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## Treating with Birds: The Insights of Two Mamluk Sources about the Medical Benefits of Birds

### INTRODUCTION

Animals always played prominent roles in Arab culture, with connections to worship and religious practices, diet and feasts, sports, and more. The desire to acquire knowledge about animals was, therefore, natural. The major Greek zoological works, by authors such as Aristotle, were translated quite early into Arabic. Literary treatment of zoological knowledge by Arab authors began in the third/ninth century. Some of what we can call animal books were systematic zoological works, while others were philological studies. Numerous authors wrote about animals, and their books varied in their approaches to the subject. Some of the most significant works include: *Kitāb al-ḥayawān* by al-Jāḥiẓ (d. 255/869), *Ṭabāʾiʿ al-ḥayawān* by al-Marwazī (d. ca. twelfth century), *ʿAjāʾib al-makhlūqāt wa-gharāʾib al-mawjūdāt* by al-Qazwīnī (d. 1283), and *Ḥayāt al-ḥayawān* by al-Damīrī (d. 1405).<sup>1</sup> These books vary in style, content, and details, but—aside from al-Marwazī’s book, which was described as a doctor’s book on zoology—can be generally described as works on zoology with literary and artistic merits as well as scientific value.<sup>2</sup> The common feature that marked all these books was the method by which they were compiled: their writers collected and grouped together the zoological knowledge and data of their period, adding all they had picked up from their own readings and observations.

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The author and editors have made every effort to associate Arabic bird names with their modern English equivalents. It is, however, not always easy to know with certainty which species of bird was meant by a particular term at a given point in time or in a given place. It is common for the same name to designate different species in different places or at different times, for a single species to have multiple names, or for a name to have been used in a non-specific way, indicating numerous birds of similar appearance or size.

<sup>1</sup>Abd al-Rahman Ibrīq, “Zoology and Veterinary Science,” in *The Different Aspects of Islamic Culture*, vol. 4, Science and Technology in Islam, part 1, The Exact and Natural Sciences, ed. A. Y. al-Hassan (Paris, 2001), 425–31. Aristotle’s major zoological work, *Historia Animalium*, was translated into Arabic with the title *Kitāb al-ḥayawān* in the ninth century.

<sup>2</sup>Joseph de Somogyi, “Ad-Damīrī’s *Ḥayāt al-ḥayawān*: An Arabic Zoological Lexicon,” *Osiris* 9 (1950): 34–35; Albert Z. Iskandar, “A Doctor’s Book on Zoology: al-Marwazī’s *Ṭabāʾiʿ al-ḥayawān* (Nature of Animals) Re-assessed,” *Oriens* 27/28 (1981): 266–312; M. V. MacDonald, “Animal-Books as a Genre in Arabic Literature,” *Bulletin of British Society for Middle Eastern Studies* 15, no. 1 (1988): 3–10.



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My interest is in birds and how they were presented and discussed, specifically in Mamluk sources.<sup>3</sup> From the sources above, therefore, the current study will focus on al-Damīrī's book, highlighting only his discussion of birds. Another important work from the same period, also considered here, is al-ʿUmarī's *Masālik al-abṣār fī mamālik al-amṣār*, as its twentieth volume was devoted to animals and plants. Only the medical usage—both as nutrition contributing to the patient's health and as medicine consumed in various ways to treat diseases—of birds within these two sources is addressed in the current study's investigation of the use of birds during the Mamluk period. The study also aims to explore the usage of birds in folk medicine and magical practices.

### THE SOURCES AND THEIR METHODOLOGIES

Shihāb al-Dīn Aḥmad ibn Faḍl Allāh al-ʿUmarī<sup>4</sup> is the author of *Masālik al-abṣār fī mamālik al-amṣār*,<sup>5</sup> which is considered one of the most important Mamluk sources. It is encyclopedic, covering geography, history, literature, religion and law, and politics and administration in twenty-six volumes. It is divided into two main parts: the first is for the earth—including a section for *al-masālik* and another for *al-mamālik*—and the second is for the earth's inhabitants, of all nations and religions. It also includes chapters about natural sciences, animals, plants, and the history of nations.<sup>6</sup> In the twentieth volume, al-ʿUmarī discussed animals, birds, insects and vermin, and plants.

He elucidated sixty-one birds and arranged them in alphabetical order. Al-ʿUmarī adopted no clear classification system, but after describing fifty-one

<sup>3</sup>My book, *Al-Ṭuyūr fī al-ʿaṣr al-Mamlūkī: Dirāsah fī al-tārīkh al-ijtimāʿī wa-al-bīʿī wa-al-funūn* (Cairo, 2021), discusses several aspects about birds based on the study of Mamluk sources and artifacts.

<sup>4</sup>Al-ʿUmarī was born in Damascus in 700/1301 to a family already distinguished in the Mamluk civil service. His father was head of the chancery in Damascus and then in Cairo, and al-ʿUmarī started his career as his assistant. He was served as head of the chancery in Damascus 741–43/1340–42. Other than his official position he was known for his brilliance as a writer and expertise on a wide variety of subjects related to politics and administration. His prominent works are *Masālik* and *Al-Taʿrīf bi-al-muṣṭalaḥ al-sharīf*, in addition to a number of minor essays and letters. Al-Maqrīzī, *Kitāb al-sulūk li-maʿrīfat duwal al-mulūk*, ed. Muḥammad Muṣṭafā Ziyādah (Cairo, 1958), 2:3:792; Ibn Taghrībirdī, *Al-Nujūm al-zāhirah fī mulūk Miṣr wa-al-Qāhirah* (Cairo, 2008), 10:234–35; idem, *Al-Dalīl al-shāfi ʿalā al-manhal al-ṣāfi*, ed. Fahīm Muḥammad Shaltūt (Cairo, 1998), 1:96; K. S. Salibi, "Ibn Faḍl Allāh al-ʿUmarī," *Encyclopaedia of Islam*, 2nd ed., [http://dx.doi.org/10.1163/1573-3912\\_islam\\_SIM\\_3153](http://dx.doi.org/10.1163/1573-3912_islam_SIM_3153).

<sup>5</sup>For the content analysis in this research I consulted the manuscript: BnF Ar. No. 2771, and the edition: Ibn Faḍl Allāh al-ʿUmarī, *Masālik al-abṣār fī mamālik al-amṣār*, ed. Kāmil Salmān al-Jabūrī, vol. 20 (Beirut, 2010).

<sup>6</sup>Maḥmūd Rizq Salīm, *ʿAṣr salāṭīn al-Mamālik wa-nitājuhu al-ʿilmī wa-al-adabī* (Cairo, 1962), 171; al-ʿUmarī, *Masālik al-abṣār fī mamālik al-amṣār*, ed. Ayman Fuʾād Sayyid (Cairo, 2015), 35–40.



birds he classified only ten birds into two categories: nine birds of the eastern lands, also arranged in alphabetical order, and birds of the western lands, including only the parrot.

