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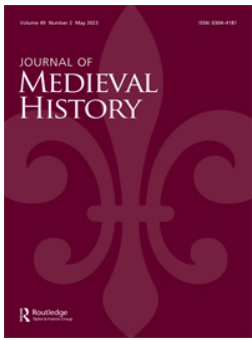
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## Trade, taste and ecology: honey in late medieval Europe

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## Trade, taste and ecology: honey in late medieval Europe

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### ABSTRACT

Often considered a ubiquitous and widely available sweetener, this article represents the first study of the honey trade across Europe in the later Middle Ages. Demand for honey, fuelled by diverse cultural and social factors, encouraged an international trade that by the late medieval period spanned the Mediterranean, western Atlantic, and the North and Baltic Seas, connecting peoples, traders and landscapes from Beirut to Novgorod. As a natural product whose make up and taste was influenced by the environments and ecology in which it was produced, the honeys available to European contemporaries could vary significantly in taste, colour and viscosity, influencing reputation, price and societal value. A study of the honey trade in late medieval Europe sheds new light on how cultural developments, social trends, economic practicalities and political events influenced the consumption of a widely available but diverse commodity.


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In a thirteenth-century sermon, the Flemish theologian Thomas of Cantimpré told a story of a Cistercian monk who, wishing to flee his monastery because of the food, was stopped by a vision of Christ offering him a piece of bread which, having been held against his bleeding body ‘was covered with the honey of the side of Christ’.<sup>1</sup> In making this

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<sup>1</sup> The following abbreviations are used in this paper: ACB: Barcelona, Arxiu de la Catedral de Barcelona; ACBE: Tortosa, Arxiu Comarcal del Baix Ebre; ACT: Toledo, Archivo de la Catedral de Toledo; ADBR: Marseilles, Archives départementales des Bouches-du-Rhône; ADM: Toledo, Archivo Ducal de Medinaceli; ADPO: Perpignan, Archives départementales des Pyrénées-Orientales; ADZ: Zaragoza, Archivo de la Diputación de Zaragoza; AGS: Simancas, Archivo General de Simancas; AMM: Marseilles, Archive Municipale de Marseille; AMP: Barcelona, Arxiu del Monestir de Pedralbes; ANTT: Lisbon, Arquivo Nacional da Torre do Tombo; ARV: Valencia, Arxiu del Regne de València; ASG: Genoa, Archivio di Stato di Genova; ASN: Naples, Archivio di Stato di Napoli; ASP: Prato, Archivio di Stato di Prato; ASR: Rome, Archivio di Stato di Roma; *Liv-, est, und kurländisches Urkundenbuch*: Friedrich Georg von Bunge and others, eds., *Liv-, est, und kurländisches Urkundenbuch nebst Regesten*. 17 vols. (Riga, Tallinn and Cologne: various publishers, 1853–2018).

Honey was recorded by both weight and volume across the study zone. To standardise the measurements for comparison across regions and time, medieval measures of weight and capacity have been converted into litres throughout at a rate of 1.4 kg = 1 litre, following the estimates and ratios in Helmut Jäger, ‘Pflanzliche Ressourcen in mittelalterlichen und frühneuzeitlichen Kulturlandschaften’, in *Frühe Nutzung pflanzlicher Ressourcen: internationale Symposium Duderstadt, 12.–15.5.1994*, eds. Renate Rolle and Frank M. Andraschko (Hamburg: Lit, 1999), 88–99 (92).

C.M. Stutvoet-Joanknecht, *Der Byen Boeck: de Middelnederlandse vertalingen van Bonum universale de apibus von Thomas van Cantimpré en hun achtergrond* (Amsterdam: VU Uitgeverij, 1990), 248–9.

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pointed remark about the Cistercians, Thomas, a Dominican friar, was drawing on a popular image in high and late medieval Christian theology regarding the body of Christ. In the previous century, Bernard of Clairvaux had written that Christ was 'honey in the mouth', an image made literal in eucharistic visions in which it was common for the Host to taste of honey.<sup>2</sup> In 1507, the Strasbourg preacher Johan Geyler von Keiserburg compared the 'sweet honey cake that one generally calls a *lebkuchen*' to the holy sacrament, likening the honey in the ingredients to the 'honey of mercy' shown by Christ himself.<sup>3</sup> Before the expansion of sugar cane production and the influx of large-scale sugar imports from the fifteenth century, honey was the only commonly accessible sweetener across much of Europe, available to lord and peasant alike.<sup>4</sup> Such imagery seems a simple means by which to convey the sweet nature of Christ, his mercy and redemption. Yet everyone considering these stories, picturing in their minds oozing, seeping, flowing honey, likely envisioned a different honey which reflected their own localities, tastes and social status. Honey was a highly complex product of the natural world, whose taste reflected the ecology and seasons of the regions in which it was produced, and which varied widely in taste, colour, viscosity and even sweetness.

Common across Europe in every region the European honeybee (*Apis mellifera*) inhabited, honey was a commodity of local and long-distance trade, connecting the delta of the Ebro with the port of Beirut, and the green expanses of the Douro to the Baltic and beyond. Although the growth of the sugar trade and its consequent effects on social organisation, technology and land use have been much studied, honey has not come under such scrutiny.<sup>5</sup> Yet honey was deeply rooted in the socio-ecological relations of the whole of Europe and the Mediterranean basin, its production intrinsic to many forms of land use and profoundly embedded in the cultures of many peoples. This study will examine the honey trade across Europe and the Mediterranean, noting regions of particular production and cultural differences in its uses and consumption. Although it was produced throughout Europe, only the honey of certain zones was sought after enough to merit long-distance trade, carrying cultural and economic values which could withstand the high cost of transport. Even that honey which was not palatable, luxurious or exotic enough to be widely traded across great distances could still carry in its own region high cultural values which made it a desirable commodity. This article will first describe the main zones of large-scale honey production, the Mediterranean and the hinterland of the Baltic; it will

<sup>2</sup> M. Rubin, *Corpus Christi: The Eucharist in Late Medieval Culture* (Cambridge: Cambridge University Press, 1991), 143; C. Walker Bynum, *Holy Feast and Holy Fast: The Religious Significance of Food to Medieval Women* (Berkeley, CA: University of California Press, 1987), 77; when the thirteenth-century beguine Marie d'Oignies received communion, it tasted to her of 'honey dripping in her mouth': J. de Vitry, *The Life of Marie d'Oignies*, trans. M.H. King and M. Marsolais (Toronto: Peregrina Publishing, 1993), 90. On a similar theme, at St Godric's burial it was said that the trees began to drip with honey: C.M. Woolgar, *The Senses in Late Medieval England* (New Haven, CT: Yale University Press, 2006), 118.

<sup>3</sup> Johannes Geiler von Kaisersberg, *Doctor Keiserspegrs Passion des Herren Jesu* (Strasbourg: Johannes Grüniger, 1514), unpaginated, sigl. VIII. Future work by Edmund Wareham will shed more light on the spiritual and cultural status of *Lebkuchen* in later medieval Germany. See <https://www.seh.ox.ac.uk/blog/the-hierarchy-of-gingerbread-gift-giving-at-christmas-in-medieval-convents>.

<sup>4</sup> On the cultivation of sugar in high and late medieval Europe, see the recent contribution of J. Bronstein, E.J. Stern and E. Yehuda, 'Franks, Locals and Sugar Cane: A Case Study of Cultural Interaction in the Latin Kingdom of Jerusalem', *Journal of Medieval History* 45 (2019): 316–30.

<sup>5</sup> Notable exceptions are D. Coulon, 'Quelques observations sur le négoce de Barcelone avec l'Égypte et la Syrie, à partir du commerce d'un article secondaire', *Estudis Històrics i Documents dels Arxius de Protocols* 17 (1999): 25–36, and idem, *Barcelone et le grand commerce d'Orient au Moyen Âge* (Madrid: Casa de Velázquez, 2004). See also M. Ouerfelli, *Le sucre: production, commercialisation et usages dans la Méditerranée médiévale* (Leiden: Brill, 2008).

then assess the southern trade in honey, which encompasses the Mediterranean and Atlantic Iberia; then follow the trade in honey across northern Europe and central Europe; finally, aspects of consumption, quality control and retailing will be considered. Together, it will be seen that a study of honey sheds new light on medieval tastes and provides a lens through which to consider intersections between culture, consumption and ecology in the later medieval period.

## Zones of honey production

The natural habitat of the European honeybee stretches from the Atlantic coasts of Iberia to the Ural Mountains, and from southern Scandinavia to North Africa. Everywhere in this region had some form of beekeeping adapted to social, ecological and physical environments, ranging from wicker hives (skeps) in England to the large bee ranches of central Castile, and from the log hives of western Germany and France to tree beekeeping in the vast forests east of the Elbe. Beekeeping often came into conflict with other forms of competing land use and jurisdictional rights, reflected in royal, seigneurial and civic ordinances, legislation, charters and disputes.<sup>6</sup> Although pursued across the whole of the continent, some regions were more conducive to beekeeping than others. Crucially, bees do not typically fly when the temperature outside the hive is below 10° C, so in northern Europe bees remained in their hives over prolonged, cold winters. Those which survived the season emerged into a late spring weakened by their long experience of winter. Especially cold or wet springs could also delay flowering of bee forage, and hinder pollen and nectar collection. In this zone, honey was collected once a year or once every other year from skeps and log hives, and with less frequency from tree hives. By contrast, the climate of southern Europe and along both coasts of the Mediterranean provided excellent conditions for beekeeping. Here, relatively short winters, drier conditions and extended periods of flowering meant that honey was so abundant it was routinely harvested twice a year, once in late spring and again in early autumn.<sup>7</sup> The different quantities and qualities of honey produced, as well as the different social organisation around which beekeeping took place led to very different types of consumption and trade across northern and southern Europe.

Honey from southern Europe was widely traded across the Mediterranean and northern Europe. Through analysis of taxation records, notarial registers, merchants' letters and handbooks, three main production zones stand out for particular attention for their role in the long-distance trade in honey: the area stretching from the lower Ebro in Catalonia through Castelló (Valencia) and inner Teruel (Aragon); Provence and the Languedoc in what is now southern France; and Portugal, through which by the fifteenth century Atlantic Morocco may also be added. The honey from these regions was widely traded and complemented the more localised trade of less sought-after

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<sup>6</sup> L. Sales i Favà, A. Sapoznik and M. Whelan, 'Beekeeping in Late Medieval Europe: A Survey of Its Ecological Settings and Social Impacts', *Anales de la Universidad de Alicante. Historia Medieval* 22 (2021): 275–96, especially 276, 279.

<sup>7</sup> G. Canova, 'Api e miele tra sapere empirico, tradizione e conoscenza scientifica nel mondo arabo-islamico', in *Scienza e Islam*, ed. G. Canova (Rome: Herder Editrice, 1999), 22. On the various types of beekeeping in medieval Europe, see E. Crane, *The World History of Beekeeping and Honey Hunting* (London: Duckworth, 1999). For beekeeping in its socio-legal context and aspects of peasant beekeeping, see Sales i Favà, Sapoznik and Whelan, 'Beekeeping in Late Medieval Europe'.

honeys from other regions. In this, the hinterland of the Baltic east of the Vistula demonstrates the existence of large honey-producing zones and in which most of the honey was consumed locally and external markets played little part. Elucidating the major trade routes of honey across Europe casts light on the historic environment of the zones of production, the cultural demand for honey in particular markets of consumption and provides insight into the changing patterns of long-distance trade in the later Middle Ages.

