

Truffles Roasting in the Evening Fires

Pages from the History of Desert Truffles

by Elinoar Shavit



"Ever since I reached Saggaratum five days ago I have continuously dispatched truffles to my lord. But my lord wrote to me: "You have sent me bad truffles!" But my lord ought not to condemn [me] . . . with regards to the truffles. I have sent my lord what they have picked for me . . ."

—Yaqqim Addu, Governor of the Province of Saggaratum, to Zimri-Lim, last king of the Amorites at Mari, about 4,000 years ago

Truffles have magic. Since antiquity they have been capturing our imagination and enticing our palates. The "Black Diamond" of Périgord (*Tuber melanosporum*) and the "Alba White Truffle" (*Tuber magnatum*) may top the list, but a sublime bowl of gnocchi with Summer Truffles (*Tuber aestivum*) shared with friends in Ljubljana, and a magical dinner of Oregon Truffles (*Tuber oregonense* and *Tuber gibbosum*) set in a 19th-century Connecticut inn demonstrated to me that there are neither tops nor bottoms to the truffle list.

Unlike the fancy truffles mentioned above, which are usually sliced fresh over foods or used sparingly to flavor them, desert

truffles are the food. What they lack in pungent aroma they more than make up for in abundance. For millennia, species of *Tirmania* and *Terfezia* have provided important sustenance to large populations in the arid and semi-arid areas of the Middle East from the south and east of the Mediterranean Sea to the Persian Gulf. Desert truffles are the work-horse of the truffle world, producing large numbers of tubers in from February to April. Both nomadic and sedentary populations who live near the desert depend on them for food. Eileen Khalastchy, who lived in Iraq in the spring of 1970 when it was at war and food was scarce, writes, "Truffles were plentiful that year and so we used them in cooking instead of meat. For four months all we ate was truffles in different dishes

Desert truffles habitat. Photograph: Minna Lonnqvist 2005, SYGIS



Terfezia boudieri.

just like meat. I must say that they were delicious and as tasty and nutritious as meat.”¹² A sample of desert truffles (*Tirmania nivea*) from Saudi Arabia was found to contain 27.2% protein, 7.4% fat, 28% carbohydrates, 13.2% crude fiber, and 5.1% ascorbic acid. High amounts of K and P, and all essential amino acids were present in fair amounts.²¹

Although they are quite perishable, four to five days after collection desert truffles develop a wonderful aroma and their own mild and nutty flavor when allowed to ripen gently. They are not eaten raw, and recipes for cooking them, some dating back to ancient Mesopotamia, abound. Traditionally, Bedouins roast the nearly golfball-sized truffles slowly in the dying embers of the evening fires. The Bedouins of the Negev eat the roasted truffles with *samneh* (fermented and clarified butter usually made with goat and sheep milk). In Saudi Arabia they make a delicious camel milk-and-desert-truffle soup.²³ In seasons of great abundance, the truffles are sliced and then dried or salted to preserve them for the fall and winter months, or to supplement the family’s income by selling them at the market. Desert truffles have always been a favorite street food in *souks* around the Middle East where they are usually served scrambled



Desert truffles in the Tel-Aviv produce market.

with eggs like the favorite truffle-and-egg dish from Baghdad. Damascus market has another favorite: skewers with alternating chunks of truffles and seasoned lamb, grilled to perfection. Desert truffles can brighten up a variety of cooked fare and add their own unique flavor to the final dish.

In a chapter called “Plants which spring up and grow without root—plants which grow but cannot be reproduced from seed,” Pliny the Elder (first century C.E.), author of *Historia Naturalis*, described desert truffles as follows, “There are two kinds of them, the one full of sand, and consequently injurious to the teeth, and the other one free from sand and all impurities.”¹⁶ In spite of this less than appealing description, desert truffles have the honor of being the first recorded



Cut Terfezia boudieri.

