

KRZYSZTOF JAGUSIAK, MACIEJ KOKOSZKO

Łódź University, Poland

A PEACH (*PRUNUS PERSICA* [L.] BATSCH) IN ANCIENT AND EARLY BYZANTINE MEDICINE ACCORDING TO SELECTED SOURCES (THE 1ST–7TH C. AD)

ABSTRACT. Jagusiak Krzysztof, Kokoszko Maciej, *A peach (Prunus persica [L.] Batsch) in ancient and early Byzantine medicine according to selected sources (the 1st–7th c. AD)*. (Brzoskwinia (*Prunus persica* [L.] Batsch) w antycznym i wczesnobizantyńskim lecznictwie według wybranych źródeł [I–VII w. n.e.]).

The peach (*Prunus persica* [L.] Batsch) is a tree native to the region known today as Northwest China, where its fruits were known around 2000 BC. Inhabitants of the Mediterranean Area came into contact with the peach probably between the 6th and 4th century BC thanks to the contacts with Persian Empire. In the western part of the Mediterranean Region the peach appeared later (ca. 1st c. AD). In the period under study there were many varieties of the peach, and they were eaten in many different ways – e.g. raw, dried, boiled etc. They could be consumed without any other ingredients, or as an element of more complicated dishes. Ancient and early Byzantine authors, who wrote their treatises between the 1st and 7th c. AD, and dealt with medicine (Dioscorides, Pliny the Elder, Galen, Oribasius, Aetius of Amida, Paul of Aegina, Athimus and others), described dietetic properties of a peach with details. Moreover, they left some information about a medical use of this fruit. This aspect of their works is an element of a wider and well-known phenomenon, i.e. an important role of all groups of aliments in the ancient art of healing.

Keywords: peach; ancient medicine; Byzantine medicine.

In Graeco-Roman Antiquity and in the intervening centuries a number of foodstuffs (unprocessed and heat – or mechanically treated, on their own or as part of compound substances) served as a basis for professional treatment of many illnesses of different etiology. It was related either to their primary destination – as an element of the diet in a wider meaning (adjusting the food to be consumed to age, season, activity and physical exercise, massage etc.) – or to their role as medicaments¹. In connection to this, Greek and Latin medical sources (or those devoted in part to medicine) preserved a wealth of information on the dietary characteristics and medical properties of various groups of alimentary products (including cereals, leguminous plants, and other vegetables, fruit,

¹Cf. Walther-Ast 1936: 978–984; Garcia Gaul 2000: 44–50; Jouana 2008: 53–72; Bergoldt 2008: 30–37, 41–46, 62–72; van der Eijk 2008: 283–303; Kokoszko, Jagusiak, Rzeźnicka 2014: 7–28; Jones-Lewis 2016: 402–417; Donahue 2016a: 611–615; Donahue 2016b: 619–623.

livestock products and the meals or drinks produced from such ingredients), and also a significant number of therapeutic procedures, including their use.² The peach fruit, to which our paper is devoted, is an example of this phenomenon.

As for the fundamental sources of the greatest importance for our research on the issue outlined in the title, we have to mention such Greek medical and botanical treatises as those authored by Dioscorides (1st c. AD), Galen (2nd c. AD), Oribasius (4th c. AD), Aetius of Amida (6th c. AD), Alexander of Tralles (6th c. AD) and Paul of Aegina (7th c. AD). The Latin works to be discussed include writings dealing (solely, or among other things) with medicine by such authors as Celsus (1st c. AD), Pliny the Elder (1st c. AD), Gargilius Martialis (3rd c. AD), and Anthimus (6th c. AD). Aside from the above, other sources were also of use – some of them very important for the study of this historical period – which in the context of this particular subject were of secondary importance.³ As can be seen in the selection of the source material, the time frame is thus set from the 1st to the 7th c. AD. Various factors have influenced the choice of the beginning and the end of the period under consideration. The first date was chosen, the 1st c. saw the emergence of the medical doctrine accepted by such authors of preserved medical works as Celsus, Pliny or Dioscorides and later Galen, with the subsequent generations of medical authors inspired by their works. That doctrine was strongly connected with the activity of the earlier authors of *Corpus Hippocraticum*, and also of Diocles of Carystus, Mnesitheos, Sextius Niger, and others, whose works (most of which are not extant) dealt with, among other things, the therapeutic properties and healing uses of alimentary products. In contrast, the 7th c., as the end of the period under study, results mainly from the great transformations of the Roman state unrelated to medicine. In the wake of these transformations the Empire, which survived in the East through the crisis which in the 5th c. destroyed its western part, marked the transition from the early Eastern Roman Empire of Late Antiquity to the middle Byzantine Empire of the early Middle Ages (according to the periodization accepted among modern Byzantinists). Incidentally, the 7th c. saw the activity of Paul of Aegina, who was the last of the notable epigones of Galen of that time dealing with the therapeutic uses of foodstuffs. After him, there came a gap of several centuries, and we do not know of any significant treatises from that period, which in itself may be important for the topic of my presentation. It is also worth emphasising that Mediterranean agriculture and food production between the 1st and the 7th century were subject to relatively subtle changes and that this time scale does

²It is sometimes noted that Greek medicine evolved from culinary practice (cf. Nutton 2005: 96).

³Among them are such important sources as *Deipnosophistae* written by Athaenaeus of Naucratis (3rd c. AD), Latin agronomical treatises of Cato, Varro, Columella, and Palladius (composed between 2nd c. BC and 4th c. AD) and the anonymous culinary work entitled *De re coquinaria* (probably 4th or 5th c. AD, see footnote 22).

not constitute a distinct period in the history of agronomy or nutrition. Instead, it was quite coherent in terms of its technological development and the resources of available species of plants and animals. As a result, the realities described by Celsus and Paul of Aegina are similar in this regard, despite the difference of about six hundred years in between.