His methodology in presenting the birds was to describe the physical properties of each, such as shape, size, and the colors of features and beak, followed by what characteristics separate the bird from others. In many cases he mentioned the original homeland of the bird and quoted verses of poetry describing it<sup>7</sup> and popular proverbs highlighting its qualities and features. Moreover, he listed the medical benefits of forty birds based on several zoology books and medical sources.

Unlike al-ʿUmarī’s encyclopedic book, al-Damīrī’s *Ḥayāt al-ḥayawān* is a single-topic, specialized work focusing on animals, birds, insects, and vermin, and covering unprecedented numbers of each type. Al-Damīrī<sup>8</sup> did not classify these creatures into categories but arranged them all in alphabetical order. He included 281 names of birds, most of them explicitly described (some were briefly mentioned as variant names of other birds or under names of their chicks).

Al-Damīrī’s descriptions of birds were generally detailed and followed an organized methodology that started with philological aspects of the bird’s name then described its physical properties, highlighting what distinguished it from other types of birds. He enriched the description with stories and historic events in addition to verses of poetry related to the bird, and followed that with the traditions (*ḥadīth*) relative to the bird. Moreover, he explained the bird’s lawfulness as human food according to the different *madhāhib* (*ḥukm*), any proverbs (*amthāl*) related to the bird, medical benefits of the bird and its parts (*khawāṣṣ*), and its meaning when appearing in dreams (*taʿbīr*).<sup>9</sup> The book’s literary nature dominates, but its scientific value is apparent in the medical coverage.

I chose to focus on these two sources in this study for several reasons. First, they are both attributed to the Mamluk period, a prosperous era marked by a rich production in various sciences and other fields of knowledge. Second, despite coming from two different categories of books, both have detailed discussions of birds and highlight the benefits of birds and their use in the treatment of diseases. Finally, both also cover the magical benefits of birds and their usage

<sup>7</sup>In his description of birds al-ʿUmarī mentioned verses of poetry by Abū al-Aswad al-Duʿalī (d. 69/688), Bashshār ibn Burd (d. 167/784), Abū Saʿīd al-Šīrāfī (d. 368/979), and Jarīr ibn ʿAṭīyah.

<sup>8</sup>Muḥammad ibn Mūsá ibn ʿĪsá Kamāl al-Dīn al-Damīrī was born in Cairo in 742/1341 and died there in 808/1405. He started his career as a tailor in his native town, then decided to become a professional theologian. He was taught by famous scholars such as al-Subkī and al-Asnawī and took up posts in several places of learning and devotion. He gained fame as an author, in the east and the west, for his compendium of Arabic zoology, *Ḥayāt al-ḥayawān*, which he wrote to correct false notions about animals. Al-Damīrī, *Ḥayāt al-ḥayawān al-kubrā*, ed. Muḥammad ʿAbd al-Qādir al-Fāḍilī (Beirut, 2004), 5–6; L. Kopf, “al-Damīrī,” *EI2*, [http://dx.doi.org/10.1163/1573-3912\\_islam\\_SIM\\_1685](http://dx.doi.org/10.1163/1573-3912_islam_SIM_1685).

<sup>9</sup>Somogyi, “Ad-Damīrī’s *Ḥayāt al-ḥayawān*,” 38–41; MacDonald, “Animal-Books,” 8.



in preparing amulets, talismans, and special remedies used in magical practices and folk medicine, which gives us valuable information about prevailing beliefs and public practices in Mamluk society.

## ISLAMIC MEDICINE: ITS EVOLUTION AND BASIC THEORY

Muslims paid attention to medicine and pharmacy, among other sciences, because of their importance in preserving the life and health of humans. The interest in medicine was consistent from the time of the Prophet, who encouraged people to treat diseases when he said, “O worshipers of Allah! Seek treatment, for Allah does not create any disease but He also creates with it the cure, except for old age.”<sup>10</sup>

Islamic medicine in its formative period depended mainly on Greek medicine and was much influenced by the works of Hippocrates and the most important Greek physician, Galen. It was also influenced by the practices of the medical school of Alexandria, the theories and practices of the Persians and Indians, and Syriac medical knowledge.<sup>11</sup> Translation played a pivotal role in the formation of Islamic medical traditions as the Abbasid caliphs induced physicians, many of whom were Nestorian Christians, to translate fundamental medical works into Arabic. Among these are Ibn Bakhtīshū<sup>c</sup>,<sup>12</sup> al-Bīṭrīq,<sup>13</sup> Yūḥannā ibn Māsawayh,<sup>14</sup> and Ḥunayn ibn Ishāq.<sup>15</sup>

<sup>10</sup> *Sunan Ibn Mājah* 3436, book 31: Chapter on Medicine, Hadith 1. <https://sunnah.com/ibnmajah:3436>.

<sup>11</sup> Seyyed Hossein Nasr, *Science and Civilization in Islam* (New York, 1969), 188–92; Peter E. Porrmann and Emilie Savage-Smith, *Medieval Islamic Medicine* (Washington, 2007), 6–22; Rāghib al-Sirjānī, *Qiṣṣat al-‘ulūm al-ṭibbiyah fī al-ḥadārah al-Islāmiyah* (Cairo, 2009), 21–25.

<sup>12</sup> Jurjis ibn Bakhtīshū<sup>c</sup> was a famous physician from Jundīshāpūr who was invited to the Abbasid court by the caliph al-Manṣūr and became his personal physician. He translated several books from Greek into Arabic for the caliph. Nasr, *Science and Civilization*, 193; George Saliba, *Al-Fikr al-‘ilmī al-‘Arabī: Nash’ātuḥu wa-taṭawwuruḥu* (Balamand, 1998), 65; Ahmad Y. al-Hassan, “The Age of Translation and the Beginning of the Scientific Renaissance,” in *The Different Aspects of Islamic Culture*, 4:1:89; D. Sourdel, “Buk ḥ tīs ḥ ū<sup>c</sup>,” *EI2*, [http://dx.doi.org/10.1163/1573-3912\\_islam\\_SIM\\_1514](http://dx.doi.org/10.1163/1573-3912_islam_SIM_1514).

<sup>13</sup> Abū Yaḥyá al-Bīṭrīq was ordered by al-Manṣūr to translate some of the ancient books. Many translations of medical books by Hippocrates and Galen were attributed to him. Rihāb Khidr ‘Akkāwī, *Al-Mūjaz fī tārikh al-ṭibb ‘ind al-‘Arab* (Lebanon, 1994), 170; al-Hassan, “Age of Translation,” 97.

<sup>14</sup> Yūḥannā ibn Māsawayh was a member of a family of physicians. He was a court physician and contributed to the translation of Greek scientific works. Nasr, *Science and Civilization*, 194; Paula De Vos, “The Prince of Medicine: Yūḥannā ibn Māsawayh and the Foundation of the Western Pharmaceutical Tradition,” *Isis* 104, no. 4 (2013): 667–712; J. C. Vadet, “Ibn Māsawayh,” *EI2*, [http://dx.doi.org/10.1163/1573-3912\\_islam\\_SIM\\_3289](http://dx.doi.org/10.1163/1573-3912_islam_SIM_3289).