truffles in the history of mankind. The Middle Bronze Age Amorites collected them in the Syrian Desert, Egyptian Pharos considered them exclusive royal delicacies, and Roman emperors shipped them home directly from Libya.³ Mishna and Talmud rabbis, who wrote interpretations of the laws of Judaism almost

two thousand years ago, debated the origin of desert truffles and discussed ways to bless God for blessing people with them.^A The Islamic Prophet Muhammad said to his followers that desert truffles were the “manna” that God gave the Israelites in their travels through the desert, and that their juice was a cure for eye ailments.^{7B} Indeed, in 2004, an antibiotic compound was isolated



Desert truffles on sale at the Damascus market. Photo: Mohamed El-Dakhkhny/The New York Times/Redux.

from a sample of a common desert truffle *Terfezia claveryi*.¹¹ In the 11th century C.E. the great Persian physician Ibn Sina (Avicenna) recommended truffles as a remedy for weakness, vomiting, and wound healing;⁸ and the great 12th-century Jewish physician Maimonides, in his interpretational book *Mishne Torah*, put both truffles and mushrooms on his list of foods to avoid if one wishes to achieve longevity.¹⁷ This did not hurt the extreme popularity of desert truffles: in the 15th century the Italian traveler Ludovico di Varthema described caravans sometimes 25 to 30 camels long, carrying loads of desert truffles on their way to the Damascus market.²⁶ Bedouins of the Arabian deserts have been known to sing to the truffles as they collect them.¹⁰ Even *kamah*, the word used to refer to desert truffles, has hardly changed since it first appeared in writing over 4,000 years ago.

Species of *Terfezia* and *Tirmania*, mycorrhizal with members of the Helianthemum family, constitute the majority of desert truffles.^{1,23,C} They can survive even in arid areas, which makes them an important food-crop for nomadic people. They are somewhat predictable survival rations for sedentary villagers living near the desert, filling in the gap between the winter and the summer crops, which begin to ripen in late spring. A first-century-B.C.E. story from the Jerusalem area, sited in the Mishna, tells how one spring following a bad drought, the intervention of Onias (Honi) the Rainmaker helped bring the rain. However, the torrential rains caused much flooding. Severe hunger was in the land with no hope for crops. With Honi's continued intervention, God sent his blessing: a wind blew away the clouds, the sun emerged to dry everything, "and the people gathered mushrooms and truffles on the steppe." The Babylonian Talmud is more precise: "and the people went out and found a desert full of truffles."^{14,24} The Honi (Onias) story became so popular in the first century C.E. that Josephus Flavius mentioned it in his book *Antiquities of the Jews*.

None has demonstrated so much passion toward desert truffles as did the biblical Amorites. These nomads who emerged from the Syrian desert over 4,000 years ago made their home in the area between the desert and the Euphrates River plains, in the Middle Euphrates. They lived on and around Jebel Bishri, a mountain covering over one million hectares and forming a natural border zone in central Syria. They had skirmishes with the local Sumerian population and later built a powerful kingdom, ruling over a large part of Mesopotamia for hundreds of years. The Sumerians called them Martu, the Akkadians called them Amuru, the Israelites called them Amori, and present-day archeologists recognize them as the Amorites.^{13c} The area of Jebel Bishri is the Mountain of the Amorites mentioned in the Bible (Deut. 1:44).^D

There seems to exist a perpetual and mutual distrust between sedentary and nomadic populations everywhere these different ways of life co-exist. The invasion of the nomadic Amorites into the sedentary, agriculture-oriented, Sumerian society was no exception. The Amorites raided villages and wreaked havoc. They

worshipped different gods, ate different foods, and had different habits. The ancient Sumerians feared and loathed them. As people often do in times of social and political turmoil, the Sumerians found artistic outlets for their frustrations. They recorded their fear of losing their culture in an allegoric myth called *The Marriage of Martu*. Martu, an important Amorite deity, appears here as the personification of the nomadic Amorite people. In the myth, the Sumerian maiden Adjar-Kidug is considering marriage to Martu, but her horrified friend tries to dissuade her from taking this disastrous step. She says to her,