Coming to the actual subject of our article, we believe that we should begin with a short presentation of the natural history of the peach, its nomenclature in Graeco-Roman antiquity, and its cultivars known at the time. The peach (*Prunus persica* [L.] Batsch) is a tree species belonging to the *Rosaceae* family. It reached the Mediterranean probably from modern-day China, where it had been known and used in agriculture since about two thousand years BC.⁴ Today it is difficult to determine when the inhabitants of the Mediterranean first came into contact with this particular tree or its fruit. It seems to have happened not earlier than in the 6th c. BC and not later than in the 4th c. BC, during the lively contacts (often in the form of military expeditions) with the peoples of the Near East and Mesopotamia under Persian control. This chronology is supported by etymological considerations. In the language of the ancient Greeks the peach tree was known in the classical period by the name of *meléa persiké* (μηλέα περσική), and its fruit was called *mélon persikón* (μήλον περσικόν).⁵ In the age of Roman domination, Galen noted that his contemporaries speaking Greek often shortened the name to one word: *persiké* or *persiká*.⁶ Long or short, all these names were connected to the idea that the peach came to the area inhabited by Greeks via the territories of Achaemenid Persia, or was seen as having come this way by Greek merchants, travellers or soldiers in unspecified locations within the boundaries of Persian rule. Considering that the Persian Empire existed from the 6th to the 4th c. BC, it is plausible that it was in this period that the peach appeared in the Eastern Mediterranean. By contrast, the popular view on the matter which attributes the reception of the peach tree in the Mediterranean to the ephemeral empire of Alexander the Great should be treated with considerable caution.⁷ Centuries later, in Byzantine times, another name of the peach occurred in sources written in Greek, namely *rhodákinon* (ρόδάκινον),⁸ until then associated with a nectarine.

The Romans were also aware of the eastern provenance of the peach tree. The Romans referred to the peach by using the adjective (*malum*) *persicus*, or

⁴Cf. de Candolle 1959: 221–222; Steier 1937: 1022; Falkowski, Kostrowicki 2001: 324; Zohary, Hopf 1993: 172; Sadori *et al.* 2009: 45; Hancock, Scorza, Lobos 2008: 9; Zheng, Crawford, Chen 2014: 1–9.

⁵Cf. Steier 1937: 1022; Abramowiczówna 1962: 525.

⁶Gal. *SMT* 76, 7–9, vol. XII; Gal. *Alim.Fac.* 592, 11, vol. VI.

⁷Cf. Dalby 1996: 84; Dalby 2003: 252, and remarks published by Dr. Sean Caugher in the article adopted from his blog *Ancient medicine* (Caugher 2016, n.p.).

⁸Trapp *et al.* 2011: 1508.

persicum, or simply by the noun *persica*.⁹ While the Greeks came to know this fruit no later than in the final decades of the 4th c. BC, the Latin sources tell us nothing about it before the 1st c. AD, which suggests that this plant (and fruit) was not widely known in Rome before then, but it does not necessarily mean that it was completely uncommon on the Roman market.¹⁰

The peach was relatively difficult to store after picking and was very prone to rotting, so in comparison with other species of fruit it was rather rarely available in Rome: the demand for it was high, which was also reflected in its considerable price (even after the 1st c. AD, when it finally appeared in the Latin sources).¹¹ Nevertheless, the plant became widespread in the Roman world, with a number of cultivars, although the process, as Pliny the Elder tells us, did not take place without difficulty.¹² It grew in various areas (note for example the *gallica* in Gaul, the *asiatica*, the cultivar from the lands of the Sabines, and other regions of Italy), and in various seasons.¹³ One cultivar from this period deserves a brief but slightly more detailed note: the *duracina/durakina/dorakina* (also *mélon dorákinon*, μήλον δωράκινον).¹⁴ Our sources tell us that it was very tasty despite its hard flesh and was known to agronomical and medical writers at least from the beginning of the 1st c. AD until the end of the period under consideration, that is the 7th c. AD.¹⁵ We can presume that some cultivars of the peach differed from others in flavour and the colour of their peel. On the basis of one passage from *Geoponika* we may assume that the red-peeled variety was especially highly prized in Byzantine times.¹⁶

Our sources tell us about several ways of preparing peach fruit for consumption common in antiquity and in the Byzantine period. It was eaten fresh, but also dried¹⁷ or pressed to obtain juice.¹⁸ Aside from drying, there were also other methods of keeping these perishable products fresh. One of them was to place peaches in brine, dry them, put in a vessel, cover them with a layer of salt with

⁹ Plin. *Nat.* XII, 14; XV, 39, 49; Col. V, 10, 20; IX, 4, 3; X, 409; Pal. XII, 7, 8. Cf. André 1985: 193.

¹⁰ Steier 1937: 1022–1023; White 1970: 258, 498; Wilkins, Hill 2006: 14, 27.

¹¹ Plin. *Nat.* XV, 11, 40.

¹² Plin. *Nat.* XV, 13, 45.

¹³ Plin. *Nat.* XV, 11, 39; Col. X, 411. Cf. André 1981: 80.

¹⁴ For further information relating to the theories about this name, which connect it with the city of Dyrrachium (east coast of the Adriatic Sea), or with the settlement called Durak (located in ancient Susiana), or with the Latin word *durus*, meaning ‘hard’, which could be related to the flesh of this cultivar, cf. Steier 1937: 1023.

¹⁵ Cf. Plin. *Nat.* XV, 34, 113; edict on maximum prices of Emperor Diocletian (301 AD): *Ed. Dioc.* 6, 1, 59 or *Geoponika*, which is believed to have been issued in the 10th c. (containing passages written many centuries earlier), *Geop.* X, 13, 1–4.

¹⁶ *Geop.* X, 15, 1–2.

¹⁷ *Dsc. Mat. Medic.* I, 115, 4, 6. Cf. Wilkins, Hill 2006: 135.