## The contours of the honey trade in the Mediterranean and Atlantic Iberia

The optimal environmental conditions in the Mediterranean, with its wide variety of flowering vegetation which bloomed throughout the year, meant that that honey could be harvested frequently and in great quantity, producing local surpluses and encouraging local and international trade.<sup>8</sup> Long-distance routes for the honey trade from the Crown of Aragon are well documented for the late fourteenth and early fifteenth centuries, from which it reached the eastern Mediterranean in large quantities between 1370 and 1440, before the decline of Catalan seafaring and growing sugar consumption.<sup>9</sup> Much of this locally produced honey was destined for the Levant, shipped in quantities large and small out of the main ports of Barcelona, Mallorca and Valencia, and secondary ports such as Collioure.<sup>10</sup> For example, in 1397 Jaume Serra of Perpignan sent a shipment from Collioure to Alexandria, which among other goods included just under 80 litres of honey – an amount which pales in comparison to the vessel that undertook the same journey five years earlier, carrying at least 6120 litres of honey owned by two different merchants.<sup>11</sup>

Serra was one of many merchants who sent honey from the north-western shores of the Mediterranean to the Levant. As shown in [Table 1](#), a sample of 163 notarial acts issued between 1342 and 1484 of honey shipments from the quays of Catalonia shows Alexandria to have been the main destination (52%) of this product, followed at some distance by Beirut (9%) and Genoa (7%).<sup>12</sup> These 163 contracts correspond to 94 different ships or convoys. There was great variety in the volumes of honey shipped, although the quantities tended to be large, with the contracts implying freights ranging from 50 to several hundred pottery *cànters* (holding, on average, 11 litres each).<sup>13</sup> Eighty per cent of the contracts assigned loads of more than

<sup>8</sup> It was environmental conditions that allowed southern Europe to dominate the export market in honey as early as the thirteenth century: L. Gilliodts-Van Severen, *Cartulaire de l'ancienne estaple de Bruges* (Bruges: Louis de Plancke, 1904), 20 (no. 14); K. Deforce, 'The Historical Use of *Ladanum*. Palynological Evidence from the 15th and 16th Century Cesspits in Northern Belgium', *Vegetation History and Archaeobotany*, 145 (2006): 145–8.

<sup>9</sup> J.M. Madurell Marimon, 'Contabilidad de una compañía mercantil trecentista barcelonesa (1334–1342)', *Anuario de Historia del Derecho Español*, 35 (1965): 421–525; Coulon, 'Quelques observations sur le négoce de Barcelone', 25–36.

<sup>10</sup> Shipped honey produced inland towards the Levant is met in a context of growing papal licences for commerce with the Mamluk sultanate and also converging political links thanks to the role played there by the Catalan consulates; on Catalan products including honey, see E. Ashtor, *Levant Trade in the Middle Ages* (Princeton, NJ: Princeton University Press, 1984), 151, 336.

<sup>11</sup> ADPO, Notariales, 1 B 250, unfoliated (1397); ADM, Arxiu Comtal d'Empúries, Microfilm 279 (Arxiu Municipal de Castelló d'Empúries, reg. 4741, ff. 95v–96r (30 September 1392)).

<sup>12</sup> It should be noted that 144 of these contracts fall in the time span 1374–1429.

<sup>13</sup> See L. Sales i Favà, 'A Ship Loaded with Honey': Assessing the Honey Trade in the Crown of Aragon, Fifteenth to Sixteenth centuries', *Journal of Medieval Iberian Studies* 14 (2022): 298–320.

**Table 1.** Numbers of contracts for shipments of honey from Catalonia, 1342–1484.

		Destination																		
		Alexandria	Beirut	Genoa	Rhodes	Crete	Sicily	Jaffa	Cyprus	Rumania/Levant	Provence	Barcelona	Roussillon	Anatolia	Languedoc	Damascus	Tunis	Minorca	Unidentified	Total
Origin	Barcelona	82	11	4	7	6	5	5	4	3	4		2	3	3	1	1			141
	Cotlliure	3	3							1		3								10
	Tortosa		1	5									2							8
	Catalonia			1															1	2
	Mataró																	1		1
	Cadaqués											1								1
Total		85	15	10	7	6	5	5	4	4	4	4	4	3	3	1	1	1	1	163

Sources: Barcelona, Archivo de la Corona de Aragón, Real Patrimoni, Batllia General de Catalunya, Lleuda de Cotlliure, v. 1309 (1412–15); ASG, Fondo Datini, 1171 – INS. IV, fasc. 1 ‘Quaderno di carriche’, and 1171 – INS. IV, fasc. 3 ‘Quaderno di valute’; ADPO, Notariales, 1 B 250; C. Carrère, *Barcelone, centre économique à l’époque des difficultés, 1380–1462* (Paris: La Haye, Mouton et Cie, 1967); M. Madurell Marimon and A. García Sanz, *Comandas comerciales barcelonesas de la baja edad media* (Barcelona: CSIC, 1972); C.G. Maubert, ‘Le mouvement du port de Barcelone pendant l’hiver 1357’, *Anuario de Estudios Medievales* 10 (1980): 659–88; D. Coulon, *Barcelone et le grand commerce d’Orient au Moyen Âge* (Madrid: Casa de Velázquez, 2004); R. Molina Campoy and A. Catafau Castellet, eds., *La nòtula del notari Bernat Frigola de Cotlliure, 1380–1381* (Barcelona: Fundació Noguera, 2011); G. Polonio Luque, ‘Exportación e importación en y desde el Mediterráneo en la Baja Edad Media. Mercaderes, mercancías y rutas comerciales (1349–1450)’ (Ph.D. diss., University of Barcelona, 2012); C. Díaz Martí, ‘Noves aportacions sobre el mercader barceloní Bertran Nicolau (c.1355–1421): riquesa, ordes monàstics i llegat testamentari’, *Acta Historica et Archaeologica Mediaevalia* 32 (2014): 525–78.

500 litres.<sup>14</sup> The merchants trading honey to the Levant were also active in transporting manufactured local commodities such as wool, cloth and kohl, along with agricultural produce like nuts, olive oil and rice.<sup>15</sup> In return, the funds derived from the honey sales were mostly invested in Eastern spices (pepper, ginger, cinnamon), drugs, lacquer and incense.<sup>16</sup>

The produce in these cargoes had generally been harvested in the mountainous strips around the Ebro that stretch between southern Catalonia, the province of Castelló in Valencia, and inner Teruel, in Aragon. In 1447 alone over 3330 litres of honey were transported from the Aragonese town of Beceit into Catalonia, where it was likely redistributed from the port of Tortosa.<sup>17</sup> In fact, the relationship between the inner areas along the Ebro and the city of Tortosa was strongly embedded in apiculture, as seen in the numerous notarial contracts signed between the city merchants and the beekeepers on-site, both Muslims and Christians. In 1462, one merchant of Tortosa sold to his own brother in Beceit 400 beehives made of wicker.<sup>18</sup> From Tortosa, the honey was either shipped directly or diverted to other ports of the Crown of Aragon.<sup>19</sup> In 1400 the merchant Pere Juliol received 93 *lliures* (*li.*) 10 sous (*s.*) in the currency of Barcelona to carry wool and honey from Aragon towards Barcelona 'by sea, land and river' ('per marem, terram et aquam dulcem'), the last probably a reference to the lower Ebro.<sup>20</sup>

Once purchased and sent off from the production sites, honey was carefully assessed and weighed, with merchants supervising all stages of the commercial circuit. The accounting ledger of Joan Gasull, a merchant from Barcelona, offers a glimpse into these operations for the years 1423 and 1454–8.<sup>21</sup> In the first year he received a total of 1500 litres of honey sent by sea from Miquel Aimeric, an intermediary from the northern Valencian town of Morella.<sup>22</sup> This trade cut across religious boundaries, and in Valencia especially Muslims were particularly associated with beekeeping: Aimeric purchased honey from local Muslims such as Abdalíz Audia, who sold him 176 litres to be sent to Barcelona, a market in which Aimeric made on average an 18.5% profit.<sup>23</sup>

<sup>14</sup> Out of 145 shipments from which the volume of honey can be calculated, 31 (20%) range from 29 to 500 litres, 20 (15.4%) from 501 to 1000 litres, 31 (20.8%) from 1001 to 2000 litres, 24 (16.9%) from 2001 to 3000 litres, and 39 (26.9%) from 3001 to 39,926 litres.

<sup>15</sup> By number of mentions: woollen cloth, 32; hazelnuts, 12; kohl (*alcofol*), 11; almonds, 7; saffron, 6; olive oil, 6; wool, 6; lavender (*gotzema*), 4; pine nuts, 4; rice, 4; hides, 4; hemp cloth, 4; mats, 2; fish, 2; coral, 1; salt, 1; figs, 1; raisins, 1; glue, 1; salted meat, 1; silver, 1; gold, 1; tiles (*violes*), 1.

<sup>16</sup> By number of mentions: pepper, 40; ginger, 30; lacquer, 22; incense, 12; cinnamon, 10; cloves, 7; slaves, 4; cotton, 4; sugar, 4; brasil, 4; indigo, 3; flax, 2; wine, 1; gold, 1; silver, 1; sponges, 1; wheat, 1; nutmeg, 1; *cassia fistula* 1.

<sup>17</sup> C. Laliena Corbera, J.A. Sesma Muñoz and C. Villanueva Morte, 'Transformaciones en la baja edad media. El Matarranya, de la crisis a la expansión', in *Matarranya, gentes y paisajes en la Edad Media*, ed. C. Laliena Corbera (Zaragoza: Gobierno de Aragón, 2016), 193.

<sup>18</sup> ACBE, Notariales Tortosa, Reg. 82, ff. 49v–50r (24 September 1462). We are grateful to Agustí Campos for this reference. On the other hand, the city of Zaragoza must have been largely provided also from honey harvested inside its own kingdom. The taxes registered in the city tolls assess an insignificant amount (37 litres) brought in between 25 August 1444 and the same day one year later, suggesting that most honey consumed was domestic production, and consequently not taxed. See ADZ, Diputación del Reino, Libro de la Collida de la tabla de Zaragoza, Reg. 27 (1444–5).

<sup>19</sup> Sales i Favà, 'Ship Loaded with Honey'.

<sup>20</sup> M. Madurell Marimon and A. García Sanz, *Comandas comerciales barcelonesas de la baja edad media* (Barcelona: CSIC, 1972), 295.

<sup>21</sup> See ACB, Procures: Llegats de llibres extravagants, Manual de comptes de Joan Gasull (1423–57). The accounting techniques in this ledger have been studied by J. Càceres Nevot, 'Un análisis de la contabilidad comercial del siglo XV: el libro de cuentas de Joan Gasull, mercader de Barcelona', *Studium: Revista de Humanidades* 17 (2011): 39–63.

<sup>22</sup> ACB, Procures: Llegats de llibres extravagants, Manual de comptes de Joan Gasull (1423–57), ff. 2r–5r.

<sup>23</sup> ACB, Procures: Llegats de llibres extravagants, Manual de comptes de Joan Gasull (1423–57), f. 2v (23 March 1423). In 1423 all honey was purchased by Gasull at a net 1.86 grammes of silver per litre, whilst he retailed it, on average, at 2.21 grammes per litre. Five of his six local purchasers were nuns of an unknown congregation.

By the 1450s the market had changed dramatically, not only in terms of the amount of honey bought by Gasull between 1454 and 1458 (43.4, 601.6, 167.6, 255.1 and 69 litres respectively), but also of its origin. For Gasull, the Ebro had been displaced by areas of closer proximity, such as the Penedès region in Catalonia, from which it was generally brought overland, a reduction in international sea transport.<sup>24</sup> From the latter period it is also clear that honey had become marginal in this merchant's business, which had become more focused on the trade of Sicilian and Sardinian wheat, semolina, noodles (*fideus*), rice from Valencia or the Catalan region of the Empordà, and olive oil along with other secondary commodities such as soap, Valencian raisins and figs, and Aragonese butter.