Now listen, their hands are destructive and their features are like monkeys . . . They never stop roaming about . . . they cause only disturbance. He [Martu] is clothed in sack-leather . . . [he] lives in a tent, exposed to wind and rain, and cannot properly recite prayers. He lives in the mountains . . . [He] *digs up truffles* ["kamumu" or "kamtu"] *in the foothills* . . . does not know how to bend the knee [work the land, do agriculture], and eats raw meat. He has no house during his lifetime, and when he dies he is not buried. My girlfriend, why would you marry Martu? ⁴

Nomadic people still "dig truffles in the foothills," but now they are Bedouin tribes, and the sedentary population still looks down at their nomadic way of life. Jebel Bishri, the Mountain of the Amorites, has been studied and excavated by the Finnish Project in Syria. The Project Leader, Dr. Minna Lonnqvist, writes that "Jebel Bishri is a natural basin that has been not only an economic but also a socio-political border between nomadic pastorals and village agriculturalists for millennia. . . . Nowadays the groups identified as nomads consist of Bedouin tribes grazing their flocks on and around the mountain, and peasants are identified as Fellahin engaged in agriculture and village life in the plain regions."^{13a} In her report about the progress of the excavations, Dr. Lonnqvist writes, "The mountain steppe is the arena of the Amorite habitat, and truffles are available in great quantities at Jebel Bishri."^{13b} Truffle collecting is a supplementary source of income for the Bedouin women in the area of Jebel Bishri.

Jibrail S. Jabbur (1900–1991) was Professor of Arabic Literature at the American University of Beirut and chair of the committee entrusted with the modern Arabic translation of the Old Testament. He was born in a small Syrian town on the fringe of the desert. In his book *The Bedouins and the Desert*, Jibrail Jabbur described the truffle season,

which the bedouins call the faq'a or kimaya . . . the bedouins as well as the inhabitants of the villages adjoining the desert, spread out over the places where truffles have been growing and gathered them . . . from early

February until late April, the beginning of the harvest time. One commonly sees people with bags hung over their shoulders to put truffles into them, incessantly scrutinizing the ground so that no sign of a truffle will escape their notice as they walk from one place to another . . . The Bedouins and villagers live on truffles when they are in season. They also ship them to the cities, where they are sold at high prices.”¹⁰

The Amorites outgrew their nomadic lifestyle and built a powerful kingdom, but they did not outgrow their passion for desert truffles. One of the most influential middle Bronze Age Amorite cities was Mari (located in Syria). Many thousands of cuneiforms (clay tablets) were unearthed from the area of the grand palace of Zimri-Lim (19th century B.C.E.), the last Amorite king to rule Mari. On these clay tablets the Amorite kings recorded important government affairs as well as personal domestic issues. In his day the Amorite’s multi-story royal palace had over 260 rooms and occupied over six acres. It was adorned with exceptional works of art, had a special ice-making room(!), and was considered one of the most awe-inspiring buildings of the ancient world.^{2, 19}

Besides important affairs of the kingdom, the Amorite kings recorded personal letters, their dreams, lists of household items, and details of everyday life. The Amorite kings and Zimri-Lim in particular were known for their love of lavish banquets at which, among delicacies like chickpea salad and fried locusts (grasshoppers), large amounts of desert truffles were served. Records indicate that many baskets of desert truffles were brought to the palace, and clay pots holding remnants of the truffles were unearthed in the area of the palace. The quote below was taken from a clay-tablet sent to the king by the Governor of Saggartum. The note was written during truffle season, and was a part of what was obviously a mini-drama that took place over five days. Both the king and the governor must have had important affairs to tend to, yet the Governor spent five days organizing truffle shipments to the king, and the king obviously took the time to check the shipments personally and to make it clear to the governor that he did not like them. The king seemed to suggest that the governor was keeping the best truffles to himself while dispatching substandard ones to the king. This possibility may have occurred to the governor because he dispatched his reply note to the king in great hurry: “Ever since I reached Saggartum five days ago, I have continuously dispatched truffles to my lord. But my lord wrote to me: ‘You have sent me bad truffles!’ But my lord ought not to condemn [me] . . . with regards to the truffles. I have sent my lord what they have picked for me . . .”²⁰