¹⁸ *Orib. Coll. Med.* I, 47, 1, 1.

some savory (*Satureja* L.) and marinate in vinegar.¹⁹ Other ways included boiling²⁰ and steaming.²¹ The *persica* was also used as an ingredient of more complex dishes. We know for instance about the following recipe by the anonymous author of *De re coquinaria* (published in the 4th or the 5th c. AD)²²: slices of peach fruit were to be boiled until they became soft, put into a vessel, and sprinkled with olive oil and cumin sauce.²³ Vinegar was produced from peaches covered with roasted barley by placing the mixture for one day in an earthenware vessel.²⁴

The dietary properties of the peach fruit were not consistently evaluated by the specialists from the period under consideration. Dioscorides, whose words largely contradict the data known from most of the other authors, tells us that ripe peaches are good for the stomach and the intestines.²⁵ Conversely, unripe peaches had an astringent effect on the intestines (even more so when eaten dried).²⁶ A decoction made of peaches was believed to have drying properties and was used to stop diarrhoea.²⁷

According to Galen (as we can see in his treatise *De alimentorum facultatibus*), the *persica* is rich in moisture and watery, and because of that it goes down through the digestive system easily.²⁸ If the stomach was prepared for motion, it did not cause problems. Otherwise, it remained in the stomach and instead of being digested it quickly rotted, which could lead sometimes to a blockage of the stomach.²⁹ Because of the quick rotting of the fruit inside the body, a peach could easily rise to the surface of the gastric content and induce the rotting of other foods remaining there. For that reason, Galen recommended that peaches should not be consumed after the meal.³⁰ Moreover, taking into account the structure of the fruit, with its fast passing through the organism by way of urination and perspiration, Galen regarded peaches as

¹⁹ *Coq.* I, 26. Cf. André 1981: 89.

²⁰ Alex. Trall. *Febr.* 373, 18, vol. I.

²¹ Alex. Trall. *Febr.* 375, 13–14, vol. I.

²² The treatise entitled *De re coquinaria* is an anonymous gastronomical work composed – according to modern studies – between the 4th and 5th c. AD, but known in the intervening centuries under the name of the famous Roman gourmet from the 1st c. AD Apicius. At present, researchers are sure that the authorship of Apicius is not possible, and his name was added to the treatise probably to increase its value, as Apicius was believed by the Romans to be an expert in gastronomy. Cf. Vollmer 1920: 34–36; Brandt 1927: *passim*; Bode 1999: 6–20; Wyszomirski 2012: 8–11.

²³ *Coq.* IV, 2, 34.

²⁴ *Geop.* VIII, 34, 1.

²⁵ *Dsc. Mat. Medic.* I, 115, 4, 6.

²⁶ *Dsc. Mat. Medic.* I, 115, 4, 7–8.

²⁷ *Dsc. Mat. Medic.* I, 115, 4, 8–9.

²⁸ *Gal. Alim. Fac.* 466, 5–6, vol. VI.

²⁹ *Gal. Alim. Fac.* 466, 7–13, vol. VI.

³⁰ *Gal. Alim. Fac.* 593, 1–2, vol. VI.

being of low nutrition value.³¹ His negative view on eating peaches is also expressed in his work *De victu attenuante*. There, while discussing the overall negative properties of all fruits growing on trees, he stated that the *persica* was of a cold and watery nature and as such it should not be eaten in large quantities.³² A similar view, although not explicitly stated, appears also in Galen's *De rebus boni malique senci* where the doctor of Pergamum wrote that peaches, together with similar fruits, belonged to the small category of fruits unsuitable for drying, because before they became dry, they would start to rot.³³ This statement stays in line with Galen's remark mentioned above about the quick rotting of peaches in the stomach, but at the same time contradicts the view of Dioscorides regarding dried peaches.

A similar view on describing this matter to that of Galen can be found in Gargilius's work. The latter author considered peaches as harmful to the stomach because of the properties expounded earlier by the author of *De alimentorum facultatibus*.³⁴ Moreover, Gargilius wrote that according to the medical knowledge of his time peaches had low nutritional value.³⁵

According to Oribasius, who followed Galen, both flesh and juice obtained from peaches were prone to rotting and were detrimental to health in all possible ways.³⁶ Furthermore, the *persica* should not be eaten at the end of the meal as this could lead to an unhealthy fermentation of undigested food consumed earlier and still present in the stomach.³⁷ An evaluation of the described fruits was emphasized in the third book of *Collectiones medicae* where Oribasius included descriptions of foodstuffs divided into groups with regard to their dietary properties. Oribasius classified peaches among products which gave little nourishment to the body,³⁸ as they rotted quickly in the stomach³⁹ and produced purgative effects.⁴⁰ Furthermore, the author described them as a cooling⁴¹ and hydrating foodstuff⁴² (but without specifying the degree of these properties). A markedly similar classification of peaches appeared also in other treatises written by Oribasius. In his *Synopsis ad Eustathium filium*, peaches were included into the category of moderately cooling product,⁴³

³¹ Gal. *Alim.Fac.* 569, 11–23, vol. VI.

³² Gal. *Vict.At.* 77, 3–78, 1.

³³ Gal. *Bon.Mal.* 785, 3–7; 785, 13–786, 1.

³⁴ Garg. *Med.* 44, 1.

³⁵ Garg. *Med.* 44, 6.

³⁶ Orib. *Coll.Med.* I, 47, 1–2.

³⁷ Orib. *Coll.Med.* I, 47, 2–4.

³⁸ Orib. *Coll.Med.* III, 14, 7, 5 (entire group: III, 14, 1, 1–13, 3).

³⁹ Orib. *Coll.Med.* III, 27, 1, 2, 1 (entire group: III, 27, 1, 2, 1–2, 5).

⁴⁰ Orib. *Coll.Med.* III, 29, 17, 1 (entire group: III, 29, 1, 1–22, 2).

⁴¹ Orib. *Coll.Med.* XIV, 19, 1, 13 (entire group: XIV, 19, 1, 1–22).

⁴² Orib. *Coll.Med.* XIV, 29, 1, 2 (entire group: XIV, 29, 1, 1–3).