The honey bought by Joan Gasull in the Ebro region and taken into Barcelona came in wineskins (*odres*), whilst that purchased nearby at a later date was kept in ceramic jugs (*cànters*).<sup>25</sup> The tare weight and the extra charges had to be determined before assessing the net profit. Along with the transportation costs and the so-called *tara del quint* (likely, one of the rights of measuring – *mesuratges* – the product in the royal weighbridges), the weight of the container and its lid, and the sealing burlap, were all accounted for.<sup>26</sup> In one transaction of 1455 the esparto mats used in the honey mills when squeezing the combs (*senalles*) also had to be weighed because they had been kept inside the jars.<sup>27</sup>

Although the Catalan trade is well documented, the whole of the Mediterranean littoral between Alicante and Marseille produced honey to meet demand in the Levant. In this, Languedoc and its central ports of Aigues-Mortes, Agde, Narbonne and Grussen performed a key role.<sup>28</sup> Aspects of this trade are well attested through the unusual survival of a ledger of the Narbonne merchant Jacme Olivier for the years 1381–90, who shipped honey to Alexandria annually on vessels departing from Leucate, Montpellier, Aigues-Mortes and even Marseilles.<sup>29</sup> This honey had been purchased through several intermediaries from a number of villages of the Corbières

On the importance of beekeeping for local Muslim communities, see J. Aparici Martí, 'De la apicultura a la obtenció de la cera. Las "otras manufacturas" medievales de Segorbe y Castelló', *Millars. Espai i Història*, 21 (1988): 31–50.

<sup>24</sup> ACB, Procures: Llegats de llibres extravagants, Manual de comptes de Joan Gasull (1423–57), ff. 43r–141r. This is not to say that honey from the Penedès was not a product of long-distance trade – the company of Pere de Mitjavila shipped over 2000 litres of honey from Vilafranca to Beirut and Alexandria between 1334 and 1342. See Coulon, *Barcelone et le grand commerce d'Orient*, 407.

<sup>25</sup> Such as the 'gera envernissada melera' assessed in an inventory of a notary from Tortosa by 1492. See ACBE, Notarials Tortosa, Reg. 88, ff. 77v, 79v (1492). In the late sixteenth century, honey for the Hospital of Santa Cruz in Toledo was also transported both in wineskins and ceramic containers. See ACT, Hospital de la Santa Cruz, Reg. 621, f. 42r (1582).

<sup>26</sup> ACB, Procures: Llegats de llibres extravagants, Manual de comptes de Joan Gasull (1423–57), ff. 2v, 44v. Local ordinances prescribed the use of burlap. See J.M. Vila i Carabasa, 'Política municipal sobre la producció de ceràmica i l'organització corporativa dels terrissers a Barcelona, segles XIV–XVI', *Arqueologia Medieval: Revista Catalana d'Arqueologia Medieval* 1 (2005): 104–26.

<sup>27</sup> ACB, Procures: Llegats de llibres extravagants, Manual de comptes de Joan Gasull (1423–57), f. 44v.

<sup>28</sup> M. del Treppo, *Els mercaders catalans i l'expansió de la corona catalano-aragonesa al segle XV* (Barcelona: Curial, 1976), 41; B. Doumerc, 'Les marchands du Midi à Alexandrie au XVe siècle', *Annales du Midi*, 97/171 (1985): 269–84; idem, 'Documents commerciaux en langue d'oc enregistrés à Alexandrie par les notaires vénitiens (fin XIVE–début XVe siècle)', *Annales du Midi* 99/178 (1987): 227–44; G. Larguier, *Le drap et le grain en Languedoc* (Perpignan: Presses universitaires de Perpignan, 1999), 123–25; B. Doumerc, 'Montpelliérains et vénitiens sur les routes de l'Orient: (XIVE–XVe siècles)', in *Les ports et la navigation en Méditerranée au Moyen Âge*, eds. G. Fabre, D. Le Blévec and D. Menjot (Montpellier: Manuscrit, 2009), 45–62; H. Amouric, L. Vallauri, J.-L. Vayssettes, 'Languedoc, terre de grands contenants', in *Jarres et grands contenants entre Moyen Âge et Époque Moderne* (Aix-en-Provence: Lucie, 2016), 227–8.

<sup>29</sup> A. Blanc, ed., *Le livre de comptes de Jacme Olivier, marchand narbonnais du XIVe siècle* (Paris: Alphonse Picard, 1899); J. Courrent, 'Le miel dans le livre de comptes de Jacme Olivier, marchand narbonnais du XIVe s.', *Bulletin de la Commission Archéologique de Narbonne* 52 (2013): 193–200.

ridge and the Minervois, regions of extensive *garrigue* peppered by smaller plots of vines.<sup>30</sup>

Much of the honey for maritime trade was produced within 30 km of the coastline in the Languedoc, from which it was shipped off from nearby ports or sent to Barcelona where it was combined with larger cargoes of Iberian produce along with other local commodities.<sup>31</sup> One 'nave di Neharbone' sailed regularly from Barcelona to Genoa in the 1390s, carrying honey that was likely harvested by beekeepers in the Languedoc.<sup>32</sup> By the late fourteenth century this product had become so marketable that mercantile co-operation across the political boundary between the kingdom of France and the Crown of Aragon probably meant that the honey of Narbonne was diluted with that from Iberia by the time it reached the eastern markets.

From the western Mediterranean, honey harvested in Provence along with that from Catalonia was the most renowned. According to lists assessing the availability of commodities and their prices (*valute*) issued by the Florentine Datini correspondents across the Mediterranean, only honey from these two regions was systematically found in the Italian and north African markets.<sup>33</sup> The distinctive feature of Provençal honey was that it was largely harvested in the forested region of Brignoles on the Maures ridge, where the prevalence of chestnut trees yielded a darker, denser product which was recognised for its clarity.<sup>34</sup> This honey was processed in Marseilles before being shipped to the Levant and Italy. In 1433 the grocer Lancelot de Villanova of Marseilles shipped 2182 litres of local honey to the Levant in exchange for pepper and ginger.<sup>35</sup> Fifteen years later, Guilhelm de Clar, on behalf of his *socio* Pèire Guiram agreed to take a similar volume of honey (c.2240 litres) to Naples from Marseilles.<sup>36</sup> To judge from a temporary toll collected in Genoa in 1376–7, the honey trade of Provence was heavily reliant on Ligurian mercantile networks.<sup>37</sup>

<sup>30</sup> Courrent, 'Le miel dans le livre de comptes de Jacme Olivier', 194–5. The produce was transported on mules in wooden *caratels*. From these, the produce was emptied into ceramic jars, but sometimes also into other *caratels* or barrels that were internally covered by a piece of cotton, tied with wicker, and finally plugged by a cork lid: Blanc ed., *Le livre de comptes de Jacme Olivier*, ff. 81v, 98r.

<sup>31</sup> See for instance the cargo of honey from Narbonne that was sent to Alexandria in 1413 in the ship of Joan Pi, a captain from Collioure: G. Polonio Luque, 'Exportación e importación en y desde el Mediterráneo en la Baja Edad Media. Mercaderes, mercancías y rutas comerciales (1349–1450)' (Ph.D. diss, University of Barcelona, 2012), 434, 437.

<sup>32</sup> ASP, Fondo Datini, 1171 – INS. IV, fasc. 3 'Quaderno di valute' (6 February 1397; 25 June 1397). The trade could also occur the other way round. In 1391 a *barca* exclusively carrying honey (1330 litres) sailed from Barcelona to Gruissan, from where it was likely integrated in a larger cargo going to the Levant. See ADM, Arxiu Comtal d'Empúries, Microfilm 279 (Arxiu Municipal de Castelló d'Empúries, Reg. 4740, unfoliated (3 September 1391)).

<sup>33</sup> See, for instance, Fez in 1396, Alexandria in 1397 and Pisa in 1400: ASP, Fondo Datini, 1171, published by F. Melis, ed., *Documenti per la storia economica dei secoli XIII–XVI* (Florence: Olschki, 1972), 310; 1171 – INS. IV, fasc. 3 'Quaderno di valute'; and 1171 – INS. I/I, doc. 9301354.

<sup>34</sup> L. Boudinot, 'L'apiculture à La Garde-Freinet et dans le massif des Maures de la fin du XVI<sup>e</sup> siècle au milieu du XVIII<sup>e</sup> siècle', *Freinet-Pays des Maures* 9 (2010–11): 31–86. The honey was subsequently diverted toward Marseilles, where a set of manufacturing facilities (mills) and fiscal policies (*redditum oley et melle*) had been put in place. For the latter, see AMM, BB 24, Délibérations municipales, f. 214 (2 July 1365). For the former, Notariales, 351 E 127, f. 69r (16 October 1386).

<sup>35</sup> G. Rambert, *Histoire du commerce de Marseille*, vol. 2 (Marseilles: Chambre de Commerce, 1951), 776.

<sup>36</sup> ADBR, Notariales, 351 E 323, unfoliated (21 September 1449).

<sup>37</sup> J. Day, *Les douanes de Gênes, 1376–1377* (Paris: SEVPEN, 1963). Corsican honey was also found in the Ligurian markets: M.P. Rota, 'L'apparato portuale della Corsica Genovese: una struttura in movimento', in *Il sistema portuale della Repubblica di Genova: profili organizzativi e politica gestionale, secc. XII–XVIII*, eds. G. Doria and P. Massa Piergiovanni (Genoa: Società Ligure di Storia Patria, 1988), 297–327.

Catalan merchants were joined by Genoese and Florentines in their trade of honey from the north-west Mediterranean to the Levant and Italy. The Datini regularly shipped it from this region, sometimes on specially dedicated ships, such as the 'barca del mele', which sailed from Peníscola (Valencia) to Italy carrying 9000 litres of honey in June 1397.<sup>38</sup> Earlier that year, following several claims made in winter and allegations in response that it was not the right season of the year for honey, some 3000 litres were finally sent in March from Valencia toward Liguria.<sup>39</sup> To honey from the western Mediterranean the Genoese also added that from the Black Sea, traded through their colonies there, from which they also transported much wax.<sup>40</sup> In 1360 and 1361, in Chilia, 4000 litres of Bulgarian honey were purchased by two merchants, Armenian and Ligurian, while that from Crimea was occasionally re-exported from Famagusta in Cyprus.<sup>41</sup> The advance of the Ottomans in the region in the late fourteenth century was to put an end to these routes, and to intensify Genoese involvement in the Mediterranean trade.

The Crown of Aragon continued to supply Genoa with honey throughout the fifteenth century. In 1453–4, 13,216 litres were recorded in the tax registers known as the *Dricтус Catalanorum*.<sup>42</sup> A decade later, Genoese merchants were still in Valencia shipping rice and honey back home, and Genoa also acted as an entrepôt for honey, from where it was reshipped to the Levant (partially filling the vacuum left by the Catalans), England, Flanders, southern Italy, and perhaps also overland to the fairs of northern Italy and France.<sup>43</sup> Roman river tolls further highlight the role of the Genoese in this trade.<sup>44</sup> Between August 1446 and February 1447 an estimated 2351 litres were disembarked in Rome by 11 different ships, of which at least five had sailed from the

<sup>38</sup> A. Orlandi, ed., *Mercaderies i diners: la correspondència datiniana entre València i Mallorca (1395–1398)* (València: Universitat de València, 2008), 207 (doc. 57, 16 May 1397); 209–10 (doc. 58, 27 May 1397); 213 (doc. 60, 13 June 1397). That same year, the Datini also sent Valencian honey to Gaeta (Lazio) and Flanders: 196 (doc. 51, 11 April 1397); 198 (doc. 52, 26 April 1397); 199 (doc. 53, 29 April 1397); 402 (doc. 161, 8 January 1397); 445 (doc. 174, 27 March 1397). The presence of these boats indicates a specialised trade, which existed alongside the more common piecemeal trade in which honey was one of a number of commodities loaded onto ships.

