicinal plants in North Africa*, IUCN Centre for Mediterranean Cooperation, Málaga.
- Betz, O., 1987, 'Miracles in the writings of Flavius Josephus', in L.H. Feldman & G. Hata (eds.), *Josephus, Judaism, and Christianity*, pp. 212–235, Brill, Leiden.
- Bodenheimer, F.S., 1947, 'The manna of Sinai', *Biblical Archeologist* 10, 1–6. <https://doi.org/10.2307/3209227>
- Bodenheimer, S.F., 1957, *Animals in biblical lands*, vol. 2, Mossad Bialik, Jerusalem.
- Braslevesky, J., 1946, *ha-Yadahata et ha-Aretz*, Ha-Kibbutz ha-Mehuhad, Tel Aviv.
- Burckhardt, J.L., 1822, *Travels in Syria and the Holy Land*, John Murray, London.
- Cohen, J. & Simon, U., 2007, *Yesod Mora Ve-Sod Torah: The foundation of reverence and the secret of the Torah by R. Abraham Ibn Ezra – An annotated critical edition*, Bar Ilan University Press, Ramat Gan.
- Danin, A., 1969, 'The manna eaten by our fathers', *Teva va-Aretz* 11, 222–224. <https://doi.org/10.1038/22224a0>
- Danin, A., 1972, 'A sweet exudate of Hammada: Another source of manna in Sina', *Economic Botany* 26(4), 373–375. <https://doi.org/10.1007/BF02860708>
- Donkin, R.A., 1980, *Manna: An historical geography*, Biogeographica, Springer, Dordrecht.
- Dor, M., 1997, *Animals in biblical, Mishnah and Talmudic periods*, Grafor-Defitel, Tel Aviv.
- El-Gammal, S.Y., 1994, 'Manna of mooses', *Hamdard Medicus* 37(2), 17–19.
- Feldman, L.H., 1998, *Josephus's interpretation of the Bible*, University of California Press, Berkeley, CA.
- Feliks, Y., 1992, *Nature and land in the Bible: Chapters in biblical ecology*, Reuven Mass, Jerusalem.
- Flavius Josephus, 1895, *The works of Flavius Josephus: Antiquities of the Jews*, transl. W. Whiston, John E. Beardsley, Auburn, AL.
- Fleischer, Y.L., 1926, 'Where did Ra'ava see as the shape of the manna? A comment for the wanderings of Abraham Ibn Ezra z'l', *ha-Tzofeh le-Hokhmat Israel* 10, 241–243.
- Gil, M., 1966, *Hiwi al-Balkhi, the Heretic from Khurasan*, Sifriyat ha-Poalim, Tel Aviv.
- Grami, B., 1998, 'Gaz of Khunsar: The manna of Persia', *Economic Botany* 52(2), 183–191. <https://doi.org/10.1007/BF02861207>
- Grami, B., 2020, 'Gaz', in E. Yarshater et al. (eds.), *Encyclopedia Iranica*, vol. X, pp. 348–352, viewed 22 September 2020, from <https://iranicaonline.org/articles/gaz->
- Hooper, D., 1937, *Useful plants and drugs of Iran and Iraq*, Publication no. 387, Field Museum of Natural History, Chicago, IL.

- Ibn al-Baytār al-Mālākī, 1874, *Kitāb al-Jāmi' li-Mufradāt al-Adwiya wa-l-Aghdhiya*, 4 vols., Bulaq Edition, Cairo.
- Ibn Sina, 1894, *al-Qānūn fi'l- Tibb*, Bulaq Edition, Cairo.
- Kasher, R., 1986, 'The miracles in the Hebrew Bible: Their phenomenological uniqueness, their descriptive position, and their theological meaning', *Beit Mikra* 31, 40–58.
- Kaufmann, K. & Schloessinger, M., 1901–1906, 'Hiwi al-Balkhi', in I. Singer et al. (eds.) *The Jewish Encyclopedia*, vol. 6, pp. 429–430, Funk & Wagnalls, New York, NY.
- Kislev, I., 2009, 'The relationship between the Pentateuch commentaries composed by R. Abraham Ibn Ezra in France and the significance of this relationship for the biographical chronology of the commentator', *Journal of Jewish Studies* 60, 282–297. <https://doi.org/10.18647/2883/JJS-2009>
- Leclerc, L. (transl.), 1877, Abd Allāh Ibn al Baytar, *Traité des Simples*, Impr. Nationale, Paris.
- Lev, E. & Amar, Z., 2008, *Practical materia medica of the medieval eastern Mediterranean according to the Cairo Geniza*, Sir Henry Wellcome Asian Series, Brill, Leiden.
- Levine, I., 1970, *Abraham Ibn Ezra: His life and his poetry*, HaKibbutz HaMehuchad, Tel Aviv.
- Licht, J.S., 1968, 'nes, nisim', in N.H. Tur-Sinai et al. (eds.), *Enziklopedya Mikrait* [=Biblical Encyclopedia], vol. V, pp. 874–879, Bialik Institute Publishing, Jerusalem.
- Lockshin, M., 1989, 'Tradition or context: Two exegetes: Struggle with Peshat', in J. Neusner, E.S. Frerichs & N.M. Sarna (eds.), *From ancient Israel to modern Judaism: Intellect in quest of understanding: Essays in honor of Marvin Fox*, vol. II, pp. 173–186, Brown Judaic Studies, Atlanta, GA.
- Maori, Y., 2002, 'The meaning of the term *divrei yahid* in the commentary of Ibn Ezra on the Torah: On Ibn Ezra's attitude towards Rabbinic Midrash', *Shnaton: An Annual for Biblical and Ancient Near Eastern Studies* 13, 201–246.