⁴³ Orib. *Syn.* II, 7, 1, 8–9 (entire group: II, 7, 1, 1–14).

moderately hydrating,⁴⁴ giving little nourishment to the body,⁴⁵ easily rotting (in the stomach)⁴⁶ and having a purgative effect on the bowels.⁴⁷ In yet another treatise, entitled *Libri ad Eunapium*, Oribasius reiterated his view and put peaches in the category of food that gave little nourishment to the body,⁴⁸ was notorious for its bad juices and “slippery” flesh (because of which it went fast through an empty stomach, but quickly rotted when that organ was full of food).⁴⁹ Also, it cooled⁵⁰ and hydrated the body,⁵¹ and had a negative impact on the humoral balance of the human organism.⁵²

Aetius of Amida and Paul of Aegina wrote about peaches in a similar way, both of them following Galen and Oribasius. The first in his *Iatricorum libri* evaluated a peach, alongside his predecessors, in a generally negative manner as a product which rotted easily and should not be eaten at the end of a meal, because it could induce the rotting of the food still remaining in the stomach.⁵³ If this fruit does some harm to a full stomach, it goes fast through an empty stomach and loosens the bowels because of its “slippery” and watery flesh.⁵⁴ Paul of Aegina wrote that juices of the peach are of bad quality. Moreover, they quickly ferment in the body and for this reason they should be eaten on an empty stomach, especially if the intention is to produce a purgative effect.⁵⁵

Exactly the opposite was argued in Anthimus’s short (like his entire treatise) characteristic of the peach. This sixth-century author wrote in it that the fruit well ripened on trees and that sweet peaches which belonged to both varieties, i.e. freestone and clingstone, were beneficial for health.⁵⁶ However, he added that the consumption of these peaches, which would be peeled before ripening, and which would be soft only a few days after peeling produced bad, rotting juices in the consumer’s body.⁵⁷ The general sense of Anthimus’s passages about the peach seems converge to some extent with the characteristics written at the beginning of the period under study by Dioscorides (see above).

Alexander of Tralles in his *Therapeutica* also included opinions which did not coincide with the earlier negative characteristics of the fruit under consideration.

⁴⁴Orib. *Syn.* II, 19, 1, 2 (entire group: II, 19, 1, 1–3).

⁴⁵Orib. *Syn.* IV, 13, 6, 5 (entire group: IV, 13, 1, 1–12, 4).

⁴⁶Orib. *Syn.* IV, 26, 1, 1 (entire group: IV, 26, 1,2, 1–2, 5).

⁴⁷Orib. *Syn.* IV, 28, 20, 3 (entire group: IV, 28, 1, 1–27, 2).

⁴⁸Orib. *Lib.* I, 30, 6, 4 (entire group: I, 30, 1, 1–8, 2).

⁴⁹Orib. *Lib.* I, 43, 1, 1 (entire group: I, 43, 1,2, 1–3, 4).

⁵⁰Orib. *Lib.* II, 4, 1, 9–10 (entire group: II, 4, 1, 1–4, 2).

⁵¹Orib. *Lib.* II, 7, 1, 2 (entire group: II, 7, 1, 1–2, 3).

⁵²Orib. *Lib.* I, 33, 8, 2 (entire group: I, 33, 1, 1–16, 4).

⁵³Aët. I, 278, 5–8.

⁵⁴Aët. I, 278, 8–12.

⁵⁵Paul. Aeg. I, 81, 2, 3–5.

⁵⁶Anth. 85–86.

⁵⁷Anth. 86.

He recommended eating sweet, well ripened peaches alongside other species like nectarines or grapes with firm flesh, especially in the morning.⁵⁸ Admittedly, Alexander does not refer directly to the therapeutic properties of a peach, but his clearly stated positive opinion on eating it when ripe confirms, to my mind, that he recognized such properties of the fruit. To some extent it contradicts the opinion found in another fragment of *Therapeutica*, where the author advised against eating peaches of the *dorakina* variety, and dissuaded the reader from consuming other varieties of a peach.⁵⁹ The reasons for Alexander's inconsistency in this regard (or the ambiguity apparent in these two fragments of his text) remain difficult to explain.

The peach was presented in a similarly positive light by Diphilus of Siphnus (who lived ca. 3rd c. BC) in the extant fragment of his lost treatise preserved in the work of Athenaeus of Naucratis of the 3rd c. AD. It refers to the juicy and aromatic flesh of the fruit and its nutritional value, which is thought to be higher than in apples.⁶⁰ It is worth noting that this short description is incompatible with the influential opinions of Galen, formulated almost at the same time when Athenaeus compiled his *Deipnosophistae*.

As for the medical use of the *persica*, Celsus wrote in his *De medicina* that the liquid made from the kernels of peach stones (and bitter almonds as well) should be applied onto ears in case of inflammations and acute earache which made it impossible to fall asleep (he also listed other liquids useful in such cases, e.g. rose oil).⁶¹ A similar piece of advice, but with regard to dealing with headaches (without specifying the reason of the pain, as it was with the ears) is found in Pliny the Elder⁶² and Gargilius.⁶³

In the anonymous treatise *Euporista vel de simplicibus medicinis*, often attributed to Dioscorides,⁶⁴ we read that peach stones should be boiled in wine

⁵⁸Alex.Trall. *Ther.* 511, 13–14, vol. I.

⁵⁹Alex.Trall. *Ther.* 523, 26–27, vol. I.

⁶⁰Ath. III, 82f (24, 6–9 Keibel).

⁶¹Cels. VI, 7, 1.

⁶²Plin. *Nat.* XXIII, 67, 132.

⁶³Garg. *Med.* 44, 10.