<sup>39</sup> Orlandi, ed., *Mercaderies i diners*, 402 (doc. 161, 8 January 1397); 445 (doc. 174, 27 March 1397).

<sup>40</sup> For example, Pegolotti lists honey and wax among the goods traded from Tana in the mid fourteenth century: F.B. Pegolotti, *La pratica della mercatura*, ed. A. Evans (Cambridge, MA: Medieval Academy of America, 1936), 24.

<sup>41</sup> G. Pistarino, *Notai genovesi in oltremare: atti rogati a Chilia da Antonio di Ponzo (1360–61)* (Genoa: Università de Genova, Istituto di medievistica, 1971), ff. 77r–v, 81r, 90v–91r, 91v, 93r, 94r. See also V.T. Gjuzelev, 'Nuovi documenti sull'attività commerciale dei Genovesi nelle terre bulgare nel secolo XIV', in *Genova e la Bulgaria nel medioevo*, ed. G. Pistarino (Genoa: Università de Genova, Istituto di medievistica, 1984), 407; G.G. Musso, *Navigazione e commercio genovese con il Levante nei documenti dell'Archivio di Stato di Genova (Secc. XIV–XV)* (Rome: Ministero per i beni culturali e ambientali, 1975), 132–3. Some notes about beekeeping by households in sixteenth-century Cyprus are provided by J. Richard, 'Chypre et ses ressources agricoles au Moyen Âge', *Byzantinische Forschungen* 9 (1976): 331–54. Honey from Cyprus is also mentioned by Pegolotti: Pegolotti, *La pratica*, 77.

<sup>42</sup> S.M. Zunino and N. Dassori, eds., *Genova e Spagna nel XV secolo. Il Dricтус Catalanorum (1421, 1453, 1454)* (Genoa: Fratelli Bozzi, 1970).

<sup>43</sup> ARV, Mestre Racional, Reg. 10,260, ff. 21r–24r (5 April 1464). For the shipping of honey to Flanders and England by Genoese merchants see, respectively, L. Liagre-De Sturler, *Les relations commerciales entre Gènes, la Belgique et l'Outremont, d'après les archives notariales génoises, 1320–1400*, vol. 2 (Brussels: Institut historique belge de Rome, 1969), doc. 578 (1389), and also Kew, The National Archives, Exchequer, E 122/184/3, file 5, no. 29 (1427), published by A. Nicolini, 'Apodixie di scribi genovesi in Inghilterra nel Quattrocento', in *Studi in memoria di Giorgio Costamagna*, ed. D. Punuch (Genoa: Società ligure di storia patria, 2003), 689–99. For the route Provence–Genoa and from there to Sicily, see ASG, Antica Finanza, no. 118 (Ambasciate Anglie introitus et exitus), ff. 140r, 145r (1376). For Genoa–Alexandria, see ASG, Compere e Mutui, no. 159 (Ambasciate Anglie introitus et exitus), f. 208v (1377). Genoa played a similar role in the sugar market according to A. Fábregas García, *Producción y comercio de azúcar en el Mediterráneo medieval: el ejemplo del Reino de Granada* (Granada: Universidad de Granada, 2000), 239–41.

<sup>44</sup> For these tolls, see L. Palermo, *Il porto di Roma nel XIV e XV secolo: strutture socio-economiche e statuti* (Rome: Istituto di studi romani, 1979), 201–5.

Genoese territories in August and December.<sup>45</sup> The content of one shipment was identified as ‘miel negro’, likely referring to produce from Provence.<sup>46</sup> The volume of these shipments could be substantial: one *sagetia* captained by a certain Niccoloso Jordano brought what seems to be a considerable amount inside different containers (one *botte*, 5 barrils, 1 *baille*, 8 *brocche*, 4 small jugs), along with cloth from the Languedoc, perhaps an indication of its origin.<sup>47</sup>

Both Mediterranean and Tyrrhenian Italy were chiefly provided with honey produced further west, although of course locals also consumed their own domestic produce, such as the *mele nostrato* of Pisa, which was particularly appreciated.<sup>48</sup> This west-to-east supply persisted even after the decline in Catalan seaborne trade to Alexandria and Beirut, and contrasts with that of Adriatic honey, which did not reach western ports or the markets of Pisa and Genoa, but was shipped by the Venetians into Alexandria to meet the great demand in the Levant: for example, honey valued at 2400 ducats was imported by a Venetian company into Alexandria at the beginning of the fifteenth century.<sup>49</sup>

In the Levant this imported honey was a sought after commodity intended largely for elite consumption, and large amounts were shipped from across the Mediterranean into the ports of Damascus, Beirut and, above all, Alexandria.<sup>50</sup> The Egyptian markets were especially voracious: in February 1405, two ships left from Barcelona for Alexandria and Rhodes carrying 1301 *quintals* of honey plus another 342 *gerres* and 29 *cànters* – possibly as much as 48,000 litres in total.<sup>51</sup> This trade from Catalonia had grown over the later part of the fourteenth century, and the importance of produce from the north-western Mediterranean in the Levant is seen in the numerous types of honey from this region noted by the Italian merchant Giovanni di Antonia da Uzzano in the mid fifteenth century: he recorded honey from Mequinensa (now in the province of

<sup>45</sup> Porto Maurizio, Chiavari and Levanto. Still another cargo of honey was sent from Tropea, in Calabria. See ASR, Fondo Camerale, Dogana di Ripa et Ripetta, Seconda Serie, Introitus et exitus, Reg. 131, ff. 83r–145r.

<sup>46</sup> ASR, Fondo Camerale, Dogana di Ripa et Ripetta, Seconda Serie, Introitus et exitus, Reg. 131, f. 122v. Most honey, harvested inland, would have entered the city by land routes. Only in November 1467 a total of 2431 litres were registered in the land tolls. See I. Ait, ‘La dogana di San Eustachio nel XV secolo’, in *Aspetti della vita economica e culturale a Roma nel Quattrocento*, eds. A. Esch and others (Rome: Istituto nazionale di studi romani, 1981), 120. Some notes about beekeeping in late medieval Roman territory are given in I. Ait, *Tra scienza e mercato: gli speciali a Roma nel tardo medioevo* (Rome: Istituto nazionale di studi romani, 1996), 87–8.

<sup>47</sup> *Porta in sua sagetia*: ASR, Fondo Camerale, Dogana di Ripa et Ripetta, Seconda Serie, Introitus et exitus, Reg. 147, f. 101v (12 February 1481). Neither the origins nor weights were noted in later toll registers. By 1480, however, the amount of honey arriving in Rome by sea had diminished, in parallel with an evident increase in the freight of sugar.

<sup>48</sup> ASP, Fondo Datini, 1171 – INS. I/I, doc. 9301345.

<sup>49</sup> By the late fourteenth century, Venice consumed honey from Romagna and Lombardy, and at the same time contributed in supplying the Levantine demand: ASP, Fondo Datini, 1171 – INS. I/I, doc. 9301393. See also S.F. Fabianec, *Développement commercial de Split et Zadar aux XVe–XVIe siècles* (Paris: Éditions universitaires européennes, 2011), 447–50. The Datinian *valute* only identifies, once, honey from Lombardy being sold in Avignon (1401). See ASP, Fondo Datini, 1171 – INS. I, [1/I], doc. 9301227. In 1386, honey of the *Cholfo* (i.e. from Split, Ragusa or Apulia and carried by the Venetians and Anconians) was found competing in Alexandria with a diversity of produce brought from Greece (Koroni, Candia and the Aegean islands): ASP, Fondo Datini, 1171 – INS. I, [1/I], doc. 9301203 (25 July 1386). See also E. Ashtor, *Histoire des prix et des salaires dans l’Orient médiéval* (Paris: SEVPEN, 1969), 268–9; idem, *Levant Trade*, 25, 126, 161, 360.

<sup>50</sup> Ashtor, *Levant Trade*, 60. Honey was especially highly taxed in Damascus: Doulon, *Barcelone et le grand commerce d’Orient*, 407; A. Levanoni, ‘Food and Cooking during the Mamluk Era: Social and Political Implications’, *Mamluk Studies Review* 9 (2005): 217–18. This imported honey was consumed alongside domestic produce: in the fifteenth century Ibn Sūdūn composed a poem envisioning funeral rites involving many sweet foods, including that he be buried with ‘little bananas together with Egyptian honey’: P. Lewicka, *Food and Foodways of Medieval Cairenes* (Leiden: Brill, 2011), 314.

<sup>51</sup> Coulon, *Barcelone et le grand commerce d’Orient*, 409–10. One quintal is 42.6 kg, conversion to litres as above, n. 1.)

Zaragoza), Catalonia and Narbonne. Honey from the former region was highly prized: in the late fourteenth century it was the most expensive in Damascus, and was priced higher than that from nearby regions in Alexandria a few years later.<sup>52</sup> Levantine demand was not merely in pursuit of sweetness: Alexandria, into which large quantities of honey were imported, was a great exporter of sugar. Rather, the Levantine honey trade was predicated in large part on the particular place of honey in medieval Islam. Not only was the Prophet Muhammad known to have enjoyed sweet foods, but honey was also seen to have special healing powers. Famously, the ninth-century collection of hadith compiled by Ibn Majah, for example, records ‘You should take the two that bring healing, honey and the Qur’an’ and that ‘Healing is in three things: a drink of honey, the glass of the cupper and cauterising with fire, but I forbid my nation to use cauterisation.’<sup>53</sup> Sweet cakes, biscuits and fritters of honey were particularly popular during celebrations of the mawlid, the Nativity of the Prophet.<sup>54</sup> The religious significance of honey translated into high cultural importance.<sup>55</sup>

The role of honey within Muslim societies may also explain why it was not exported from the Maghreb into Europe, despite the shipments of enormous quantities of wax. The presence of especially fragrant, flavourful honeys from this region was noted in the eleventh century by al-Bakri, who wrote that the region between Kairouan and Djeloula (Tunisia) was abundant with jasmine, which ‘supplies the bees which go there to gather honey, and whose excellence is praised in proverb’.<sup>56</sup> The honey of Sous (Morocco) was said to be of especially high quality, denoted by its dark colour and the ease with which it dissolved in boiling water; and that from Barca (Libya) was exported to Egypt.<sup>57</sup> In Egypt, al-Maqrizi (1364–1442) noted that ‘the best honey smells sweet, tastes bitter, and is stimulating and sticky’ – a preference which may also explain the market for chestnut honey noted above.<sup>58</sup> These Maghrebi honeys, however, appear to have been largely unknown in Europe for much of the Middle Ages, despite intense commercial contact and a brisk trade in bee products between the two regions.<sup>59</sup> The divergence in the trading routes of Maghrebi wax and honey further underscores the importance of honey within Muslim contexts in the later Middle Ages, although this would be altered by Portuguese expansion into north Africa through which the quality of Moroccan honey came to be known.

<sup>52</sup> Coulon, *Barcelone et le grand commerce d’Orient*, 410, 412.

<sup>53</sup> Mājah M.Y. Ibn and others, *English Translation of Sunan Ibn Mājah* (Riyadh: Darussalam, 2007), 413 (vol. 4, book 31, hadith 3450); 414 (vol. 4, book 31, hadith 3452); 435 (vol. 4, book 31, hadith 3491). See also Muhammad M. Khan, *The Translation of the Meanings of Sahih Al-Bukhari: Arabic–English* (Riyadh: Darussalam, 1997), 326–7 (vol. 7, book 76, chapter 3, hadith 5680 and 5681).

<sup>54</sup> A. Sapoznik, ‘Bees in the Medieval Maghreb: Wax, Honey and Cross-Cultural Trade in the Western Mediterranean’, *Medieval Encounters* 27 (2021): 434–55.