- McKenna, T., 1993, *Food of the Gods: The search for the original tree of knowledge, a radical history of plants, drugs, and human evolution*, Bantam Books, New York, NY.
- Melamed, E.Z., 1978, *Biblical commentaries: Their methods and approaches*, Magnes Press, Hebrew University, Jerusalem.
- Mellinkoff, R., 1970, *The horned Moses in medieval art and thought*, University of California Press, Berkeley, CA.
- Meyerhof, M., 1947, 'The earliest mention of a Manniparous insect', *Isis* 37(1–2), 32–36. <https://doi.org/10.1086/347964>
- Moehring, H.R., 1973, 'Rationalization of miracles in the writings of Flavius Josephus', *SEv* 6, 376–383.
- Paz, U., 1987, 'A wind went out from the LORD and drove quail in from the sea – A one-time miracle or a routine event?', *Tevah va-Eretz* 29(8), 8–11.
- Philpot, J.M., 2013, 'Exodus 34:29–35 and Moses' shining face', *Bulletin for Biblical Research* 23(1), 1–11.
- Pritchard, J.B., 1950, 'Motifs of Old Testament miracles', *Crozer Quarterly* 27, 97–109.
- Purchas, S., 2014, *Hakluytus posthumus or Purchas his pilgrimes, contayning a history of the world in Sea Voyages and Lande Travells by Englishmen and others*, Cambridge University Press, Cambridge.
- Ramezany, F., Kiyani, N. & Khademizadeh, M., 2013, 'Persian Manna in the past and the present: An overview', *American Journal of Pharmacological Sciences* 1(3), 35–37. <https://doi.org/10.12691/ajps-1-3-1>
- Rosenthal, J., 1947–8, 'Hiwi al-Balkhi: A comparative study', *The Jewish Quarterly Review* 38(3), 317–342. <https://doi.org/10.2307/1453133>
- Rosner, F. 1995, *Moses Maimonides' glossary of drug names*, Maimonides Research Institute, Haifa.
- Sabeti, H., 1976, *Forests, trees, and shrubs of Iran*, Research Organization for Agricultural and Natural Resources, Tehran.
- Said, H.M. & Elahie, R.E. (eds.), 1973, *Al-Biruni's book on pharmacy and Materia Medica*, Hamdard National Foundation, Karachi.
- Sanders, S.L., 2002, 'Old light on Moses' shining face', *Vetus Testamentum* 52(3), 400–406. <https://doi.org/10.1163/156853302760197520>
- Sanei, S., n.d., (مصمص صناعي) آن، خواص درمانی آن، معرفی گز علفی، viewed 20 January 2021, from <https://rasekhoon.net/article/show/1372764>.
- Sarna, N.M., 1993, 'Abraham Ibn Ezra as an Exegete', in I. Twersky & J.M. Harris (eds.), *Rabbi Abraham Ibn Ezra: Studies in the writings of a twelfth-century polymath*, pp. 1–27, Harvard University Press, Cambridge, MA.
- Schechter, S., 1901, 'The oldest collection of bible difficulties, by a Jew', *The Jewish Quarterly Review* XIII, 345–374. <https://doi.org/10.2307/1450539>
- Sela, S., 1999, *Astrology and Biblical exegesis in the thought of Abraham Ibn Ezra*, Bar-Ilan University, Ramat Gan.
- Sela, S. & Freudenthal, G., 2006, 'Abraham Ibn Ezra's scholarly writings: A chronological listing', *Aleph* 6, 13–55. <https://doi.org/10.2979/ALE.2006-.6.13>
- Shemesh, A.O., 2013, *Medical materials in medieval and modern Jewish literature: Pharmacology, history and halakha*, Bar Ilan University Press, Ramat Gan.
- Simon, U., 1992, 'Ibn Ezra', in M. Greenberg (ed.), *Jewish Bible exegesis: An introduction*, pp. 47–60, Mossad Bialik, Jerusalem.
- Simon, U., 2013, *The ear discerns words: Studies in Ibn Ezra's exegetical methodology*, Bar Ilan University Press, Ramat Gan.
- Suhr, E.G., 1963, 'The horned mooses', *Folklore* 74(2), 387–395. <https://doi.org/10.1080/0015587X.1963.9716908>
- Tavassoli, A.P., et al., 2020, 'Phytochemistry and therapeutic effects of Alhagi spp. and tarangabin in the traditional and modern medicine: A review', *Journal of Herbmmed Pharmacology* 9(2), 86–104. <https://doi.org/10.34172/jhp.2020.13>
- Urbach, E.E., 1969, *The rabbis: Doctrines and beliefs*, Magnes, Jerusalem.
- Veizer, A., 1976, *Abraham Ibn Ezra commentary on the Torah*, Mosad ha-Rav Kook, Jerusalem.
- Yazdanparats, S., Ziarati, P. & Asgarpanah, J., 2014, 'Nutritive values of some Iranian Manna', *Bioscience Biotechnology Research Asia* 11(2), 1025–1029. <https://doi.org/10.13005/bbra/1378>
- Zakovitch, Y., 1987, *The concept of miracle in the bible*, Ministry of Defense, Tel Aviv.
- Ziarati, P. & Hochwimmer, B.R., 2018, 'The medical geology and discovery of Taranjebin Manna as a hyper selenium accumulator: Biomedical and ethno-medical efficacy links to Calc-alkaline and Alkaline Tethyan magmatic arcs', *Journal of Agricultural Science and Food Research* 9(3), 1–9.