<sup>15</sup> Ḥunayn ibn Ishāq was a Nestorian Christian physician who was fluent in Greek, Syriac, and Arabic. He was considered the master of translation and was the chief physician of the caliph



By the late third/ninth century, Muslim physicians had incorporated these translations into their understanding, analyzed them, added their own observations, and started to correct their errors. The physicians benefited from the emergence of hospitals (*bīmāristān*) that also functioned as medical schools with a teaching system based on both theory and practice. This was the second stage in the evolution of Islamic medicine, which witnessed the appearance of great physicians whose works were very influential,<sup>16</sup> such as al-Rāzī,<sup>17</sup> al-Zahrāwī,<sup>18</sup> Ibn Sīnā,<sup>19</sup> Ibn al-Nafīs,<sup>20</sup> and too many others to list. Their writings spread widely and were used by generations of physicians who practiced medicine in different regions.

The basic explanatory medical principle of Islamic medicine was that of humoral pathology, inherited from the Greeks, which holds that the body is made up of four humors (*akhlāt*): blood, phlegm, yellow bile, and black bile. Each humor

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al-Mutawakkil. ‘Akkāwī, *Al-Mūjaz fī tāriḫ al-ṭibb*, 170–71; Pormann and Savage-Smith, *Medieval Islamic Medicine*, 25; al-Hassan, “Age of Translation,” 99; G. Strohmaier, “Ḥunayn b. Iṣḥāq al-‘Ibādī,” *EI2*, [http://dx.doi.org/10.1163/1573-3912\\_islam\\_COM\\_0300](http://dx.doi.org/10.1163/1573-3912_islam_COM_0300); Peter E. Pormann, “The Development of Translation Techniques from Greek into Syriac and Arabic: The Case of Galen’s On the Faculties and Powers of Simple Drugs, Book Six,” in *Medieval Arabic Thought: Essays in Honor of Fritz Zimmermann*, ed. Rotraud Hansberger, M. Afifi al-Haytham, and Charles Burnett (London, 2012), 143–47.

<sup>16</sup>‘Akkāwī, *Al-Mūjaz fī tāriḫ al-ṭibb*, 236–42; Pormann and Savage-Smith, *Medieval Islamic Medicine*, 96–101; Labeed Ahmed Bsoul, *Medieval Islamic World: An Intellectual History of Science and Politics* (New York, 2018), 54.

<sup>17</sup>Al-Rāzī (250–313/865–925) was a major philosopher, physician, and alchemist. He was famous for his book *Al-Ḥāwī*, which included 30 volumes documenting his clinical observations of patients. Sāmī Ḥaddād, *Ma‘āthir al-‘Arab fī al-‘ulūm al-ṭibbiyah* (Beirut, 1926), 42–48; A. Z. Iskandar, “Al-Rāzī, al-ṭabīb al-iklīnikī,” *Al-Mashriq* 56 (1962): 217–59; ‘Akkāwī, *Al-Mūjaz fī tāriḫ al-ṭibb*, 205–7; L. E. Goodman, “al-Rāzī,” *EI2*, [http://dx.doi.org/10.1163/1573-3912\\_islam\\_SIM\\_6267](http://dx.doi.org/10.1163/1573-3912_islam_SIM_6267).

<sup>18</sup>Abū al-Qāsim al-Zahrāwī was an important Andalusian physician (d. after 400/1009). He was famous for his encyclopedic book *Al-Taṣrīf li-man ‘ajiza ‘an al-ta’līf*, which included three sections on medicine, surgery, and medications. Ḥaddād, *Ma‘āthir al-‘Arab*, 54–58; ‘Akkāwī, *Al-Mūjaz fī tāriḫ al-ṭibb*, 313–17; Emilie Savage-Smith, “al-Zahrāwī,” *EI2*, [http://dx.doi.org/10.1163/1573-3912\\_islam\\_SIM\\_8089](http://dx.doi.org/10.1163/1573-3912_islam_SIM_8089).

<sup>19</sup>Ibn Sīnā (370–427/980–1037) was a famous physician and philosopher whose greatest contribution to Arabic medicine is his book *Qānūn fī al-ṭibb*. This book came to dominate as a major source of knowledge about medicine in the medieval Islamic world, and eventually in Europe, for a long period. Ḥaddād, *Ma‘āthir al-‘Arab*, 52–54; ‘Akkāwī, *Al-Mūjaz fī tāriḫ al-ṭibb*, 207–8; A. M. Goichon, “Ibn Sīnā,” *EI2*, [http://dx.doi.org/10.1163/1573-3912\\_islam\\_COM\\_0342](http://dx.doi.org/10.1163/1573-3912_islam_COM_0342).

<sup>20</sup>Ibn al-Nafīs was a distinguished physician of the seventh/thirteenth century (d. probably 687/1288). His most important achievement in medicine was his theory of the lesser or pulmonary circulation of the blood, which contradicted the accepted ideas of Galen and Ibn Sīnā. ‘Akkāwī, *Al-Mūjaz fī tāriḫ al-ṭibb*, 280–84; M. Meyerhof and J. Schacht, “Ibn al-Nafīs,” *EI2*, [http://dx.doi.org/10.1163/1573-3912\\_islam\\_SIM\\_3319](http://dx.doi.org/10.1163/1573-3912_islam_SIM_3319).



was associated with two of the four primary qualities (hot, cold, dry, or moist), one of the four seasons (summer, spring, winter, or autumn), and a temperament (sanguine, choleric, melancholic, or phlegmatic). According to this theory, health means balance and harmony between the humors, while illness is caused by the excess of one of the humors and the disruption of their balance. Restoring wellness, therefore, required the reestablishment of balance between the humors through treatment using diet or medication.<sup>21</sup>

Islamic pharmacology is inseparable from medicine and applies the same theory. All substances were classified according to their qualities and according to their intensity and potency. Moreover, the administration of drugs considered the temperament of the patient based on long experience and observation, which meant that a drug could be useful for one patient but have an opposite effect on another.<sup>22</sup> Islamic sources distinguished between simple medicines (plant, animal, or mineral substances in their natural states) and compound medicines (simple medicines mixed together, known as *aqrabādhīn*). Some physicians devoted parts of their books to pharmacology, including al-Rāzī, al-Majūsī (probably d. 385/995),<sup>23</sup> and Ibn Sīnā, while other scholars dedicated some of their writings to pharmacy in particular, such as al-Bīrūnī (d. 440/1048) and al-Ghāfiqī (d. 560/1164).<sup>24</sup> Many influential works on pharmacology were written during the Mamluk period, marking the summit of pharmacology, as will be explained.