<sup>55</sup> Sweetness more generally embedded in Levantine food preferences, and honey, sugar and molasses were ubiquitous in both sweet and savoury dishes: Lewicka, *Food and Foodways*. The different Galenic qualities of honey and sugar also encouraged different uses, although both honey and sugar had medicinal uses (304). According to al-Maqrizi (d. 1442), an epidemic of high fevers in 1295 led to rising prices of ‘sugar, honey, and other products needed by the sick’ – although it should also be noted that this was in the context of a ‘mega drought’ which lasted from 1294/5 to 1297/8 which caused widespread destruction of crops: S.K. Raphael, *Climate and Political Climate: Environmental Disasters in the Medieval Levant* (Leiden: Brill, 2013), 90–1

<sup>56</sup> Al-Bakri, ‘Description de l’Afrique septentrionale’, trans. W.M. de Slane, *Journal Asiatique* 11 (1858): 79.

<sup>57</sup> Al-Bakri, ‘Description de l’Afrique septentrionale’, 358, 12 respectively.

<sup>58</sup> T. Sato, *Sugar in the Social Life of Medieval Islam* (Leiden: Brill, 2015), 54.

<sup>59</sup> Rambert, *Histoire du commerce de Marseille*, vol. 2: 201.

**Table 2.** Price of honey in six selected cities in the Crown of Aragon, France and Italy. For comparison, prices have been converted to weights of silver in grammes per litre.

	Barcelona	Valencia	Mallorca	Avignon	Pisa	Naples
1381–90	2.7	1.8		2.1	2.2	
1391–1400	3.2		1.7	3.1	2.6	
1401–10	3.7			1.6		
1431–40	2.4					2
1441–50						1.8
1451–60	1.7					
1461–70	2.4					
1481–90	2.0		2.9			2.3
1491–1500	1.8		2.1			2.1
1501–10	1.4	1.0				
1511–20	1.5	1.0				
1521–30	1.6	1.0				
1531–40	2.1	1.1				
1541–50	2.3	1.2				
1551–60	3.0	1.7				
1561–70	3.6	2.0				

Sources (by city): Barcelona: ASP, Fondo Datini, 1171 – INS. 1, doc. 9301251; doc. 9301252; doc. 9301254; doc. 9301256; AMP, 2203 (1409–10); 68 (1437–8); ACB, Hospital dels Mesells, Reg. 1381–2; 1383–5; 1385–6; ACB, Comptes de la Lleuda de Mediona, Reg. 1434, 1463, 1465, 1486–93, 1495, 1502, 1507, 1510, 1511, 1517, 1522, 1526, 1530–1, 1534, 1538–9, 1545, 1547, 1555, 1562, 1565–6, 1572; ACB, Procures: Llegats de llibres extravagants, Manual de comptes de Joan Gassull (1423–57). Valencia: ASP, Fondo Datini, 1171 –INS. 1/I, doc. 9301362; doc. 9301364; E. Hamilton, *Money, Prices and Wages in Valencia, Aragon and Navarre, 1350–1500* (Philadelphia, PA: Porcupine Press, 1997). Mallorca: ASP, Fondo Datini, 1171 – INS. 1, [1/I], doc. 9301316; doc. 9301317; O. Vaquer, *El comerç marítim de Mallorca, 1448–1531* (Mallorca: El Tall, 2001). Avignon: ASG, Fondo Datini, 1171 –INS. 1, [1/I], doc. 9301221, doc. 9301222, doc. 3301227, doc. 3301228. Pisa: ASP, Fondo Datini, 1171 – INS. 1/I, doc. 9301345; doc. 9301348; doc. 9301351. Naples: ASN, Corporazioni Religiose Soppresses, San Pietro e Sebastiano, 1395/I (1433–96).

Change in trading routes of honey also came with the contraction of trade from Iberia into the Levant in the fifteenth century, clearly visible in the price trends of Barcelona and, perhaps, Avignon (Table 2). Declining prices in the fifteenth century correspond to a period in which the trade in this commodity was reoriented towards the local markets or, at best, flowed between Iberia and the Italian peninsula.

Similarities in markets between regions may indicate that the market for honey was better integrated than has been previously considered. The price trends for the kingdom of Valencia are noteworthy, since they show a pattern of its own, with prices that were substantially cheaper than Barcelona. Valencia was a region rich in apiculture, in which there was a steady domestic coastal trade in honey towards its own urban centres. However, in the fifteenth and sixteenth centuries the region did not engage in the international trade of this product and there was probably no impact on its prices from foreign demand.<sup>60</sup> The decline of Catalan trade in the eastern Mediterranean meant that over the fifteenth century the Venetians became even more important players in the Levantine trade, importing honey from their colonies such as Crete into Alexandria.<sup>61</sup>

Long-distance trade in honey was not confined to the Mediterranean, and the honey from Atlantic Iberia was well known and highly sought after in northern Europe.<sup>62</sup>

<sup>60</sup> Sales i Favà, 'Ship Loaded with Honey'.

<sup>61</sup> Ashtor noted that 'the import of honey was by no means an insignificant sector of [Venetian–Alexandrian] trade': Ashtor, *Levant Trade*, 161, 364.

<sup>62</sup> Some evidence of Portuguese honey found on English, Flemish and even Hanseatic quays is provided by T. Hirsch, *Danzigs Handels- und Gewerbsgeschichte: unter der Herrschaft des deutschen Ordens* (Leipzig: S. Hirzel, 1858), 85;

A succession of charters and commercial regulations from the kingdom of Portugal demonstrate the existence of an intense inland trade in honey and wax.<sup>63</sup> In 1336, King Afonso IV granted the *portagem* toll of Lisbon of honey, oil, wax, haberdashery and hides to three investors in exchange for 25,700 *libras* for four years.<sup>64</sup> The desirability of Portuguese honey is further demonstrated by the restrictions imposed on English, Genoese and Piacenzan merchants in 1391. They were banned from shipping it, along with wax and cloth, out of the country from any ports except Lisbon, and by ordinances in 1446 which temporarily banned the exports of honey among other products, to Muslim lands.<sup>65</sup> The reputation of this product and the large incomes it yielded fostered strict regulation of the manufacturing processes and its commerce. In 1459, for example, the parliament in Lisbon fielded complaints from merchants involved in the honey trade, with traders from Oporto claiming that their competitors in Lisbon were fraudulently exporting it to Flanders in pipes bearing the seal of their city.<sup>66</sup> They did this, the Oporto merchants claimed, because the honey exported from their own city was more desirable than that from Lisbon. That the merchants wished to protect their seal from misappropriation stemmed from a desire to safeguard profits and highlights how the consumption and trade of honey were closely linked by the late medieval period. By the fifteenth century the trade in this product had become embedded in international maritime and overland trade routes, and issues of taste and quality closely influenced the reputation of certain honeys and, therefore, the price they could command in both local and distant markets.

The consolidation of the Portuguese enclaves of Atlantic Morocco in the late fifteenth century reinforced the flow of honey to northern Europe and also to the New World.<sup>67</sup> The revenues accrued by this trade grew significantly, and by the mid sixteenth century, it was stated that the tax (*quimto*) levied by the *capitania* of Azamor (Azemmour) on the production of local beekeepers could yield 500,000 *reais* per year.<sup>68</sup> The extraction of

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A.H. Oliveira Marques, *Hansa e Portugal na Idade Média* (Lisbon: Universidade de Lisboa, 1959), 112–13, 126, 129; idem, *Notas para a história da Feitoria portuguesa* (Milan: Dott. A. Giuffrè, 1962), 448–9; K. Deforce, ‘Pollen Analysis of 15th Century Cesspits from the Palace of the Dukes of Burgundy in Bruges (Belgium): Evidence for the Use of Honey from the Western Mediterranean’, *Journal of Archaeological Science* 37 (2010): 337–42; F. Miranda, ‘Portuguese Traders in Atlantic Europe in the Middle Ages’, *e-Journal of Portuguese History*, 12, no. 1 (2014): 122; F. Miranda and H. Casado, ‘Comércio entre o porto de Bristol e Portugal no final da Idade Média, 1461–1504’, *Anais de História de Além-Mar* 19 (2018): 25. Galician honey was also sent to England and was occasionally found in the Mediterranean. In 1494, 735 litres of Galician and 27 litres of Portuguese honey were disembarked in the port of Valencia. See ARV, Generalitat 4.934, ff. 57r and 358r (1494), and also E.M. Ferreira Priegue, *Galícia en el comercio marítimo medieval* (Santiago de Compostela: Fundación Pedro Barrie de la Maza, 1988), 215.  
<sup>63</sup> For instance, the early *cartas de feira* of Beja (1261) and Coimbra (1269) suggest the commerce of honey. See V. Rau, *Feiras medievais portuguesas: subsídios para o seu estudo* (Lisboa: Editorial Presença, 1982), 79; L. Ventura and A.R. Oliveira, eds., *Chancelaria de D. Afonso III. Livro.1*, vol. 2, part II (Coimbra: Universidad de Coimbra, 2006), doc. 422 (25 January 1269).

<sup>64</sup> A.H. Oliveira Marques and T. Ferreira Rodrigues, eds., *Chancelarias Portuguesas: D. Afonso IV*, vol. II, 1336–1340 (Lisbon: Instituto Nacional de Investigação Científica, 1992), doc. 37 (3 April 1336).

<sup>65</sup> See J. Martins da Silva, ed., *Descobrimientos portugueses: documentos para a sua história*, vol. 1: *Suplemento* (Lisbon: Instituto Para a Alta Cultura, 1944), doc. 191 (22 August 1391), and A.H. Oliveira Marques, *Introdução à história da agricultura em Portugal. A questão cerealífera durante a Idade Média* (Lisbon: Edições Cosmos, 1968), 237.

<sup>66</sup> Martins da Silva, ed., *Descobrimientos portugueses*, vol. 1: *Suplemento*, doc. 1195 (July 1459).

<sup>67</sup> In 1509 a total of 140 *jarras* (c.3640 litres), 18 *arrobos* (c.146 litres) and 6 *botijos* (along ‘with a certain amount of *botijos*’) – all of these, of unknown capacity – were taken from Seville and Sanlúcar de Barrameda to the Indies. Part of this honey had arrived from the Maghreb. See AGS, Consejo Real, leg. 43 (5).

<sup>68</sup> ANTT, Gaveta X, 11–5 (doc. 1777). See also Bernado Rodrigues, *Anais de Arzila. Crónica inedita do Século XVI, 1525–1535*, vol. 2, (Lisbon: Academia das Ciências de Lisboa, 1915), 7. The quality of Moroccan honey (and wax) was known even in New Spain, where in the sixteenth century the Franciscan missionary Toribio Motolinia

honey from these sites consolidated the colonial dynamics by which natural resources were channelled to the metropolis avoiding further investment on the ground. By the 1530s, even the jugs that were to contain honey of the region of Azamor were produced in Portugal and shipped off empty to Africa.<sup>69</sup>

## The contours of the honey trade in northern and central Europe

The main markets for Portuguese honey were to the north, such as that imported into London by Álvaro Vasco of Portugal (*de Portugalia*) in May 1436.<sup>70</sup> So much Iberian honey was imported into Sandwich in January 1337 that the merchants who had brought it were unable to find buyers and petitioned the king for permission to ship it onward to Brabant where they thought they might have more luck.<sup>71</sup> In fact, the majority of honey imported into London was from either the Mediterranean or Atlantic Iberia – despite the presence of a vast honey-producing region to the east, in the hinterland of the Baltic, well connected to London through Hanseatic trade. The latter region, known for its bee forests and highly developed tree beekeeping, was one of the major wax-producing zones of medieval Europe, routinely exporting many hundreds of thousands of pounds of wax west to the trading centres of Bruges and Antwerp, from which it was dispersed to markets across northern Europe.<sup>72</sup> Yet despite the obviously very large amounts of honey produced in this region, the export market for this product was less extensive than that of the Mediterranean. The reasons for this may lie in its palatability, for much of this honey was derived from honeydew from large stands of pine and larch, and remained in the hives for longer periods of time compared with the more delicately flavoured and more frequently harvested, honeys of the Mediterranean.