In the Sumerian myth *The Marriage of Martu*, which may well be the first written record of truffles, Adjar-Kidug’s friend refers to them as *kamumu* or *kamtu* (Akkadian). This first written word

for truffles is still used to refer to desert truffles in the languages of the Middle East, with minor variations due to different dialects. The root *kama* means “to be covered” or “hidden” in both Arabic and Hebrew. In Hebrew *kama* also means “to aspire.” It is used in Hebrew and in Aramaic in its plural form, *kmehin*. In Turkey, truffles are called *keme*, and in the Arabic speaking countries they are called by variations on “kama,” like *kamaa*, *kamah*, *kemeh*, *kameh*, *chamae*, *kimaya*, and there are more. Jibrail Jabbur also mentioned that Bedouins call truffles *faq’a*. Words from the root *faq* have been in use in the languages of the Middle East since antiquity to refer to truffles in particular but also to mushrooms in general. It is pronounced *paqa* in Hebrew and Aramaic—the sound changes from “f” to “p,” but the letter “fe” remains the same. In all three languages it means “to burst,” “to split,” “to pop.” In addition to variations on *kamah*, *faq* is used in Bahrain, Saudi Arabia, Oman, and Kuwait to refer to truffles, and in Libya and Israel this word refers to mushrooms. Another word for mushroom is *futtr* in Arabic, and from the same root—*pitrya* in Hebrew.^{6, 18}

People who live on the boundaries of the desert tend to pay close attention to rainfall. The Bedouins believe that powerful winter thunderstorms, when bolts of lightning hit the ground



Digging for the desert truffle.

followed by loud “claps” of thunder, will “bring out” large quantities of desert truffles in early spring. This belief was already established in the first century C.E. and is expressed by Pliny the Elder in *The Natural History*. He writes (Chapter 13), “When there have been showers in autumn and frequent thunderstorms, truffles are produced, thunder contributing more particularly to this development.”¹⁶ The Bedouin’s belief that truffles grow where lightning hits the ground may have some supporting evidence,^E but the idea that loud claps will shake the truffle loose out of the sand is based on the belief that truffles have no root or stem, and that they are not formed inside the sand but rather spontaneously show up there, all ready to be collected.¹⁰ Aristotle’s pupil Theophrastus presented the same thought, “A natural phenomenon of great complexity, one of the strangest plants, without root, stem, fiber, branch, bud, leaf or flower.”²² Pliny writes, “It is quite certain that the truffle belongs to those vegetable productions which sprung up spontaneously, and are incapable of being reproduced from seed.” Pliny supports his claim (Chapter 12) with a personal anecdote, “It is known to me as a fact that the following circumstance happened to Laritus Licinius . . . upon biting a truffle, he found a denarius [a coin] inside, which all but broke his foreteeth—evident proof that the truffle is nothing else but an agglomeration of

elementary earth.”¹⁶ A hypothetical question may be asked here. Since the practice of dropping a silver coin into cooking fungi to check for possible poisoning was a common practice (as was the practice of poisoning people with mushrooms), then perhaps Laritus Licinius, a man of power (“Jura reddenti”—minister of Justice), took a bite in a coin that had been thrown into his cooking pot of truffles to ensure that no one was trying to poison him?

The same uneasiness about the origin of the truffle is expressed in a number of places in the Mishna and the Talmud.^A In the 4th-century Babylonian Talmud there are a number of discussions involving the use of desert truffles. It says there that “truffles materialize in their final shape in a single night, and they are wide and round like dumplings.” As a result, the grace given before eating truffles could not refer to them as “fruits of the earth.” Rabbi Aba’ye renders his opinion, in Aramaic, that truffles are not formed inside the soil or get their nutrients from it. They materialize from the air (from nothing), and therefore they cannot be referred to as “fruits of the earth.”^F There is even a serious discussion about the wormholes in truffles: some of the scholars debating the issue of truffles were concerned about the possible danger of eating truffles that have obvious holes in them, fearing that the holes could be the bite marks of poisonous snakes.

