FROM THE EDITOR

Sugar and Spice

For longer than I have been interested in oaks, I have been interested in cooking—all things really, but especially desserts. It is truly the alchemy of culinary art: can you even count the number of transformations you can subject a bit of egg, flour, butter, milk, and sugar to in order to create the most extraordinarily different things?

Reading Marcie Mayer's article, "Creating Sustainable Income From the Ancient Oak Forest On Kea Island, Greece" (pp. 13-22) brought me, on a bit of a side-track, to a book entitled *Sherbet and Spice: The Complete Story of Turkish Sweets and Desserts* (Mary Isin, 2013, London, New York: I.B. Tauris & Co. Ltd.) and to the delightful story of *kudret helvasi* (oak manna).

"The other type of manna found in Turkey is oak manna, produced by aphids that breed in oak forests, particularly in the eastern provinces. The manna is known by various local names…*men* from the Arabic *man*, and the Turkish words *kudret helvasi* and *yagci pelidi*. Persian *ges* (can)…be used as a generic term for oak manna produced in western Iran, northern Iraq and eastern Turkey. It was also called *man-es-simma* (manna from the skies) in Persian and Arabic pharmacopoeas…"

This idea of manna from the skies—despite evidence to the contrary—has been perpetuated by the mysterious (unpredictable) appearance of the sugary substance from one year to the next and also by the almost invisible aphids responsible for it. The sugar and spice and everything nice that myths are made of! According to Isin, "There is sometimes little or no oak manna for several years running followed by a glut year probably depending on unknown factors relating to the life cycle of the insect and to weather conditions."

The aphids nourish themselves on the elaborated sugar and carbohydrates that run through the phloem just beneath the bark but retain mostly only the nitrogen that is present. The rest of the sugary sap passes through them dripping on to the tree (eventually drying into a powdery white substance). Manna was collected in liquid form and then dried and sold as crystallized lumps. Alternatively, once dry the leaves and branches

could be shaken to brush off the white powder (this was considered the finest variety). The leaves and branches could also be collected and rinsed in cauldrons of water. The sugary solution thus obtained was then strained to produce a delicious and dark syrup. In these various forms, oak manna would then be purified by confectioners and mixed with egg white, almonds or other nuts to make nougat and other sweets. Local people in manna-producing areas ate it for breakfast after boiling and straining, diluted it with water to make a sherbet drink, or mixed it with flower and nuts to make cakes.

There is some difference of opinion as to which oak species is the candymaker of the genus, but the one most frequently named is *Quercus infectoria* Oliv. I have found several references also for *Q. brantii* Oliv., *Q. persica* Jaub. & Spach, and one reference to manna oak being a common name for *Q. cerris* L. And, as Marcie Mayer writes, this sugary substance also appears on the leaves of *Q. ithaburensis* subsp. *macrolepis* (Kotschy) Hedge & Yalt. One must conclude that there are a great number of oaks in the world that accommodate with their sugary sap the even greater number of aphids in the world although only one or two oaks have contributed significantly to confectionery history.

In Madame Camus' *Les Chênes* (Tome II, p. 260) there is an entry for "(×)? *Q. mannifera* Lindley." The "(×)?" representing her suspicion that this taxon, described as a species, was probably a hybrid. In addition to her description, she provides Mr. Lindley's original description in Latin, followed by a few lines in French (translated here) that made me smile: "The upper surface of the leaves of this oak exudes manna during the hot months of the year according to Mr. Lindley." And while this is indeed a part of what he writes, Mr. Lindley actually describes in great detail the entomological origin of manna along with his description of the species (*Edwards Botanical Register*, 1840, No. 26, pp. 242-43). Part of the story is thus often a very different story—indeed the very things that myths are made of.

How sweet to be able to end this oak story with yet another name story: today, *Q.* ×*mannifera* Lindl. is an accepted name for the hybrid between *Q. infectoria* subsp. *veneris* (A. Kern.) Meikle and *Q. petraea* subsp. *iberica* (Steven ex M. Bieb.) Krassiln.

Enjoy *International Oaks*… with a nice piece of candy!

Béatrice Chassé