Lack of a large-scale long-distance export market did not mean that this honey was not a product of much trade, although it was of a more local scale and largely focused on the eastern Baltic and Russia.<sup>73</sup> Indeed, evidence of regulation of certain honey shipments suggests a regional scarcity of this product, despite extensive local apiculture, indicating that an import market existed for honeys from the regions bordering this zone. In 1427 the Council of Lübeck authorised Arnde Berndes to sail from Lübeck to Tallinn with his ship loaded with honey, herring and other goods, under the condition that he did not sell any of these in Denmark, Sweden or Norway.<sup>74</sup> The trade route suggests that this honey

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compared the wax and honey of Campeche with that of Safi: C. El Hamel, *Black Morocco: A History of Slavery, Race, and Islam* (Cambridge: Cambridge University Press, 2013), 141–2.

<sup>69</sup> ANTT, Gaveta XV, 15–3 (doc. 3452).

<sup>70</sup> S. Jenks, *The London Customs Accounts* (Lübeck: Hansischer Geschichtsverein, 2017), part II, number 5: 50.

<sup>71</sup> *Calendar of Close Rolls, Edward III: vol. 3, 1333–1337* (London: HMSO, 1898), 641–2. England was on the whole an importer of wax and exporter of domestically produced honey: A. Sapoznik, 'Bees in the Medieval Economy: Religious Observance and the Production, Trade, and Consumption of Wax in England, c.1300–1555', *Economic History Review*, 2nd series, 72 (2019): 1170. See also C.M. Woolgar, *The Culture of Food in England 1200–1500* (New Haven, CT: Yale University Press, 2016), 94–5. A ready market for Mediterranean honey was also found in Flanders, where palynological research into non-elite sites in coastal areas suggests the presence of Iberian honey: Deforce, 'Historical Use of *Ladanum*', 145–8.

<sup>72</sup> Sales i Favà, Sapoznik and Whelan, 'Beekeeping in Late Medieval Europe', 275–96.

<sup>73</sup> This may indicate a change over time. The region of Novgorod was rich in apiculture and by the tenth century it was known to be supplying Constantinople – perhaps with honey, one of its chief products – via the river routes of the Dniestr, although it appears that by the later medieval period that local production did not suffice to meet demand and the region imported honey. For further discussion, see L.K. Goetz, *Deutsch-Russische Handelsgeschichte des Mittelalters* (Lübeck: O Waelde, 1922), 316–19.

<sup>74</sup> *Liv-, est, und kurländisches Urkundenbuch nebst Regesten*, 1.7: 443–4 (no. 654).

may have been produced on the famous heath around Lüneburg or similarly in inland Germany. Depriving Russian markets of easy access to imported honey appears to have been an important consideration. In 1443, Karl Knutson, a Swedish captain of Wyborg, asked for honey from Tallinn, which he promised not to sell to the Russians but instead to consume himself, mostly as mead.<sup>75</sup> Again, in 1471 the council of Lübeck stipulated that Claus Vos, a merchant of Narva, carrying honey and wine west, was not to sell it to the Russians, but instead take it to Tallinn for sale there.<sup>76</sup> Yet despite the desire by some to keep imported honey away from the Russians, the fact remained that the region around Novgorod – a Hanseatic *kontor* and major centre of the wax trade – suffered no lack of local honey. In the early 1440s, the merchant Lambert von Bodeken, based in Tallinn, complained in a letter to an associate in Lübeck of the sluggish market in Novgorod, asking that he purchase no more honey to send east to him for sale, since all of his honey and that of ‘other people’ lay unsold in Novgorod, for the Russians had no demand for honey and salt and only wanted cloth.<sup>77</sup>

Further west, in Prussia, Gdańsk appears to have formed an important transit point for honey in the Baltic. Honey was registered in just under 30 ships in a pound toll, a tax levied on goods measured by weight, collected in Gdańsk in 1409 and 1411, with the mix of goods registered alongside it, such as salt, wine and cloth, suggesting that this had been imported from the west. In 1446 an exasperated grand master of the Teutonic Order wrote to an associate in Riga, noting how four large Prussian ships loaded with grain and honey had sailed out of his lands to the mouth of the River Neva in the Gulf of Finland to trade with ‘the Russians’ despite his ban on the export of both commodities.<sup>78</sup> The source of this honey is unclear, but there was an internal trade in honey within Prussia lively enough for the grand masters to tax in the mid 1400s, and this may suggest that this honey had been produced in Prussia or the broader Polish hinterland.<sup>79</sup> Later in the century, grand masters settled debts with mercenaries in kind by giving honey by the tun, suggesting honey was available in significant quantities, at least to those with access to large estates.<sup>80</sup> Indeed, when managing their properties in Prussia, officers of the Teutonic Order differentiated between the honey produced ‘on the heath’ (*in der heide*) and ‘from the garden’ (*gartenhonig*), when officials of the bishop of Ermland valued the latter a third higher in cash terms in a land transaction of 1388.<sup>81</sup> Yet the accounts of the merchant Johan Pyre, active in Gdańsk throughout the second quarter of the fifteenth century, record the receipts and shipments of no less than 60 tuns of honey, much of which was shipped by sea rather than sourced in

<sup>75</sup> *Liv-, est, und kurländisches Urkundenbuch*, 1.9: 652–3 (no. 988).

<sup>76</sup> *Liv-, est, und kurländisches Urkundenbuch*, 1.12: 477 (no. 837).

<sup>77</sup> *Liv-, est, und kurländisches Urkundenbuch*, 1.9: 526–7 (no. 755).

<sup>78</sup> *Liv-, est, und kurländisches Urkundenbuch*, 1.10: 157 (no. 235).

<sup>79</sup> Max Töppen, ed., *Akten der Ständetage Preussens unter der Herrschaft des Deutschen Ordens*. 5 vols. (Leipzig: Scientia Verlag, 1878–86), 4: 429 (no. 329).

<sup>80</sup> Joachim Laczny, *Schuldenberwaltung und Tilgung der Forderungen der Söldner des Deutschen Ordens in Preußen nach dem Zweiten Thorner Frieden. Ordensfoliant 259 und 261, Zusatzmaterial* (Göttingen: Vandenhoeck & Ruprecht, 2019), 361–2, 457, 548.

<sup>81</sup> For quotes, see W. Ziesemer, ed., *Das Große Ämterbuch des Deutschen Ordens* (Wiesbaden: Sändig, 1968), 63, 604. On the valuation of honey in 1388, see Sales i Favà, Sapoznik and Whelan, ‘Beekeeping in Late Medieval Europe’, 285.

Prussia itself.<sup>82</sup> On the whole, however, the honey produced within Prussia itself, to whose presence the accounts of the Teutonic Order well attest, was not the object of much interest or trade outside the region.<sup>83</sup>

This honey did, however, serve useful internal purposes as a form of conspicuous consumption and marker of social status and economic power. When the grand duke of Moscow announced the marriage of his son to the daughter of the king of Denmark in 1500, the bishop of Tartu noted in correspondence to associates in Riga that the noble had requisitioned all the honey in his lands for his court.<sup>84</sup> The high social status of honey and mead in this region reflects a confluence of jurisdictional and ecological factors upon which honey production there was predicated. In the hinterland of the Baltic, customary rights to trees came into conflict with the extractive privileges of the territorial lords. The earliest Christian settlers arriving in Livonia in the early 1200s, for example, had to agree with native Livs who held the rights to the honey in the ‘bee trees’ that surrounded Riga, ultimately only allowing the Livs to collect a share of it under the supervision of Riga’s citizens.<sup>85</sup> The right to harvest honey was therefore circumscribed in this region of intensive beekeeping. The ability to extract large amounts of it through customary payments, rents and rights conferred on honey a high social value for territorial lords, who further enhanced this through fuel-intensive brewing into mead. Moreover, although this was a region rich in beeswax, the amount of honey available to harvest may have been less abundant than at first appears because more honey was used to sustain the bees over harsh winters, and this may further explain the desire of lords in this region to acquire as much of it as possible.<sup>86</sup> In this region, too, high demand for the status-laden, value-added commodity of mead may have reduced the incentives to export honey, and this may have combined with a lack of strong external demand for the product to reinforce overall absence of this honey further in markets outside the region.

## Ensuring quality, selling and consuming honey

Honey had many uses in the Middle Ages, eaten raw, used in cooking and for sweetening wine, brewed into mead, and as medicine to cure everything from horses’ wounds to

<sup>82</sup> Anna Paulina Orłowska, ‘Johann Pyre – ein Kaufmann und sein Handlungsbuch im spätmittelalterlichen Danzig (15. Jahrhundert)’ (Ph.D. diss., University of Kiel, 2015), 38, 67–8, 92, 96. We are grateful to the author for a copy of her dissertation.

<sup>83</sup> This is not to say that no honey travelled west: honey is found in shipments from Gotland to Lübeck in 1368 and in the pound tolls of 1492–6 51 tuns of honey was registered as coming from Brandenburg, Pomerania and southern Sweden to Lübeck, but this trade was obviously of limited scale: Georg Lechner, *Die Hansischen Pfundzollisten des Jahres 1368* (Lübeck: Hansischer Geschichtsverein, 1935), no. 91; Hans-Jürgen Vogtherr, *Die Lübecker Pfundzollbücher, 1492–1496*. 4 vols (Cologne: Böhlau, 1995), vols. 1–4, e.g. nos. 97, 515, 666, 946, 1143, 1387, 1511, 1660.

<sup>84</sup> *Liv-, est, und kurländisches Urkundenbuch*, 2.1: 742 (no. 977). For further discussion of this event, see M. Whelan, ‘Mead from Riga’: The Trade and Consumption of a Hanse Cultural Good in the Late Medieval Baltic’, *German History* 40 (2022): 470–86.

<sup>85</sup> K. Kļaviņš, ‘Reorganising the Livonian Landscape: Some Issues and Research Perspectives’, in *Ecologies of Crusading, Colonization, and Religious Conversion in the Medieval Baltic*, ed. A. Pluskowski (Turnhout: Brepols, 2019), 197–208, especially 204.