Recently fungi have become quite popular as a source of pharmaceutical compounds, and desert truffles have been studied as well. An antibiotic compound extracted from *Terfezia claveryi* was mentioned here. Spanish researchers found that raw *Terfezia claveryi* (as well as other desert truffles) has strong antioxidant properties. Regrettably, these truffles are always eaten cooked, and the high temperature may damage these compounds. Antimutagenic (mutation inhibitors) and anticarcinogenic compounds have also been isolated from desert truffles.^{9,15}



These vignettes offer but a quick peek into the history of the humble desert truffle, like a snack before a meal. Old traditions are quickly fading away. Zimri-Lim’s 4,000-year-old desert ice room has been replaced with deep-freeze refrigerators in the new abodes of today’s Bedouins. Desert truffles keep much longer in the freezer. To celebrate old traditions, here is an offering of a steaming bowl of camel-milk and desert-truffle soup. Enjoy!

Notes

A. The Mishna is the collection of the 63 tractates of the systematically codified Jewish Oral Law, divided into six orders (Sedarim). It was collected and finally sealed in the 2nd–3rd century C.E. The Talmud consists of the Mishna, and the collection of centuries of rabbinical studies and interpretations of the Mishna laws (called Gemara). The collection written in ancient Israel and Judea is called Talmud Yerushalmi (edited in about 400 C.E.). The collection of discussions on the Mishna, compiled for over 300 years in Babylonia (Iraq) by some of the leading Babylonian rabbis, edited in the 5th century C.E. in Babylonia, is called the Talmud Bavli (the Babylonian Talmud). The Babylonian Talmud is the more authoritative.

B. Sahih Muslim is one of six major collections of the oral traditions relating to the deeds and conversations of the Islamic Prophet Muhammad, in the Sunni Islam. It was collected by Muslim Ibn al-Hajjaj (Imam Muslim) in the 9th century.

C. For further reading on species of *Terfezia* and *Tirmania*, from the scientific aspect, issues of cultivation, and the folklore that surrounds them see Alsheikh & Trappe, 1983; Trappe, 1979; Díez, Manjón, & Martin, 2002; Shavit & Volk, 2007; and Varda Kagan Zur & Nurit Roth-Bejerano, 2008.

D. The ancient Sumerian civilization arose around 4000 B.C.E. in Mesopotamia (the “Cradle of Civilization”). It included ancient Sumer, Babylonia, Assyria, and Akkad. It covered the area between the Tigris and the Euphrates Rivers (including modern Iraq, northeastern Syria, southeastern Turkey, and a part of southwestern Iran). The Bronze Age Sumerians developed a sedentary civilization based on agriculture. Their villages grew into cities as their civilization expended. Their written language was refined to keep up with the growing needs for recording, communication, religion, and artistic expressions. By 2,000 B.C.E. the dominant written language in Mesopotamia (recorded on cuneiforms, dried clay tablets embossed when wet and then dried, was Akkadian, but Sumerian remained in use almost until first century A.D.

E. There may be a simple explanation to the contribution of lightning to the developing mycelium in the winter months; for more on this subject see “The Lightning and the Truffle” on http://botit.botany.wisc.edu/toms_fungi/more.html.