⁶⁴The authorship and dating of this work have been controversial for many centuries. According to some researchers the treatise is strongly connected with Dioscorides (or, even more precisely, it was written by him before *De materia medica*), in other words – it must be dated at the 1st c. AD. Others, basing mostly on the analyses of the language of *Euporista*, date this problematical treatise at the 3rd or even 4th c. AD, and, which precludes the possibility of attributing the authorship to Dioscorides. The third group insists that Dioscorides wrote some parts of the work, which we know today as *Euporista*, and his fragments were merged with passages written by an anonymous author (or authors) in later centuries (Cf. Riddle 1980: 134–136). It is also worth considering another work that is strictly related to the legacy of Dioscorides, namely an anonymous treatise known in modern scholarship under the title *Ex (De) herbis femininis*, composed not later than in the 6th c. AD, and attributed to the author known as Pseudo-Dioscorides (cf. Riddle 1981: 43–81; Krynicka 2006–2007: 225–240). Although researchers do not attribute the authorship of

vinegar and kept for a long time in mouth to ease a toothache.⁶⁵ The fruit of the *persica*, according to the author of *Euporista*, should also be used in the case of rabies. The treatment consisted in applying a chewed piece of peach on the bites left by infected animals.⁶⁶

Galen, who described the dietary properties of the peach and its influence on the human body was quite detailed (for his time) and unfavourable: he found only few instances in which it should be recommended for use in treatment. In the entire corpus of Galen's work we find only one single piece of information which can without any doubt be related to this question. When discussing the therapy of acute fever which led to body desiccation, Galen wrote that it was recommended to eat food of an intermediate degree of nutrition value (between little and medium). It was always necessary, however, to avoid consuming things which brought about an inappropriate mixing of organic juices (*chymoi*, χυμοί). One exception in dealing with the aforementioned symptom is when the patient with high fever was ill in the hottest summer period. Then it was recommended to give him some fruit, like apples, cherries or peaches,⁶⁷ which helped hydrate and cool the body.

In Oribasius, who also wrote a little about the practical uses of the *persica* in therapy, we can find only a piece of information about the ways in which to control insatiable appetite, a kind of bulimia (in Oribasius's text it is referred to as *kynódes órexix*, κυνώδης ὄρεξις, not simply *boulimía*, βουλιμία). According to him, eating peaches helped in this illness.⁶⁸ The consumption of fruit under study, alongside cherries, plums, melons and similar products, as well as drinking some cold *mélke* (μέλκη)⁶⁹ was also recommended by this fourth-century physician to all patients suffering from exhaustion and overheating in summer.⁷⁰

Eating peaches was recommended by Alexander of Tralles for various medical conditions. In *Therapeutica* he wrote that in the case of warm discrasia, i.e. an overheating of the body disrupting the ingestion of food, the patient should eat peaches and other juicy fruits.⁷¹ People suffering from the excessively overheated stomach, being very thirsty and weak because of that (which could make them faint), needed to eat juicy food and drink. Among such kinds of food Alexander mentioned, once again, peaches.⁷² In another passage of *Therapeutica*, de-

Euporista to him, he serves as a good illustration of wide possibilities of interpretation of the question of authorship of this treatise.

⁶⁵ *Eup.* I, 65, 1, 4–66, 3, 7.

⁶⁶ *Eup.* II, 120, 1, 1–4, 9.

⁶⁷ *Gal. Bon.Mal.* 811, 6–11.

⁶⁸ *Orib. Ecl.Med.* 40, 1, 7.

⁶⁹ *Mélke* was a dairy product, which consisted, most probably, of milk and hot vinegar, sometimes spiced by pepper, salt or coriander (Cf. Rzeźnicka, Kokoszko 2016: 133).

⁷⁰ *Orib. Lib.* I, 5, 1, 1–2, 1.

⁷¹ *Alex.Trall. Ther.* 251, 11–14, vol. II.

⁷² *Alex.Trall. Ther.* 265, 1–12, vol. II.

voted to the dangerous and in some cases lethal illness of the stomach connected with a cumulation of poisonous caustic juices in that organ or caused by unspecified “worms” (*hélminthes*, ἑλμινθες), Alexander wrote that eating cooling foods and drinking helped strengthen the endangered parts of the patient’s body. The physician included to this group, among others, a peach, and added that cooling foods should be consumed in the initial phase of treatment.⁷³ In yet another of Alexander’s treatises, *De febribus*, one can find a piece of information on the treatment of three-day fever, which is immensely interesting for our study. According to one passage from this work, the patient suffering from this illness should not eat too much fruit, but among these which could be eaten Alexander mentioned both raw and cooked peaches.⁷⁴

Before offering a summary, we would like to turn our attention to two more questions, which can only be indicated at this point and require a more detailed study. It is the issue of the correct nomenclature and understanding of some passages in the analysed sources. As we mentioned above, the *persika* or *melon persikon* in Greek, and the *persicum* or *persica* in Latin were the names of the peach in antiquity and Byzantine times. Unfortunately, probably at least since Theophrastus, the author of *Historia plantarum* (4th/3rd c. BC),⁷⁵ there was a confusion in the nomenclature of the so-called “Persian apples.” It is hardly possible that the ancient authors of the Hellenistic period did not recognize and distinguish two (or more) species of plants growing in the East and producing fruits which they called “(Persian) apples.”⁷⁶ Confusion grew because of another plant, rare and not known well in Mediterranean world, named *perséal/persaía/perseía* (περσέα, περσαία, περσεία) by the ancients.⁷⁷ These mistakes could have been repeated by next generations of writers and in some way can explain the aforementioned differences in the characteristics of the dietary properties of the peach (but this is only a tentative suggestion). This problem is, in our opinion, connected with another question. In some fragments of Galen’s works, and in the treatises of his epigones, one can find information about the healing properties of leaves and wood of the *persiká/persica* tree.⁷⁸ According to these passages, the fruit of the *persiká/persica* had completely different properties than those of its leaves and wood. This discrepancy could have been caused by two factors:

⁷³ Alex. Trall. *Ther.* 279, 19–283, 9, vol. II.

⁷⁴ Alex. Trall. *Febr.* 373, 18; 375, 13–14, vol. I.

⁷⁵ Cf. Theophr. *Hist. Plant.* IV, 4, 2.

⁷⁶ Dalby 1996: 82–84.

⁷⁷ Cf. Dalby 2003: 255–256. On the main problems with the identification of ancient names of the plants, including synonymity, anonymity, homonymity and pseudonymity, see Hardy and Totelin 2016: 93–113.