<sup>86</sup> In a legal hearing held in Riga in 1431, a certain Arnold Zacken valued the crops and livestock on his nearby estate so his judges could assess the cost of unlawful seizures made by the bishop of Ösel’s bailiff. Zacken valued a last of wheat at 16 marks, barley at 12 and oats at 9, before going on to value a pig at 1.5 marks, four sheep at 1 mark, and 100 chickens at 2.5. At 70 marks a last, honey was by far the most expensive commodity to come from his estate. The fact that the bailiff principally targeted Zacken’s stocks of hay and then his beehives no doubt reflected the episcopal official’s desire, after securing fodder for his horses, to secure the most lucrative cash crop on the estate. See *Liv-, est, und kurländisches Urkundenbuch*, 1.8: 257–8 (no. 440).

injuries in combat and even to encourage children's speech.<sup>87</sup> In large households it could be consumed in great quantity: Pedro Álvares, papal legate in Portugal, purchased around 18,000 litres of honey in 1455 for his household, while the grand master of the Teutonic Order and his entourage purchased around 550 litres to brew into mead when they met the grand duke of Lithuania in 1399.<sup>88</sup> No less than 20,000 litres were recorded as being held in the cellars of the Order's monastic complex at Osterode (now Ostróda, Poland) in 1392, much of which was likely also intended as mead, a product of high social status in this region.<sup>89</sup> Smaller institutions in the region maintained an appetite for honey as well. Further south, the court of King René d'Anjou of Provence consumed no less than 22 kilograms of nuts in honey in 1479.<sup>90</sup>

While only certain honeys were integrated into long-distance maritime trade, there were also important production zones from which local and inland trade was conducted. For example, an estimated 11,365 litres of honey were listed in the local toll of Perpignan for the consumption of its inhabitants during the whole of 1384, whilst three years later, in Barcelona, foreign merchants alone sold c.6500 litres.<sup>91</sup> In 1576, the Hospital of Santa Cruz in the city of Toledo invested 2389 *maravedís* for 39 litres of honey 'de Alcarria', a region some 100 km to the north-east that had long been praised for the quality of its production.<sup>92</sup> Honey from western Hungary was traded into the duchy of Austria in large quantities – between 1519 and 1524 the Funck traders shipped c.39,000 litres of honey from this region, although complaints were raised because some had been watered down and still another amount had spoiled.<sup>93</sup>

Concern over the quality of honey is evident, and medieval consumers made ready distinctions between the produce of different regions, and many enjoyed a reputation for quality, purity and taste, which merchants were keen to protect and capitalise upon. The Datini recorded four different types of honey in the markets of fourteenth-century Pisa, classed and priced according to origin (domestic, from Provence, from Catalonia and from Savona, by order of price), while an agreement between a merchant and two farmers in Tortosa (Catalonia) in 1452 stipulated that the latter were to provide honey specifically 'of lavender'.<sup>94</sup> In 1413 a merchant returning from Rhodes and

<sup>87</sup> Rodrigues, *Anais de Arzila. Crónica inedita do Século XVI*, vol. 1: 386; P. Julien, 'Médecine et pharmacie dans les comptes, 1451–1481 (suite)', *Revue d'Histoire de la Pharmacie* 215 (1972): 246. C.M. Woolgar, *The Great Household in Late Medieval England* (New Haven, CT: Yale University Press, 1999), 193; J.V. García Marsilla, 'Food in the Accounts of a Travelling Lady: Maria de Luna, Queen of Aragon, in 1403', *Journal of Medieval History* 44 (2018): 584, 586; I. Krug, 'The Wounded Soldier: Honey and Late Medieval Military Medicine', in *Wounds and Wound Repair in Medieval Culture*, eds. L. Tracy and K. DeVries (Leiden: Brill, 2015), 194–214. On mead in medieval Europe, see Whelan, 'Mead from Riga'.

<sup>88</sup> ANTT, *Leitura Nova, Livro dos Extras*, ff. 89–91 (1455); E. Joachim, ed., *Das Marienburger Tresslerbuch der Jahre 1399–1409* (Königsberg: Thomas & Oppermann, 1896), 39. Prussian accounts usually record purchases of honey by the tun of Kulm (now Chelmo, Poland), a measure of about 135 litres: Jäger, 'Pflanzliche Ressourcen', 92.

<sup>89</sup> Whelan, 'Mead from Riga'.

<sup>90</sup> Julien, 'Médecine et pharmacie', 246.

<sup>91</sup> ADPO, 1 B 452 (1384); ACB, Lleuda de Mediona, 1486–7; 1487–8. Local honey was transported towards the regional markets, where it was commonly accompanied by unprocessed products, or those with low added value from activities with which beekeeping co-existed on farmsteads, such as eggs, dairy products and olive oil.

<sup>92</sup> ACT, Hospital de la Santa Cruz, Reg. 619, f. 15r (29 May 1576).

<sup>93</sup> The above figure was reached by collecting all references to honey in Othmar Pickl, *Das Älteste Geschäftsbuch Österreichs: die Gewölberegister der Wiener Neustädter Firma Alexius Funck (1516–ca. 1538) und verwandtes Material zur Geschichte des steirischen Handels im 15.16. Jahrhundert* (Graz: Verlag der Historischen Landeskommission, 1966), *passim*.

<sup>94</sup> ASP, Fondo Datini, 1171 – INS. 1/I, doc. 9301345; doc. 9301347; doc. 9301351. See also ACBE, Notariales Tortosa, Reg. 58, ff. 80v–81r (1452).

Alexandria complained that the high-quality honey from Mequinensa had been mixed with that from Catalonia, resulting in a loss of value and consequent decline in price – a dispute which suggests a high level of knowledge of honeys even from relatively close regions.<sup>95</sup> Within cities, too, the quality of honey came under close scrutiny. In 1430 Prince Duarte of Portugal confirmed the regulations proposed by the city council of Lisbon that henceforth an official (a *veeador*) would inspect the honey to be sold in the city. If it was suitable for sale, then the vendor of the honey had to attach his own mark and the official would attach the mark of the council, with the former mark allowing buyers to trace any adulterated honey back to its source. The *veeador* was to inspect the storage areas where it was kept and to close them down were they not run to his satisfaction.<sup>96</sup> Ordinances from the middle of the fifteenth century strengthened controls even further, levying cash fines for vendors who watered down their honey or introduced impurities, such as mixing it with bishop's weed (*A. visnaga*) or other herbs.<sup>97</sup> In a similar vein, the authorities of the city of Vienna also sought to control the quality of honey sold within the city, with specific concern for foods in which it was a main ingredient, spiced *lebkuchen* biscuits and mead, issuing lengthy regulations concerning the wholesale and private sale of honey in 1445 and 1454.<sup>98</sup> These forbade, among other things, the sale of spoiled or contaminated *lebkuchen*, and showed particular concern for the quality and accurate weighing of the honey by stipulating that barrels of it could only be marked with the city seal with authorisation of three civic officials: the duty collector, the gauger and the inspector (*der underkeüffl, messer und beschawer*). The honey could also no longer be sold directly to taverns or elsewhere, but had to be taken to a specified place and sold in authorised measures either pure or in slices of comb as it had been cut out of the hive.<sup>99</sup>

The honey whose quality was so carefully controlled was often combined with other expensive products of long-distance trade to produce high-status foods. The Dominican convent of SS. Peter and Sebastian, Naples, regularly purchased honey for baking into special biscuits around Christmas to give to local dignitaries and benefactors. Called *sus-amelli* and still produced in the region today, the biscuits were made of a mixture of flour, sesame, honey and spices, and recipients of these biscuits in 1440s included a lawyer, the royal confessor and various other courtiers.<sup>100</sup> *Lebkuchen* made with honey and spices were popular across German-speaking central Europe. The convent of St Claire, Nuremberg, regularly purchased honey along with cinnamon and saffron for this purpose.<sup>101</sup> In the later 1400s, Count Philip of Hanau received gifts of *lebkuchen* from his daughter to mark the new year, while the city council of Vienna promulgated ordinances specifically for the *lebkuchen* sellers in the city in 1445.<sup>102</sup> At the Swabian abbey of Ellwangen in

<sup>95</sup> Coulon, *Barcelone et le grand commerce d'Orient*, 413.

<sup>96</sup> I. Morais Viegas and M. Gomes, *Livro dos pregos: estudo introdutório, transcrição paleográfica, sumários e índices* (Lisbon: Câmara Municipal de Lisboa, 2016), doc. 323 (f. 246v).

<sup>97</sup> M.T. Campos Rodrigues, *Livro das posturas antigas* (Lisbon: Câmara Municipal de Lisboa, 1974), ff. 24r–4v.

<sup>98</sup> Markus Gneiß, *Das Wiener Handwerksordnungsbuch (1364–1555). Edition und Kommentar* (Vienna: Böhlau, 2017), 400–1, 430–1.

<sup>99</sup> Gneiß, *Das Wiener Handwerksordnungsbuch*, 430–1.

<sup>100</sup> ASN, Corporazioni Religiose Sopresse, San Pietro e Sebastiano, 1395/I (1433–96), ff. 82v, 107r.

<sup>101</sup> Nuremberg, Stadtarchiv Nürnberg, D25, nr. 60, ff. 5v, 7v, 12r.

<sup>102</sup> Jan Hirschbiegel, *Étrennes: Untersuchungen zum höfischen Geschenkverkehr im spätmittelalterlichen Frankreich der Zeit Königs Karls VI* (Munich: Oldenbourg Wissenschaftsverlag, 2002), 142–3; Joachim, ed., *Das Marienburger Treslerbuch*, 27.

1410, two quarts of honey were purchased for the electuary known as *lattwerg*, and one quart for the prince-abbot's residence to make into *kwüttenen*, perhaps another sweet dish.<sup>103</sup> In 1426 one visitor who had travelled the roughly 70 km from Kircheim to Ellwangen to present *lebkuchen und latwerg* to the prince-abbot was rewarded with 5 shillings of the Haller Pfund.<sup>104</sup> Honey was also consumed at particular points in the religious year: the convent of St Claire obtained it for Shrove Tuesday (*vor vasnacht*) and Easter, while the abbey of Ellwangen purchased it for consumption during the Lenten fast.<sup>105</sup> Relatively large quantities were purchased by the Cistercian house of the Holy Cross in Rostock (Germany), averaging just over 112 litres per year in the early and middle decades of the fifteenth century for a convent of 30–40 nuns, which may similarly suggest it was being used for cooking or baking, although it could also have been made into drinks. This honey was bought by the liespound (c.4.8 litres), and, as indicated in Table 3, the price of honey declined over the period for which accounts survive, although the reasons for this are unclear.<sup>106</sup>

The importance of mead in certain regions has already been noted. The monastic estates of the Teutonic Order have left particularly detailed records highlighting how its consumption had become culturally embedded and a part of their identity.<sup>107</sup> Mead was, after all, a drink fit for chivalric heroes, such as Parzifal and his questing knights, who drank both it and wine when dining at the table bearing the Holy Grail.<sup>108</sup> So important was mead to the Teutonic Order that in 1409 the commander of Samogitia noted bluntly to the grand duke of Lithuania that they would not export honey to the latter's subjects, because 'we also require honey and do not willingly want to drink water.'<sup>109</sup> The predilection for fermented honey did not just have an impact on the Order's trading policies with their neighbours, but left marks in both their financial and estate accounts and the architecture of their building complexes. The grand master and his entourage frequently purchased honey for brewing into mead, but the majority of the Teutonic Order's estates did not need to purchase honey, for they collected it in tax. Among many other examples, the monastic complex at Schlochau collected around 7000 litres of honey yearly in the later 1300s, a practice that could result in large stockpiles across the Order's territories.<sup>110</sup> The foundation at Insterburg recorded no less than 10 tuns (c.1400 litres) of 'garden honey' in their brewhouse in 1488, for example, presumably destined to become mead.<sup>111</sup> Even with sometimes extensive incomes of honey, some of the Order's larger houses still needed to purchase additional quantities to

<sup>103</sup> Ludwigsburg, Staatsarchiv, B 383, V/7, f. 12r.

<sup>104</sup> Ludwigsburg, Staatsarchiv, B 383, V/8, f. 149r.

<sup>105</sup> Nuremberg, Stadtarchiv Nürnberg, D25, nr. 60, ff. 4v, 6r.

<sup>106</sup> The Cistercian house of the Holy Cross, Rostock, purchased on average just over 90 litres of honey a year for their convent of around 30–40 nuns in 1421–61. 114 purchases of honey are recorded in the monastery's accounts for the middle years of the fifteenth century: Landeshauptarchiv Schwerin, 3.3–4, Kloster zum Heiligen Kreuz, nos. 338, 339 and 341. On the convent's membership, see W. Huschner and others, *Mecklenburgisches Klosterbuch: Handbuch der Klöster, Stifte und Kommanden (10. –16. Jahrhundert)* (Rostock: Hinstorff, 2016), 927, 930. Individual honey purchases are undated through the year; the price honey per liespound over this period ranged from 11 to 18 marks of Lübeck.

<sup>107</sup> See Whelan, 'Mead from Riga'.