F. Babylonian Talmud 55:2 and Tossefta, Trumot, 87:20.

Works Cited

1. Alsheikh, A. M., and J. M. Trappe. 1983. Desert truffles: The genus *Tirmania*. *Transactions of the British Mycological Society* 81:83–90.
2. Bottéro, J. 1985. The Cuisine of Ancient Mesopotamia. *The Biblical Archeologist* 48(1):36–47.
3. Brothwell, D., and P. Brothwell. 1998. *Food in Antiquity: A Survey of the Diet of Early People*. Baltimore: John Hopkins University Press.
4. Chiera, E. 1934. *Sumerian Epics and Myths* (Vol. CBS 14061). Chicago.
5. Díez, J., J. L. Manjón, and M. F. Martin. 2002. Molecular phylogeny of the mycorrhizal desert truffles (*Terfezia* and *Tirmania*), host specificity and edaphic tolerance. *Mycologia* 94(2):247–59.
6. Feeney, J. 2002. Desert truffles galore. *Saudi Aramco World* 53(5).
7. Hadith Sahih Muslim. *Book 23 Chapter 27 # 5084–89*.
8. Hall, I. R., G.T. Brown, and A. Zambonelli. 2007. *Taming the Truffle*. Portland, Ore.: Timber Press.
9. Hannan, M. A. 1989. Mutagenic and antimutagenic factor(s) extracted from a desert mushroom using different solvents. *Mutagenesis* 4(2):111–14.
10. Jabbur, J. S. 1995. *The Bedouins and the Desert: Aspects of Nomadic Life in the Arab East*. Albany: State University of New York Press.
11. Janakat, S., S. Al-Fakhiri, S., and A. K. Sallal. 2004. A promising peptide antibiotic from *Terfezia clavervyi* aqueous extract against *Staphylococcus aureus* in vitro. *Phytotherapy Research* 18(10):810–13.
12. Khalastchy, E. 2003. Desert truffles - Eileen Khalastchy writes. *The Scribe - Journal of Babylonian Jewry* (76).
- 13a. Lonnqvist, M. (n.d.). Retrieved from SYGIS—Jebel Bishri: The Finnish Project in Syria, sources included, quoted 2004b: www.helsinki.fi/hum/arla/sygis/and www.helsinki.fi/hum/arla/sygis/publications.html.
- 13b. Lonnqvist, M. 2004. Jebel Bishri in Syria and nomadism in the end of the early Bronze Age. *British Museum Colloquium 2004: The Levant in Transition—The Intermediate Early Bronze Age*.
- 13c. Lonnqvist, M. A. 2008. Were nomadic Amorites on the move? Migration, Invasion and Gradual Infiltration as Mechanisms for Cultural Transaction, *Proceedings of the 4th International Congress on Archeology of the Ancient Near East, (29 March–3 April 2004) Freie Universitat Berlin*, Harrassowitz Verlag, Wiesbaden, Volume 2:195–215.
14. Mishna. *Mishna, taanit* 31:1.
15. Murcia, M. A., M. Matinez, A.M. Jimanez, A.M. Veera, M., Honrubia, and P. Parras. 2002. Antioxidant activity of edible fungi (truffles and mushrooms): losses during industrial processing. *Journal of Food Protection* 65:1614–22.
16. Pliny. 1856. *Natural History of Pliny* (Vol. IV). (a. R. Bostock J., Trans.) London: Henry G. Bohn.
17. Pioreschi, P. 1991. *The History of Medicine*. Edwin Mellen Press.
18. Rajki, A. 2002. *A.E.D. Arabic Etymological Dictionary*. Retrieved from www.freeweb.hu/etymological/AEDweb.htm.
19. Saggs, H. F. 1965. *Everyday Life in Babylonia and Assyria*. New York: Dorset Press.
20. Sasson, J. M. 1984. Thoughts of Zimri-Lim. *The Biblical Archaeologist* 47(2):110–20.
21. Sawaya, W. N., A. Al-Shalhat, A. Al-Sogair and A. Al-Muhammad. 2006. Chemical composition and nutritive value of truffles of Saudi Arabia. *Journal of Food Science* 50(2):450–53.
22. Sharples, R. W., and D. W. Minter. 1983. Theophrastus on fungi: Inaccurate citation in Athenaeus. *The Journal of Hellenic Studies* 103: 154–56.
23. Shavit, E., and T. J. Volk. 2007, January. *Tom Volk's Fungus of the Month pages*. Retrieved from Tom Volk's Fungi, Department of Biology, University of Wisconsin—La Crosse: http://botit.botany.wisc.edu/toms_fungi/jan2007.html.
24. Talmud. *Yerushalmi Talmud, Taanit pe-gimel* (83) line 28; *Babylonian Talmud, Taanit* line 34.
25. Trappe, J. M. 1979. The order, families and genera of hypogeous Ascomycotina Truffles and their relatives. *Mycotaxon* 9: 297–340.
26. Varthema, L. D. 1863. *The Travels of Ludovico di Varthema*. (B. G.P., Ed., and J. J. W., Trans.) London, England: Hakluyt Society.
27. Zur, V. K., and Nurit Roth-Bejerano. 2008. Desert truffles. *Fungi* 1(3):32–37.



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“Blessed are the cheesemakers.”
—Monty Python