## ANALYSIS OF THE TWO SOURCES

### Regimen and Diet: Their Role in Treatment

Islamic medicine established strong ties between diet and health, as dietetics was understood as “the systematic control of food and drink in order to con-

<sup>21</sup> Muḥammad Kāmil Ḥusayn, *Al-Mūjaz fī tārikh al-ṭibb wa-al-ṣaydalah ‘ind al-‘Arab* (Cairo, n.d.), 38–43; Seyyed H. Nasr, *Islamic Science: An Illustrated Study* (Kent, 1976), 159–62; Pormann and Savage-Smith, *Medieval Islamic Medicine*, 43–44; Peter E. Pormann, “The Formation of the Arabic Pharmacology Between Tradition and Innovation,” *Annals of Science* 68, no. 4 (2011): 494–95.

<sup>22</sup> Ḥusayn, *Al-Mūjaz fī tārikh al-ṭibb*, 340–48; Nasr, *Science and Civilization*, 228; Nasr, *Islamic Science*, 185; Sami Khalaf Hamarneh, “Pharmacy and Materia Medica,” in *The Different Aspects of Islamic Culture*, vol. 4, Science and Technology in Islam, part 2, Technology and Applied Sciences, ed. A. Y. al-Hassan (Paris, 2001), 548; Pormann, “The Formation of the Arabic Pharmacology,” 500.

<sup>23</sup> Georges Anawati, *Tārikh al-ṣaydalah wa-al-‘aḳāqīr fī al-‘ahdal-qadīm wa-al-‘aṣral-waṣīt* (Beirut, 1996), 167–72; C. Elgood, “Alī b. al-‘Abbās,” *EI2*, [http://dx.doi.org/10.1163/1573-3912\\_islam\\_SIM\\_0509](http://dx.doi.org/10.1163/1573-3912_islam_SIM_0509).

<sup>24</sup> For more details about the important books on pharmacy and their content see: Nasr, *Islamic Science*, 187–90; Anawati, *Tārikh al-ṣaydalah*, 153–81; Hamarneh, “Pharmacy and Materia Medica,” 552–60; Bsoul, *Medieval Islamic World*, 81–84.



serve health or combat disease.”<sup>25</sup> Physicians preferred to use food for treatment before using medicines, as is shown by the saying of al-Rāzī: “Whenever you can treat with food, do not use medicine, and whenever you can treat with a simple medicine, do not use a compound one.”<sup>26</sup> This indicates an understanding that health could be maintained by many factors, and that a major one was a balanced diet. From a physician’s viewpoint, the principle of a sound diet was based on moderation in consumption and balance in quantities of food consumed. Muslim physicians also recognized the difference between nutrients (*ghidhāʾ*) and medicinal nutrients (*ghidhāʾ dawāʾī*). Nutrients were food and drinks in general, which contributed to bodily growth, while medicinal nutrients were food and drink that were able to correct some imbalance in the individual’s temperament or constitution. Therefore, Muslim physicians discussed the properties of foodstuffs, which foods were compatible with or contrary to the individual’s constitution, how to avoid the ill effect of foodstuffs by adjustment in their preparation, and how to use food and drink to counteract a malady or stimulate a desired effect.<sup>27</sup>

For Muslims, the basic rule that governs the consumption of food is being lawful, which means being good food for humans. The distinction between lawful and unlawful food is mentioned in the fourth verse of Sūrat al-Māʾidah: “They ask you, [O Muhammad], what has been made lawful for them. Say, ‘Lawful for you are [all] good foods and [game caught by] what you have trained of hunting animals which you train as Allah has taught you. So, eat of what they catch for you, and mention the name of Allah upon it, and fear Allah.’”<sup>28</sup> Based on that verse and others, as well as hadiths, it was agreed that lawful birds were chickens, cocks, ducks, geese, pigeons, sparrows, ostriches, and collared birds. On the other hand, birds of prey that hunt with their claws, such as eagles (*ʿiqbān* sing. *ʿuqāb*), goshawks (*bawāzī* or *buzāh*, sing. *bāzī*), peregrine falcons (*shawāhīn*, sing. *shāhīn*), and vultures (*nīsr*), were deemed unlawful. Birds that eat carrion, such as the black crow (*ghurāb*), were unlawful, as were other birds such as hoopoes (*hudhud*), swallows or kingfishers (*khuffāf*), and bats (*khuffāsh*). Wild birds that ate dirty things were unlawful because it was believed that the impurity of their food was mixed with their flesh and affected their smell, making them no longer good foods, while those that ate grain remained lawful.<sup>29</sup>

<sup>25</sup>David Waines, “Dietetics in Medieval Islamic Culture,” *Medical History* 43 (1999): 228.

<sup>26</sup>Ḥusayn, *Al-Mūjaz fī tārikh al-ṭibb*, 77. A similar practice was also followed by Ibn al-Nafīs: Kaspars Klavinš, “Diet and Reception Thereof in the Context of Middle East Medicine: a Historical Excursion,” *Latvijas Universitātes Raksti* (2016): 36.

<sup>27</sup>Waines, “Dietetics,” 238–39.

<sup>28</sup>Quran 5:4.

<sup>29</sup>Al-Qurashī, *Maʿālim al-qurbah fī aḥkām al-ḥisbah* (Cairo, 1976), 169–70.



The sources under study made it clear that most of the lawful birds were useful as nutrients *and* beneficial as medicinal nutrients, so they highlighted the properties of their meat, the temperaments with which they coincided, the best times for their consumption, their medical benefits, and their side effects, if any (see Table 1 for details). Domestic birds, such as chicken (*dajāj*, i.e., hen), cock (*dīk*, i.e., rooster), and goose (*iwazz*), were widely used due to their availability, so both sources elucidated their benefits and how to prepare them to treat different diseases. Lawful wild birds were also consumed, but were classified into categories according to their quality, digestibility, and benefits. The best of the wild birds was the palm dove (*dubṣī*), second were the quail (*summānī*) and *shahrūr* (a type of blackbird), and in the third category were the partridge (*ḥajal*), francolin (*durrāj*), *ṭayhūj* (a type of francolin or partridge), pigeon chicks (*firākh al-ḥamām*), and ring-dove (*warshān*).<sup>30</sup>

Analysis of data about the consumption of lawful birds as medicinal nutrients (Table 1) revealed that domestic birds were eaten for their digestibility, their nutritive and strengthening effect on bodies, and their positive effect on common gastrointestinal diseases such as colic, stomach bloating, stomach gases, and constipation. The meat of chickens and cocks was also used to treat other diseases, such as chronic fever and joint pain.<sup>31</sup> On the other hand, wild birds—such as *sūdānīyah* (a wild bird, identification unknown), peacock (*tāwūs*), sparrow (*ʿuṣfūr*), partridge (*qabaj*), curlew (*karawān*), and starling (*zarzūr*)—were usually eaten for their aphrodisiac effects, but other medical benefits were also considered, including their effect in treating dropsy, hemiplegia, and facial palsy.