⁷⁸ Cf. Gal. *SMT* 76, 9–15; 118, 7–10; Gal. *Comp. Med. Loc.* 569, 14–570, 1, vol. XII; Orib. *Coll. Med.* VIII, 12, 1, 1–3, 10; XIV, 60, 2, 22; Orib. *Ecl. Med.* 1, 2, 4; Orib. *Syn.* II, 50, 1, 1–18; Orib. *Lib.* II, 23, 1, 1–32.

either the ancient authors mistakenly referred to different plants with one and the same name, or the peach really exhibited, in their opinion, different properties in individual parts of the plant. We assume that the former possibility is more likely, but this problem also needs to be researched separately in more detail.

To sum up, it is worth concentrating on four questions. Firstly, the ancient authors did not develop a coherent doctrine concerning the dietary characteristics of a peach. Some of the analysed physicians (Dioscorides, Anthimus, Alexander of Tralles and Diphilus of Siphnus in Athenaeus' testimony) described this matter in a generally positive way, while others (Galen, Gargilius, Oribasius, Aetius of Amida, Paul of Aegina) presented far more negative opinions on this question. This is difficult to explain, especially because the medicine of the period under study – as known from the extant sources – usually shows a coherent doctrine about the dietary properties of individual species of plants. It is also worth mentioning that both opposing points of view had their advocates in Greek and Latin treatises alike. In other words, neither positive, nor negative extended characteristic of the peach was related to the linguistic, cultural, or geographical divides. Moreover, the differences between authors were not connected to the passage of time, because positive characteristics of the *persica* can be observed in the sources written in the 1st, 3rd (or 3rd c. BC) and 6th c., and negative – in the treatises from the 2nd, 4th, 6th and 7th century.

Secondly, despite some negative opinions on a peach, most authors discussed here – even those, who did not recommend eating its fruit – left some information on its medical uses. The number of therapies they provided is limited, and the range of illnesses treated with the use of the peach is limited too. The *persica* was mostly used in the cases of overheating the body and fever, but some authors recognized it as an analgetic for toothaches and headaches. Other treatments (for example: insatiable appetite and rabies) appeared in the analysed sources incidentally and only once. It is worth noticing that our sources inform us not only about the medical use of peach flesh, but also of its kernels and stones.

Thirdly, that last remark is in some way connected with the problem of the identification of the peach in the extant Greek and Latin sources. A detailed analysis of them leads us to conclude that ancient authors found it difficult to offer a precise terminology, and, as we assumed, often confused different species giving them one and the same name *persica/persiká*. Because of that one can find some relevant information in the sources, which in fact probably – as I came to believe after this analysis – referred to different plants. This supposition is based on the fact that some passages from ancient and Byzantine treatises contradict one another in their characteristics of the peach, which leads to confusion with regard to ensuring proper identification and maintaining precise terminology.

Lastly, the case of a peach is to some degree typical: there is nothing extraordinary about the fact that the fruit under study has its dietary characteristics and

medical uses described in the analysed sources. Ancient and Byzantine authors left descriptions about many species of cereals, vegetables (including lentils), fruit, and many animal products (from meat and offal to milk and butter). Some of them are long and detailed (i.e. those dealing with wheat, barley, figs, or cabbage). It is characteristic of the descriptions of a peach that they greatly varied since their dietary properties were differently presented by individual authors.

BIBLIOGRAPHY

Primary sources:

- A. Cornelii Celsi quae supersunt*. Ed. by F. Marx. 1915. Lipsiae and Berolini.
- Aetii Amideni libri medicinales I-VIII*. Ed. by A. Olivieri. 1935–1950. Lipsiae, Berolini; *Aetiou Amidēnou logos dekatos pemptos*. Ed. by S. Zervos. *Athena. Syngamma periodikon tes en Athenais Epistemonikes Hetaireias* 21 (1909): 7–138; *Aetiou logos dōdekatos*. Ed. by G. A. Kostomiris. 1892. Paris; *Aetiou Amidēnou logos enatos*. Ed. by S. Zervos. *Athena. Syngamma periodikon tes en Athenais Epistemonikes Hetaireias* 23 (1911): 273–290; *Oeuvres de Rufus d'Éphèse: Iatricorum liber XI*. Ed. by C. Daremberg and C. E. Ruelle. 1879. Paris.
- Alexander von Tralles*, vols. I-II: *Alexandri Tralliani De febribus*. Ed. by T. Puschmann. 1963. Amsterdam.
- Alexander von Tralles*, vols. I-II: *Alexandri Tralliani Therapeutica*. Ed. by T. Puschmann. 1963. Amsterdam.
- Anthimus. On the Observance of Foods. De observatione ciborum*. Ed. by M. Grant. 2007. Totnes and Blackawton.
- Apicius. A Critical Edition with an Introduction and an English Translation of the Latin Recipe Text Apicius*. Ed. by C. Grocock and S. Grainger. 2006. Blackawton and Totnes.
- Athenaei Naucraticae deipnosophistarum libri XV*, vols. I-III. Ed. by G. Kaibel. 1887–1890. Lipsiae and Berolini.
- Claudii Galeni opera omnia*, vol. VI: *Galeni De alimentorum facultatibus libri III*. Ed. by C. G. Kühn. 1823. Lipsiae.
- Claudii Galeni opera omnia*, vols. XII-XIII: *Galeni De compositione medicamentorum secundum locos libri X*. Ed. by C. G. Kühn. 1826–1827. Lipsiae.
- Claudii Galeni opera omnia*, vols. XI-XII: *Galeni De simplicium medicamentorum temperamentis ac facultatibus libri XI*. Ed. by C.G. Kühn. 1826–1827. Lipsiae.
- Edictum Diocletiani et Collegarum de pretiis rerum venalium*, vols. I-II. Ed. by M. Giaccherio. 1974. Genova.
- Galeni De sanitate tuenda, De alimentorum facultatibus, De bonis malisque sucis, De victu attenuante, De ptisana: Galeni De bonis malisque sucis*. Ed. by K. Koch, G. Helmreich, K. Kalbfleisch, and O. Hartlich. 1923. Leipzig and Berlin.
- Galeni De victu attenuante*. Ed. by K. Kalbfleisch. 1923. Leipzig and Berlin.
- Gargilius Martialis. Medicinæ ex holeribus et pomis*. Tr. by B. Maire. 2002. Paris.
- Geoponica sive Cassiani Bassi Scholastici de re rustica eclogae*. Ed. by H. Beckh. 1895. Lipsiae.
- Lucius Junius Moderatus Columella. On Agriculture*, vol. II. *Res rustica V-IX*. Tr. by E. S. Forster and E. H. Heffner. 1954. London and Cambridge, Mass.; vol. III. *Res rustica X-XII, On trees*. Tr. by E. S. Forster and E. H. Heffner. 1955. London and Cambridge, Mass.
- Oribasii Collectionum medicarum reliquiae*, vols. I-IV. Ed. by I. Raeder. 1928–1933. Lipsiae and Berolini.
- Oribasii collectionum medicarum reliquiae*, vol. IV: *Oribasii Collectionum medicarum eclogae medicamentorum*. Ed. by I. Raeder. 1933. Lipsiae and Berolini.