<sup>108</sup> W. von Eschenbach, *Parzival: Buch XII bis XVI*, ed. A. Leitzmann, (Tübingen: Max Niemeyer, 1960), 183 (book xvi, section 809, line 26).

<sup>109</sup> Antonin Prochaska, ed., *Codex epistolaris Vitoldi magni ducis Lithuaniae 1376–1430* (Krakow: Vlad L. Anczyc et Comp., 1882), 165. We are grateful to Grzegorz Chochorowski for this reference.

<sup>110</sup> W. Ziesemer, ed., *Das Große Ämterbuch des Deutschen Ordens* (Wiesbaden: Sändig, 1968), 646–9.

<sup>111</sup> Measured in the tun of Kulm, see above, n. 88.

**Table 3.** Annual honey purchases at the nunnery of the Holy Cross, Rostock, 1421–61.

Year	Amount purchased (litres)	Average price (grammes of silver per litre)
1421	5	3.28
1422	79	3.95
1424	125	4.12
1425	183	2.93
1426	145	n/a <sup>1</sup>
1427	53	3.20
1428	51	n/a
1429	177	4.11
1430	213	3.40
1431	137	4.09
1432	137	2.62
1433	164	n/a
1434	227	2.57
1435	53	2.53
1436	54	2.38
1437	151	2.83
1438	267	2.51
1439	91	2.06
1440	76	2.51
1441	60	2.56
1442	122	6.2 [3.05] <sup>2</sup>
1443	147	2.98
1445	84	2.18
1446	95	2.42
1447	56	3.32
1448	228	3.03
1450	48	2.42
1451	25	2.77
1453	124	5.49 [3.55] <sup>3</sup>
1456	79	1.47
1457	72	2.55
1458	91	3.13
1461	93	2.72
Average	112.48	2.88

Notes: 1: In 1426, 1428, and 1433 the quantity purchased is recorded but not the cost.

2: The price of honey seems artificially inflated in 1442, because rather than purchase honey in one to three transactions across the year as usual, the convent purchased small quantities on 17 occasions, at a much more expensive cost per litre. When 16 small transactions are removed, leaving the largest transaction, the average cost per litre in grammes of silver is the more understandable 3.05. 3: As in 1442, honey was purchased on more occasions – 10 – of which six were on such a small scale that the high cost per litre pushes the average up. Removing the six small transactions leaves four larger transactions, resulting in an average of 3.55.

Source: Landeshauptarchiv Schwerin, 3.3–4 Kloster zum Heiligen Kreuz in Rostock, nos. 338, 339, 341 (general and kitchen accounts).

satisfy their convent's demands. In 1410 in Gdańsk, the convent gave the cellarer 28 Prussian marks as 'honey money' (*honiggelde*) to top up his existing stock of 11 tuns (c.1540 litres).<sup>112</sup> While there is less evidence for the consumption of mead elsewhere in Europe, occasional indications of other drinks using honey surface in the source materials, and suggest that these were widely drunk within monastic or ecclesiastical contexts.<sup>113</sup> The sacristy of Barcelona Cathedral in 1443, for example, provided *clarea*, an

<sup>112</sup> Measured in the tun of Kulm; the convent retained the right to inspect the cellarers' accounts and assess whether the officer had secured a good deal for any honey purchased: Ziesemer, ed., *Große Ämterbuch*, 691–2.

<sup>113</sup> Mead was occasionally given as a pittance at Westminster Abbey in the mid thirteenth century, but more often wine and ale were given in its stead: Woolgar, *Culture of Food*, 50.

alcoholic drink that contained honey, to their chandler, while the accounts of Battle Abbey in southern England noted in 1459–60 that they had bought less honey this year since they had not served *ysopatum* to the convent, an herbal concoction brewed with hyssop and honey.<sup>114</sup> In the mid fifteenth century, a honey-based drink called metheglin was being brewed at Fotheringay College in Northamptonshire.<sup>115</sup> Drinks made with honey were not confined to monasteries: bragot (ale mixed with honey), mead and burgerastre (another spiced honey drink) were all known in lay contexts in late medieval England.<sup>116</sup> So common was mixing wine with honey in medieval Cairo that when the caliph al-Hakim forbade the sale and consumption of wine, he included honey in the prohibition – wine made from raisins and honey remained a popular drink, however, the honey acting as a preservative and stabiliser according to Ibn Ridwān.<sup>117</sup>

Within an urban context, much honey was likely purchased by retailers such as apothecaries and spice-shop keepers, often in small quantities. That imported into Barcelona was sold in ceramic containers holding 10 litres or less, often in small jugs.<sup>118</sup> Although everyday consumption by lower levels of society has left little record, some indication of how honey may have reached typical consumers is offered by the sporadic purchases of larger institutions. Between 1409 and 1410 the monastery of Pedralbes, in the outskirts of Barcelona, acquired a meagre 14.9 litres of honey, which they purchased in six different transactions as they needed it.<sup>119</sup> The existence of petty honey sellers is also seen in the accounts of Durham Cathedral, which show that it was purchased several times through the year from local retailers in relatively small amounts averaging just under 9 gallons per purchase at 11.5*d.* per gallon on average.<sup>120</sup> The account books for the hospital of the city of Basel in the 1450s and 1460s preserve semi-regular purchases of honey, presumably from markets in the city, such as the roughly 10 litres they purchased in 1465.<sup>121</sup> Much of this honey was likely the product of local beekeeping. In this, the market for honey provides an example of a commodity which was available in abundance throughout most of Europe, but which also sold in a luxury market in which imported varieties were consumed not only by elites, but also by more middling sorts.<sup>122</sup> Underlying these different markets lay a maelstrom of considerations made by contemporaries regarding taste, price, ecological make-up and reputation of particular honeys.

<sup>114</sup> ACB, Administració de Luminària, 1442–7, f. 25r (1443); J. Bond, 'Production and Consumption of Food and Drink in the Medieval Monastery', in *Monastic Archaeology*, eds. G. Keevill, M. Aston and T. Hall (Oxford: Oxbow Books, 2017), 70. In England, clary was a drink of wine, honey and spices: Woolgar, *Culture of Food*, 158. Wine was often mixed with honey. The account book of John de Vere, earl of Oxford, from 1431–2 shows payments for carting honey and wine together: C.M. Woolgar, ed., *Household Accounts from Medieval England*. British Academy, Records of Social and Economic History, new series, 17–18 (Oxford: Oxford University Press for the British Academy, 1992–3), 2: 526.

<sup>115</sup> Woolgar, *Culture of Food*, 51.

<sup>116</sup> Woolgar, *Culture of Food*, 50–1.

<sup>117</sup> Lewicka, *Food and Foodways*, 495, 515.

<sup>118</sup> See, for instance, ACB, Lleuda de Mediona, 1495 (quadernet II), unfoliated.

<sup>119</sup> AMP, 2203 (1409–10).

<sup>120</sup> The lowest price per gallon recorded was 8.2*d.* in 1474/5, the highest was 20*d.* per gallon paid for 6 gallons of honey in 1482/3, when 37 gallons of honey in total were purchased at prices ranging from 14*d.* to 20*d.* Prices became more volatile over the 1480s and early 1490s. Of 165 purchases with price per gallon recorded, the mean price was 11.5*d.* per gallon, the median and mode were 12*d.* per gallon: Durham Cathedral Muniments, Bursar and Cellarer accounts 1382–1500.

<sup>121</sup> Staatsarchiv Basel-Stadt, Spitalarchiv F12, 1465–6, unfoliated.

<sup>122</sup> Deforce, 'Historical Use of *Ladanum*', 145–8.

## Conclusion

By the later fifteenth century, the expansion of the Portuguese colonies and consequent development of large-scale sugar imports meant that prices for sugar fell dramatically across much of Europe.<sup>123</sup> Although the impact of sugar consumption on the honey trade lies outside the scope of this paper, the material presented here indicates that the relationship between sugar and honey was not necessarily one of simple substitution of one sweetener for another, or that sugar was inherently the more desirable foodstuff.<sup>124</sup> Certainly the Portuguese extraction of honey from its Moroccan colonies indicates that markets for honey and sugar existed alongside each other. Furthermore, the routes by which honey was traded, and consequently its availability were altered by events quite apart from the substitution of one good for another. Catalan honey, the object of much desire in the fourteenth century, lost its markets not because of a decline in demand but through the diminished economic and political power of the Crown of Aragon; Genoa's loss of its Black Sea colonies ended its involvement in the honey trade from that region. In northern Europe at least, it is also possible that by the sixteenth century environmental factors played a part, as the cooling period which would become the Little Ice Age set in, for cold weather is adverse to bees and flowers alike. Similarly, periods of intense drought, also noted for parts of the sixteenth century, could have diminished the availability of honey. The evidence for this is as yet anecdotal or inconclusive, but future study would help elucidate the environmental background to changes in the honey trade.<sup>125</sup>

The material presented here suggests that honey and sugar should not be seen as interchangeable commodities which acted as easily substitutable sweeteners. Rather, honey was an important commodity in its own right, whose consumption reflected cultural, economic and environmental factors. The vast demand for honey from the Levant, where sugar was not in short supply, was driven by cultural demand embedded in the religion of that region. This combined with poor conditions for domestic apiculture to drive a thriving long-distance trade in honey which attracted many actors. In the same vein, the overall absence of honey exports from the Maghreb until the expansion of the Portuguese empire forced its extraction for a European market suggests almost unimaginably high demand for, and consumption of, honey in that region. Here, ideal conditions for beekeeping meant that an import market did not emerge, and that local demand was met by local supply. The importance of honey can therefore be seen not only in terms of its demand in far-flung markets, but also by a lack of exports from regions which are known to have produced very great quantities. Nor was the cultural significance of honey limited to Muslim societies. The consumption of mead, brewed

<sup>123</sup> M. Threlfall-Holmes, *Monks and Markets: Durham Cathedral Priory, 1460–1520* (Oxford: Oxford University Press, 2005), 95.

<sup>124</sup> At Durham Cathedral Priory increased sugar consumption occurred alongside a doubling of honey consumption over the fifteenth century, and honey maintained its price even as sugar became cheaper: Threlfall-Holmes, *Monks and Markets*, 59.

<sup>125</sup> On the potential effects of drought on honey production, see for example A. Kiss, 'The Great (1506–)1507 Drought and Its Consequences in a (Central) European Context', *Regional Environmental Change* 20 (2020): 50; a recent study has demonstrated the effects of temperature and precipitation on modern honey production: V.V. Solovev, 'Influence of Weather Conditions on the Honey Productivity of Bee Colonies in the Valdai District of the Novgorod Region', *IOP Conference Series: Earth Environmental Science* 613 (2020): unpaginated; lack of relationship between weather and wax prices is noted in Sapoznik, 'Bees in the Medieval Economy', 1169.

from large quantities of honey produced on the lands of the Teutonic Order and elsewhere, was also a marker of status. In this region, where seigneurial rights to honey were fiercely guarded and highly contested, the ability to extract it through taxes and as charges arising from seigneurial jurisdictions was itself used to indicate power relationships, while its further brewing into mead created a product for elite consumption which became a means through which identities and wealth were displayed.

Medieval consumers also recognised and appreciated the wide variety of honeys available and the ecologies they represented. The preference for some honeys over others, the prices special honeys could command and their ability to withstand transport costs over long distances show the extent to which taste played a role in this trade. The honeys which were most attractive for long-distance trade were those which came from floral and herbal landscapes, and areas with a high prevalence of trees like chestnut which imparted recognisable flavours. These honeys found ready markets across the Mediterranean and northern Europe, even in regions that had their own highly developed apiculture, and they existed alongside domestic products. Honey was a sought-after commodity whose consumption was embedded in the cultural fabric of the later Middle Ages.

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