### The Parts, Extracts, Products, and Droppings of Birds as Treatment

The use of animals not only as food but in treatment was witnessed in ancient Egyptian and Mesopotamian civilizations, and the practice left its mark on various societies that later arose in the Levant.<sup>32</sup> The medieval Islamic world could draw on a vast treasure-house of knowledge of plants, animals, and minerals that were used alone or in combination with other elements to produce medicines. Parts, extracts, products, and droppings of birds were among the *materia medica* used by physicians and pharmacists to restore the health of patients and to return balance to their temperament if proper diet failed to achieve that.

<sup>30</sup> Al-Damīrī, *Ḥayāt al-ḥayawān*, 2:413, 421; 3:127.

<sup>31</sup> Al-ʿUmarī, *Masālik*, 20:84–86; al-Damīrī, *Ḥayāt al-ḥayawān*, 2:418, 437.

<sup>32</sup> Efraim Lev, “Traditional Healing with Animals (Zoothrapy): Medieval to Present-day Levantine Practice,” *Journal of Ethnopharmacology* 8 (2003): 107; idem, “Healing with Animals in the Levant from the 10th to the 18th Century,” *Journal of Ethnobiology and Ethnomedicine* 2, no. 11 (2006): 1–2. Also see the important study of Joseph de Somogyi: “Medicine in ad-Damiri’s *Hayat al-Hayawan*,” *Journal of Semitic Studies* 2, no. 1 (1957): 62–91.





Each drug had three levels of qualities. Primary qualities were the simplest (hot, cold, wet, dry) and each could appear in one of four degrees, becoming progressively stronger. Secondary qualities derived from the general appearance and affected the entire body. Tertiary qualities derived from the secondary ones but influenced only a specific part of the body.<sup>33</sup>

Based on the understanding of these qualities and the understanding of the various diseases, simple or compound medicines were used either to treat the symptoms or, hopefully, the underlying causes of the disease. Such simple and compound medicaments were found in two types of books: books of materia medica, and pharmacopias known as *aqrābādihīn*, which are compilations of compounded prescriptions for many ailments. During the Mamluk period, the most famous books of these two types were, for the first category, *Al-Jāmi' li-mufradāt al-adwiyah wa-al-aghdhīyah* by Ibn al-Bayṭār,<sup>34</sup> and *Al-Dustūr al-bīmāristānī* by Ibn Abī al-Bayān and *Minhāj al-dukkān wa-dustūr al-a'yān* by al-Kūhīn al-ʿAṭṭār<sup>35</sup> for the second category.<sup>36</sup> The first book served as a basic guide to botany and other materials that could be used in preparing medicines, while the last book was intended to be a manual for pharmacists, chemists, drug sellers, and ʿaṭṭārūn (perfumers), and became popular and widespread in and outside of Egypt. These were specialized books for pharmacists and physicians and were considered essential for practicing pharmacology. Surprisingly, the authors of zoology books considered knowledge about medications prepared using an animal's parts and products, though specialized, essential to give a holistic perspective about the importance of the animal. This explains why al-ʿUmarī quoted large parts from

<sup>33</sup>Efraim Lev and Leigh Chipman, *Medical Prescriptions in the Cambridge Genizah Collections: Practical Medicine and Pharmacology in Medieval Egypt*, Cambridge Genizah Studies Series, vol. 4 (Leiden, 2012), 10.

<sup>34</sup>Ibn al-Bayṭār (d. 646/1249) was an Andalusian botanist and pharmacologist born in Malaga at the end of the sixth/twelfth century. He emigrated to the East in about 617/1220. He was famous for his works: *Al-Mughnī fī al-adwiyah al-mufradah*, dedicated to al-Ṣālih Najm al-Dīn Ayyūb, and *al-Jāmi' li-mufradāt al-adwiyah wa-al-aghdhīyah*, with the same dedication. The latter had a considerable influence on pharmacy both within and outside the Islamic world. Ḥusayn, *Al-Mūjaz fī tārikh al-ṭibb*, 414–18; Anawati, *Tārikh al-ṣaydalāh*, 189–92; J. Vernet, “Ibn al-Bayṭār,” *EI2*, [http://dx.doi.org/10.1163/1573-3912\\_islam\\_SIM\\_3115](http://dx.doi.org/10.1163/1573-3912_islam_SIM_3115); Bsoul, *Medieval Islamic World*, 81.

<sup>35</sup>Al-Kūhīn al-ʿAṭṭār was a Jewish pharmacist about whose life little is known. His book *Minhāj al-dukkān* is an extended pharmacopia intended for chemists and pharmacists. The book was written in 658/1260 and consists of 25 chapters discussing all types of medicines, focusing on compound ones and how to prepare them. Ḥusayn, *Al-Mūjaz fī tārikh al-ṭibb*, 418; Anawati, *Tārikh al-ṣaydalāh*, 193–95; A. Dietrich, “al-Kōhēn al-ʿAṭṭār,” *EI2*, [http://dx.doi.org/10.1163/1573-3912\\_islam\\_SIM\\_4424](http://dx.doi.org/10.1163/1573-3912_islam_SIM_4424); Wrūd Nurī Ḥusayn, “Al-Ṣaydalānī fī al-ʿaṣr al-Mamlūkī (Kūhīn al-ʿAṭṭār namūdhanjān),” *Journal of the Faculty of Education of al-Qādisīyah University* 21 (2015): 108–10.

<sup>36</sup>Efraim Lev and Zohar Amar, *Practical Materia Medica of the Medieval Eastern Mediterranean According to the Cairo Genizah* (Leiden, 2008), 16–19; Lev and Chipman, *Medical Prescriptions*, 10–13.



Ibn al-Bayṭār's book in addition to other older sources, and why al-Damīrī followed a similar methodology.

Both of our sources—*Masālik* and *Ḥayāt al-ḥayawān*—reveal that the parts of birds used for treatments included brains, heads, hearts, eyes, livers, feathers, gizzards, crops, testicles, combs, and tongues (see Table 2 for details). The most widely used part was the head, as the heads of fifteen birds were included in different remedies. The extracts of birds used in treatments included bile, blood, and fat. Of these, bile is the most commonly mentioned: the bile of nineteen birds was included in different remedies. The sole product of birds—eggs—and their droppings were both widely used: the eggs of eleven birds and the droppings of eighteen were included in a large number of remedies.

Our sources are rich in data about the medical benefits of birds, yet no classification was adopted according to the type of the disease, type of medication, or effect of the treatment. This data is compiled and classified in Table 2 in order to form a clear idea about how the different parts, extracts, and products were used. As a complete inventory is beyond the scope of this article, in the following pages I will present some representative examples, classified according to the types of diseases.