- Oribasii Synopsis ad Eustathium filium et libri ad Eunapium*, vol. VI, 3: *Oribasii Libri ad Eunapium*. Ed. by I. Raeder. 1964. Leipzig.
- Oribasii Synopsis ad Eustathium filium et libri ad Eunapium*, vol. VI, 3: *Oribasii Synopsis ad Eustathium filium*. Ed. by I. Raeder. 1964. Leipzig.
- Palladii Rutilii Tauri Aemiliani viri illustris opus agriculturae de veterinaria medicina de insitione*. Ed. by R. H. Rodgers. 1975. Leipzig.
- Paulus Aegineta*, vols. I-II. Ed. by I. L. Heiberg. 1921–1924. Lipsiae and Berolini.
- Pedanii Dioscuridis Anazarbei De materia medica libri V*, vols. I-III. Ed. by M. Wellmann. 1906–1914. Berolini.
- Pedanii Dioscuridis Anazarbei De materia medica libri V*, vol. III: *Peri haplon farmakon*. Ed. by M. Wellmann. 1914. Berolini.
- Pliny. *Natural history*, vols. I-X. Tr. H. Rackham, W. H. S. Jones and D. E. Eichholz. 1938–1963. Cambridge, Mass.
- Theophrastus. *Enquiry into plants and minor works on odours and weather signs*, vols. I–II. Ed. by A. Hort. 1961. London and Cambridge, Mass.

Secondary sources:

- Abramowiczówna 1962: Abramowiczówna, Z. 1962. *Słownik grecko-polski*, vol. III. 1962. Ed. by Z. Abramowiczówna. Warszawa: Państwowe Wydawnictwo Naukowe.
- André 1981: André, J. 1981. *L'alimentation et la cuisine a Rome*. Paris: Les Belles Lettres.
- André 1985: André, J. 1985. *Les noms de plantes dans la Rome antique*. Paris: Les Belles Lettres.
- Bergoldt 2008: Bergoldt, K. 2008. *Wellbeing. A Cultural History of Healthy Living*. Tr. by J. Dewhurst. Cambridge and Malden, Mass: Polity.
- Bode 1999: Bode, M. 1999. *Apicius. Anmerkungen zum römischen Kochbuch*. St. Katharinen: Scripta Mercaturae.
- Brandt 1927: Brandt, E. 1927. *Untersuchungen zum römischen Kochbuche: Versuch einer Lösung des Apicius-Frage*. Leipzig: Dietrich.
- de Candolle 1959: de Candolle, A. 1959. *Origin of Cultivated Plants*. New York: Hafner.
- Caugher 2016: Caugher, S. 2016. "Alexander and the peach tree." In *Ancient medicine* blog. Accessed July 13, 2018. <https://www.ancientmedicine.org/home/2016/7/14/alexander-and-the-peach-tree>.
- Dalby 1996: Dalby, A. 1996. "Alexander's culinary legacy." In *Cooks and Other People. Proceedings of the Oxford Symposium on Food and Cookery 1995*. Ed. by H. Walker, 81–93. Blackawton: Prospect Books.
- Dalby 2003: Dalby, A. 2003. *Food in Antiquity from A to Z*. London and New York: Routledge.
- Donahue 2016a: Donahue, J. F. 2016a. "Culinary and Medicinal Uses of Wine and Olive Oil." In *A Companion to Science, Technology, and Medicine in Ancient Greece and Rome*, vol. I. Ed. by G. L. Irby, 605–617. Malden, MA: Wiley.
- Donahue 2016b: Donahue, J. F. 2016b. "Nutrition." In *A Companion to Science, Technology, and Medicine in Ancient Greece and Rome*, vol. I. Ed. by G. L. Irby, 618–631. Malden, MA: Wiley.
- van der Eijk 2008: van der Eijk, P. J. 2008. "Therapeutics." In *The Cambridge Companion to Galen*. Ed. by R. J. Hankinson, 283–303. Cambridge: Cambridge University Press.
- Falkowski / Kostrowicki 2001: Falkowski, J., and J. Kostrowicki. 2001. *Geografia rolnictwa świata*. Warszawa: Państwowe Wydawnictwo Naukowe.
- Garcia Gaul 2000: Garcia Gaul, C. 2000. "Dieta hipocrática y prescripciones alimentarias de los pitagóricas." In *Dieta Mediterránea. Comidas y hábitos alimenticios en las culturas Mediterráneas*. Ed. by A. Pérez Jiménez, G. Cruz Andreotti, 43–68. Madrid: Ediciones clásicas.
- Hancock / Scorza / Lobos 2008: Hancock, J. F., Scorza, R. and G. A. Lobos. 2008. "Peaches." In *Temperate Fruit Crop Breeding: Germplasm to genomics*. Ed. by J. F. Hancock, 265–298. Dordrecht: Springer.

- Hardy / Totelin 2016: Hardy, G. and L. Totelin. 2016. *Ancient Botany*. London and New York: Routledge.
- Jones-Lewis 2016: Jones-Lewis, M. 2016. "Pharmacy." In *A Companion to Science, Technology, and Medicine in Ancient Greece and Rome*, vol. I. Ed. by G. L. Irby, 402–417. Malden, MA: Wiley.
- Jouana 2008: Jouanna, J. 2008. "La régime dans la médecine hippocratique: définition, grands problèmes, prolongements." In *Colloque. Pratiques et discours alimentaires en Méditerranée de l'antiquité à la renaissance. Actes*. Ed. by J. Leclant, A. Vauchez and M. Sartre, 53–72. Paris: Académie des inscriptions et belles lettres.
- Kokoszko / Jagusiak / Rzeźnicka 2014: Kokoszko, M., Jagusiak, K. and Z. Rzeźnicka. 2014. *Cereals of Antiquity and Early Byzantine Times. Wheat and Barley in Medical Sources (Second to Seventh Centuries AD)*. Łódź: Wydawnictwo Uniwersytetu Łódzkiego.
- Krynicka 2006–2007: Krynicka, T. 2006–2007. "Pseudo-Dioskoridesa wiedza o roślinach." *Roczniki Humanistyczne* 54–55: 225–240.
- Nutton 2005: Nutton, V. 2005. *Ancient Medicine*. London and New York: Routledge.
- Riddle 1980: Riddle, J. M. 1980 "Dioscorides." *Catalogus Translationum et Commentariorum* 4: 1–143.
- Riddle 1981: Riddle, J. M. 1981. "Pseudo-Dioscorides Ex Herbis Femininis and Early Mediaeval Medical Botany." *Journal of the History of Biology* 14: 43–81.
- Rzeźnicka / Kokoszko 2016: Rzeźnicka, Z. and M. Kokoszko. 2016. *Dietetyka i sztuka kulinarna antyku i wczesnego Bizancjum (II-VII w.)*, vol. III, *Ab ovo ad γάλα. Jajka, mleko i produkty mleczne w medycynie i w sztuce kulinarnej (I-VII w.)*. Łódź: Wydawnictwo Uniwersytetu Łódzkiego.
- Sadori *et al.* 2009: Sadori L. *et al.* 2009. "The Introduction and Diffusion of Peach in Ancient Italy." In *Plants and Culture: Seeds of the Cultural Heritage of Europe*. Ed. by J. P. Morel and A. M. Mercuri, 45–61. Bari: Edipuglia.
- Steier 1937: Steier, A. 1937. "Persica (Pfersich)." In *Real-Encyclopädie der classischen Altertumswissenschaft*, bd. XIX/1, col. 1022–1026. Stuttgart: Metzler.
- Trapp *et al.* 2011: *Lexikon zur byzantinische Gräzität besonders des 9–12. Jahrhunderts*, fasc. 7. 2011. Ed. by E. Trapp *et al.* Wien: Verlag der österreichischen Akademie der Wissenschaften.
- Vollmer 1920: Vollmer, M. 1920. *Studien zu dem römischen Kochbuche von Apicius*. München: Verlag der Bayerischen Akademie der Wissenschaften.
- Walther-Ast 1936: Walther-Ast, M. 1936. "Ärzte und Gastronomie." *Ciba Zeitschrift* 29: 978–984.
- White 1970: White, K. D. 1970. *Roman Farming*. London: Thames and Hudson.
- Wilkins / Hill 2006: Wilkins, J. and S. Hill. 2006. *Food in the Ancient World*. Malden and Oxford: Wiley-Blackwell.
- Wyszomirski 2012: Wyszomirski, S. 2012. "Wstęp." In *Apicjusz, O sztuce kulinarnej ksiąg dzieśięć*. Ed. by I. Mikołajczyk and S. Wyszomirski, 3–17. Toruń: Wydawnictwo Uniwersytetu Mikołaja Kopernika.
- Zheng / Crawford / Chen 2014: Zheng, Y., Crawford, G. W., and X. Chen. 2014. "Archaeological Evidence for Peach (*Prunus persica*) Cultivation and Domestication in China." *PLOS One* 9: 1–9.
- Zohary / Hopf 1993: Zohary, D. and M. Hopf. 1993. *Domestication of Plants in the Old World. The Origins and Spread of Cultivated Plants in West Asia, Europe and the Nile Valley*. Oxford: Clarendon.

A PEACH (*PRUNUS PERSICA* [L.] BATSCH) IN ANCIENT AND EARLY BYZANTINE MEDICINE ACCORDING TO SELECTED SOURCES (THE 1ST-7TH C. AD)

Summary

The peach fruit is an example of a wider phenomenon present in Graeco-Roman and Byzantine medicine relied in use on a number of foods in medicine. Basing on Greek and Latin treatises

written between the 1st and 7th c. AD by Dioscorides, Galen, Oribasius, Aetius of Amida, Paul of Aegina, Celsus, Pliny the Elder, Gargilius and Anthimus we can try to reconstruct the opinion about the dietary properties of the fruits of *Prunus persica* and their role in ancient and early Byzantine healing.

As for the first question, ancient writers did not develop a coherent opinion about it. Most of them (e.g. Galen, Oribasius, Aetius, Paul) considered peaches as among products which gave little nourishment to the body and rotted quickly in the stomach. Moreover, they regarded peaches as being of low nutritional value. That generally negative opinion contradicts Dioscorides's point of view. According to his words, peaches were, for example, good for stomach. A similar standpoint was presented by Anthimus and Alexander.

Peaches – without regard for the opinion about their dietary properties – were described as a foodstuff which can be used in some medical therapies. It was mostly used in the cases of overheating the body and fever, but some authors recognized it as an analgetic for toothaches and headaches. Other treatments (for example, insatiable appetite and rabies) appeared in the analysed treatises incidentally and only once. It is worth noticing that our sources inform us not only about the medical use of peach flesh, but also of its stones and kernels.