**Gastro-intestinal diseases** were widespread and birds were part of many treatments for such ailments. Colic was treated by eating the grilled meat of the lark (*qubrah*),<sup>37</sup> the grilled meat of the crow (*ghurāb*),<sup>38</sup> or the meat of the hoopoe (*hudhud*) cooked with water and dill,<sup>39</sup> or by drinking chicken droppings mixed with water and vinegar.<sup>40</sup> Diarrhea was treated by mixing equal parts of dried meat of cock with tannins and sumac (*summāq*) to form chickpea-sized pills to cure the patient.<sup>41</sup> If diarrhea became chronic, it was treated with pills made from the fat of the bustard (*hubārā*) mixed with salt and dried; five pills were to be taken with water on an empty stomach.<sup>42</sup> Jaundice and dropsy are two examples of diseases caused by liver failure, the treatment of which included parts of birds: the former was treated with the head of a partridge (*ḥajal*) drunk with wine,<sup>43</sup> while the latter was treated by coating the painful area with pigeon droppings mixed with vinegar<sup>44</sup> or by eating sparrows (*ʿaṣāfir*) or sandgrouse

<sup>37</sup>Al-ʿUmarī, *Masālik*, 20:102.

<sup>38</sup>Al-Damīrī, *Ḥayāt al-ḥayawān*, 3:220.

<sup>39</sup>Al-ʿUmarī, *Masālik*, 20:106.

<sup>40</sup>*Ibid.*, 85.

<sup>41</sup>*Ibid.*, 87.

<sup>42</sup>*Ibid.*, 77.

<sup>43</sup>*Ibid.*, 78.

<sup>44</sup>*Ibid.*, 81; al-Damīrī, *Ḥayāt al-ḥayawān*, 2:336.



(*qaṭā*) to reduce the symptoms.<sup>45</sup> Diseases of the intestinal tract, such as hemorrhoids and dysentery, were difficult to treat. Patients with hemorrhoids were advised to eat foods that digested quickly and to avoid hard meats and spices. Dysentery and hemorrhoid patients were to drink the brain of the kite (*ḥid'ah*) boiled with leeks and honey,<sup>46</sup> and topical treatments useful for hemorrhoids included the dried blood or eggs of a raven (*zāgh*, sometimes translated as jackdaw, a smaller member of the crow family)<sup>47</sup> and the dried blood of a crow.<sup>48</sup>

Topical treatments that included parts of birds or their droppings were widely used for **dermatological diseases**, some of which were minor skin problems while others were more severe. Freckles on the face and body were coated with burned bustard (*ḥubārā*) gizzard, finely ground and mixed with the water of green coriander,<sup>49</sup> or with the droppings of the *zummaj* (a small eagle or falcon, possibly steppe eagle)<sup>50</sup> or *uqāb*<sup>51</sup> (eagle) to be cured. Melasma was coated with the dried, burned bones of a peacock (*tāwūs*)<sup>52</sup> or the brain of a *ṣaqr* (falcon)<sup>53</sup> to change its dark color. Albinism and vitiligo were more serious skin conditions that could be treated with birds. Albinism was treated with an ointment made of dried pigeon droppings, barley flour, water, and tar applied to the skin with a linen bandage for three days and repeated,<sup>54</sup> with an ointment made of the bile of a crane (*kurkī*),<sup>55</sup> with the droppings of the Egyptian vulture (*rakham*) mixed with wine,<sup>56</sup> with the bile of the quail (*salwá*), with the blood of the collared dove (*fākhītah*), or with the blood of a black pigeon.<sup>57</sup> For vitiligo, the meat and crop of the raven (*zāgh*) were dried and mixed with honey to be drunk by the patient for three consecutive days,<sup>58</sup> or his skin was coated with the bile of quail (*salwá*) mixed with saffron.<sup>59</sup> Another severe disease was leprosy, which was

<sup>45</sup> Al-ʿUmarī, *Masālik*, 20:85, 103; sandgrouse meat is generally useful for patients with weak livers.

<sup>46</sup> *Ibid.*, 79.

<sup>47</sup> *Ibid.*, 89.

<sup>48</sup> Al-Damīrī, *Ḥayāt al-ḥayawān*, 3:220.

<sup>49</sup> Al-ʿUmarī, *Masālik*, 20:77–78.

<sup>50</sup> *Ibid.*, 92; al-Damīrī, *Ḥayāt al-ḥayawān*, 3:13.

<sup>51</sup> Al-ʿUmarī, *Masālik*, 20:97.

<sup>52</sup> *Ibid.*, 94; al-Damīrī, *Ḥayāt al-ḥayawān*, 3:114.

<sup>53</sup> Al-Damīrī, *Ḥayāt al-ḥayawān*, 3:87.

<sup>54</sup> Al-ʿUmarī, *Masālik*, 20:81.

<sup>55</sup> *Ibid.*, 111.

<sup>56</sup> *Ibid.*, 88; al-Damīrī, *Ḥayāt al-ḥayawān*, 2:461.

<sup>57</sup> Al-Damīrī, *Ḥayāt al-ḥayawān*, 3:36; 4:240.

<sup>58</sup> Al-ʿUmarī, *Masālik*, 20:89.

<sup>59</sup> Al-Damīrī, *Ḥayāt al-ḥayawān*, 3:36.



treated with the fat of chickens fed on safflower (*qurṭum*) for 12 days.<sup>60</sup> Similarly, alopecia, which causes hair loss on the head and other parts of the body, was treated by coating the skin with goose fat<sup>61</sup> or the ashes of burned sandgrouse (*qaṭā*) bones mixed with oil from unripe olives (*anfāq*).<sup>62</sup> The droppings of several birds—bat (*khuffāsh*),<sup>63</sup> starling (*zarzūr*) fed on rice,<sup>64</sup> and ostrich (*na‘ām*)<sup>65</sup>—were used for the treatment of ringworm by spreading it on the red area of the infection. Other droppings, such as those of peacocks (*tāwūs*),<sup>66</sup> sparrows (*‘aṣāfir*),<sup>67</sup> and lark (*qubrah*),<sup>68</sup> were used for the treatment of warts.

**Ophthalmic diseases** were also very common in Egypt, and the heads, bile, and droppings of several birds were common components of many treatments. Cataracts, or the clouding of the lens of the eye, were treated with the brain of an owl (*būm*)<sup>69</sup> or the head of a pigeon burned with its feathers and crushed.<sup>70</sup> The condition was also treated with eye medications, or *akhāl*, made from the bile of the partridge (*ḥajal*),<sup>71</sup> *zummaj* (a small eagle or falcon),<sup>72</sup> sparrow hawk (*bāshiq*),<sup>73</sup> raven (*zāgh*),<sup>74</sup> or vulture (*nisr*),<sup>75</sup> the last two mixed with honey, or the droppings of the parrot (*babaghā*).<sup>76</sup> Watery eyes—the production of excessive tears—was treated with *akhāl* that could be made from the bile of various birds (partridge [*ḥajal*],<sup>77</sup> eagle [*‘uqāb*],<sup>78</sup> partridge [*qabaj*],<sup>79</sup> vulture [*nisr*],<sup>80</sup> or goshawk

<sup>60</sup> Al-‘Umarī, *Masālik*, 20:85.

<sup>61</sup> Al-Damīrī, *Ḥayāt al-ḥayawān*, 1:137.

<sup>62</sup> Al-‘Umarī, *Masālik*, 20:103; al-Damīrī, *Ḥayāt al-ḥayawān*, 4:308.

<sup>63</sup> Al-‘Umarī, *Masālik*, 20:83; al-Damīrī, *Ḥayāt al-ḥayawān*, 2:381.

<sup>64</sup> Al-‘Umarī, *Masālik*, 20:92.

<sup>65</sup> Al-Damīrī, *Ḥayāt al-ḥayawān*, 4:428.

<sup>66</sup> Al-‘Umarī, *Masālik*, 20:94; al-Damīrī, *Ḥayāt al-ḥayawān*, 3:114.

<sup>67</sup> Al-‘Umarī, *Masālik*, 20:96; al-Damīrī, *Ḥayāt al-ḥayawān*, 3:149.

<sup>68</sup> Al-Damīrī, *Ḥayāt al-ḥayawān*, 4:290.

<sup>69</sup> Al-‘Umarī, *Masālik*, 20:76.

<sup>70</sup> *Ibid.*, 80.

<sup>71</sup> *Ibid.*, 78; al-Damīrī, *Ḥayāt al-ḥayawān*, 2:293.

<sup>72</sup> Al-‘Umarī, *Masālik*, 20:93; al-Damīrī, *Ḥayāt al-ḥayawān*, 3:13.

<sup>73</sup> Al-Damīrī, *Ḥayāt al-ḥayawān*, 1:146.

<sup>74</sup> Al-‘Umarī, *Masālik*, 20:89; al-Damīrī, *Ḥayāt al-ḥayawān*, 3:7.

<sup>75</sup> Al-‘Umarī, *Masālik*, 20:105.

<sup>76</sup> *Ibid.*, 112; al-Damīrī, *Ḥayāt al-ḥayawān*, 1:150.

<sup>77</sup> Al-‘Umarī, *Masālik*, 20:78.

<sup>78</sup> *Ibid.*, 97; al-Damīrī, *Ḥayāt al-ḥayawān*, 3:165.

<sup>79</sup> Al-‘Umarī, *Masālik*, 20:101; al-Damīrī, *Ḥayāt al-ḥayawān*, 4:288.

<sup>80</sup> Al-‘Umarī, *Masālik*, 20:104; al-Damīrī, *Ḥayāt al-ḥayawān*, 4:419.



[*bāzī*]),<sup>81</sup> from the head of a bat (*waṭwāt*) mixed with honey,<sup>82</sup> or from the head of a bat (*khuffāsh*) mixed with onion water.<sup>83</sup> In that case, the heads of birds were usually burned and crushed with a substance that had an astringent or moderating effect. On the other hand, to remove pus from the eye and accelerate healing after eye surgery, the blood of birds such as pigeon (*ḥamām*), *shifnīn* (uncertain, possibly turtle-dove), and ring-dove (*warshān*) was useful.<sup>84</sup>

Some **neurological diseases** were also treated with parts of birds. For facial palsy, the heart of an owl (*būm*) was eaten or the blood of the same bird was used for coating the face.<sup>85</sup> The bile of the goshawk (*bāzī*) or crane (*kurkī*) was used to prepare inhalable medications that proved effective for treating the same disease.<sup>86</sup> For epilepsy, the liver of partridge (*ḥajal*) or of grilled partridge (*qabaj*) was eaten, while for migraine, the bile of the Egyptian vulture (*rakham*) mixed with violet fat was dropped into the ear opposite the side of the headache.<sup>87</sup> Hemiplegia (paralysis of one side of the face or body) was treated with the head of a bat mixed with lily fat and cooked for a long period, after which the fat produced was coated on the patient. Alternatively, the whole bat would be cooked and the cooking water poured in a basin in which the patient sat to be cured.<sup>88</sup>

The field of **toxicology, burns, and ulcers** involved many remedies that employed birds or their extracts and droppings. The bites of scorpions and vermin were treated by cutting a live pigeon, chicken, or cock and putting it—while still warm—on the bitten area.<sup>89</sup> Dog bites were treated by coating the bitten area with cock droppings mixed with vinegar,<sup>90</sup> while snakebite was treated with the bile or gizzard of an Egyptian vulture (*rakham*).<sup>91</sup> Pigeon droppings proved useful: to treat fire burns they were burnt in linen and the ashes were mixed with oil and coated on the burned area, and to treat bed sores they were mixed with honey and linen seeds and applied on sores.<sup>92</sup> Sores and ulcerations were similarly treated by coating them with the blood of peacock (*ṭāwūs*) mixed with

<sup>81</sup> Al-ʿUmarī, *Masālik*, 20:108.

<sup>82</sup> *Ibid.*, 106.

<sup>83</sup> *Ibid.*, 83.

<sup>84</sup> *Ibid.*, 80.

<sup>85</sup> *Ibid.*, 76.

<sup>86</sup> *Ibid.*, 108, 111.

<sup>87</sup> *Ibid.*, 88.

<sup>88</sup> *Ibid.*, 83; al-Damīrī, *Ḥayāt al-ḥayawān*, 2:377.

<sup>89</sup> Al-ʿUmarī, *Masālik*, 20:80, 84; al-Damīrī, *Ḥayāt al-ḥayawān*, 2:336.

<sup>90</sup> Al-ʿUmarī, *Masālik*, 20:85.

<sup>91</sup> *Ibid.*, 88; al-Damīrī, *Ḥayāt al-ḥayawān*, 2:461.

<sup>92</sup> Al-ʿUmarī, *Masālik*, 20:81; al-Damīrī, *Ḥayāt al-ḥayawān*, 2:336.



*inzarūt* (a bitter, red tree sap) and salt<sup>93</sup> or by sprinkling the dried droppings of quail (*salwá*) on them.<sup>94</sup>

Medications for many other diseases also included parts of birds in their ingredients, such as an inhalable medicine for *diphtheria* that used the dried meat of starling (*zarzūr*)<sup>95</sup> or an emetic made from chicken droppings.<sup>96</sup> Pigeon droppings were part of a medicine for *gout*.<sup>97</sup> In addition to the many diseases mentioned above, our sources reveal that birds were also useful for rupturing tumors, facilitating delivery, causing pregnancy, relieving various body pains, enhancing erections, removing kidney stones, and removing, restoring, or dying hair. It is apparent that birds (whole or partial) were employed in the treatment of a list of diseases so long that it is hard to accomplish an exact count (see Table 2 for details).

### Folk Medicine: Amulets, Talismans, and Magical Practices

Magical and folkloric practices formed part of the medical pluralism during medieval times. Muslims inherited many beliefs and customs from older civilizations, and these continued to be used at all levels of society. It was generally perceived that both natural and unnatural causes could lie behind an illness. Belief in the evil eye and the harm that could be caused by evil beings resulted in the use of talismans, amulets, and magical practices in addition to invocations and prayers addressed to God or one of his intercessors to protect people from harm and evil powers.<sup>98</sup>

Ibn Khaldūn identifies magic and talismans as “sciences of how humans affect the world of elements with or without an aid” and added that these sciences were common among the Babylonians and the Copts of Egypt.<sup>99</sup> Magic, in this context, aims to change one’s situation, or that of another, by using magical objects such as amulets and talismans to utilize a powerful entity. An amulet can be described as an object endowed with magical powers used by the person who carries it; it can be used by anyone to target all sorts of problems. A talisman, on the other hand, is only meant to perform one specific task and is intended for a particular user in a defined situation.<sup>100</sup> Both amu-

<sup>93</sup> Al-ʿUmarī, *Masālik*, 20:94; al-Damīrī, *Ḥayāt al-ḥayawān*, 3:114.

<sup>94</sup> Al-Damīrī, *Ḥayāt al-ḥayawān*, 3:36.

<sup>95</sup> Al-ʿUmarī, *Masālik*, 20:92.

<sup>96</sup> *Ibid.*, 85.

<sup>97</sup> *Ibid.*, 81.

<sup>98</sup> Pormann and Savage-Smith, *Medieval Islamic Medicine*, 144.

<sup>99</sup> Ibn Khaldūn, *Muqaddimat Ibn Khaldūn* (Alexandria, n.d.), 348.

<sup>100</sup> Marcela A. Garcia Probert and Petra M. Sijpesteijn, “Introduction: Transmission, Efficacy and Collections: Amulets in Interaction with Their Environment,” in *Amulets and Talismans of the*



lets and talismans were categorized as active magical texts through which magic was performed.<sup>101</sup> They could be marked with features such as Quranic verses and/or the word of God, the names of angels and/or demons, magical symbols, Arabic letters, and sometimes drawings.<sup>102</sup> These inscriptions and drawings transmitted divine or magical power to the amulet or talisman so it could maintain or re-establish well-being or protect from harm or illness. Amulets and talismans were hung around a person's neck, bound to some part of the body, hung on the wall, or kept hidden in a certain place<sup>103</sup> in order to fulfil their intended purposes.

A number of general magical manuals that included incantations, prayers, and talismans for different illnesses, mannerisms, and misfortunes were composed as early as the twelfth century by healers who compiled their experiences, practices, and insights that combined magic and medical recipes. The magical treatise of the Egyptian author al-Būnī (d. 622/1225) achieved foundational status among scholars in the Muslim world.<sup>104</sup> A separate genre focusing on the magical employment of animals, plants, and minerals, called *khawāṣṣ*, revolved around the idea that each element in nature had hidden properties that could be activated and used to cure disease, obtain good fortune, or protect from harm.<sup>105</sup> Many treatises of that genre were composed, usually with the title *Kitāb al-khawāṣṣ* (Book of occult properties), and Mamluk Cairo witnessed a renaissance of occultism from the late eighth/fourteenth century.<sup>106</sup> The remedies and formulae of such treatises became popular, especially since they offered solutions not only for medical but also for social and behavioral problems. This explains why other books that were non-magical in nature, such as those studied here, considered such remedies to be integral parts of knowledge concerning the medical benefits of animals, plants, and minerals.

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*Middle East and North Africa in Context*, ed. Marcela A. Garcia Probert and Petra M. Sijpesteijn (Leiden, 2022), 5.

<sup>101</sup> Ursula Hammed, "Arabic Magical Texts in Original Documents: A Papyrologist Answers Five Questions You Always Wanted to Ask," in *Amulets and Talismans*, ed. Garcia Probert and Sijpesteijn, 219.

<sup>102</sup> *Ibid.*, 219–23.

<sup>103</sup> Pormann and Savage-Smith, *Medieval Islamic Medicine*, 145–146; Garcia Probert and Sijpesteijn, "Introduction," 3.

<sup>104</sup> Petra M. Sijpesteijn, "Arabic Medical-Magical Manuscripts: A Living Tradition," in *Amulets and Talismans*, ed. Garcia Probert and Sijpesteijn, 80.

<sup>105</sup> Pormann and Savage-Smith, *Medieval Islamic Medicine*, 148.

<sup>106</sup> Sijpesteijn, "Arabic Medical-Magical Manuscripts," 90.



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In terms of birds exploited in folk or magical remedies, al-ʿUmarī mentions twenty-two birds and al-Damīrī mentions twenty-seven (fifteen of these birds are mentioned by both authors). At the top of the list of birds that were commonly used in folk medicine are: hoopoe (*hudhud*), cock (*dīk*), Egyptian vulture (*rakham*), crow (*ghurāb*), owl (*būm*), swift or swallow (*khuffāf*), and bat (*khuffāsh*). Popular remedies that exploited birds (partly or wholly) were plentiful and miscellaneous, some aiming to solve social problems, others aiming to protect from harm, cure illness, overcome unpleasant traits, or achieve a desire. Some of the remedies described how to prepare an amulet or a talisman while others described a magical practice or a medication intended for consumption. The analysis of our sources resulted in a long list of remedies (see Table 3 for details) and I intend to highlight only a few examples to give an overview of such usage of birds. In all cases, the person doing the practice or making the remedy is using it to cause an effect on the receiver or the person intended to receive the impact.

Remedies to cause love were the most frequently mentioned in the studied sources. The hoopoe (*hudhud*) was used in several of them, such as burning the left wing of a hoopoe and sprinkling the ashes on the pathway of the intended target. Another involved putting a hoopoe's beak and a feather from its right wing in a leather pouch with a paper on which are written the names of the targeted person and his/her mother (to avoid affecting some other person with the same name). A talisman made by using the tongue and beak of a hoopoe wrapped in antelope leather (inscribed with certain magical words) and buried under someone's door was also used to cause love. The head of a hoopoe could be cooked with flour and made into a dough that was dried and fed to someone. As a result of any of these, the person targeted by the practice would love the person doing it.<sup>107</sup> More examples: if a person mixed the eye of an owl (*būm*) with musk, whoever smelled it would love the person carrying it,<sup>108</sup> and similarly if the dried eye of the swift or swallow (*khuffāf*) was mixed with a good fat, a woman who drank it would love the person who gave her the drink.<sup>109</sup> The same effect would result from drinking wine to which the heart and head of a crow (*ghurāb*) were added.<sup>110</sup> Some remedies were made to regain love. After a quarrel between a husband and wife, for example, putting the head of a black chicken under their bed would recover the love between them.<sup>111</sup> By the same token, if

<sup>107</sup> Al-Damīrī, *Ḥayāt al-ḥayawān*, 4:453.

<sup>108</sup> Al-ʿUmarī, *Masālik*, 20:76.

<sup>109</sup> Al-Damīrī, *Ḥayāt al-ḥayawān*, 2:374.

<sup>110</sup> *Ibid.*, 3:220.

<sup>111</sup> *Ibid.*, 2:419.





a woman hated her husband, he could coat his male organ with lark (*qubrah*) fat before intercourse and she would love him again.<sup>112</sup>

In contrast, practices that caused dispute and hostility were also common. The blood of a cock (*dik*) or a parrot (*babaghā*), when dried and sprinkled between two people, would cause hostility and quarreling between them.<sup>113</sup> The same result could be caused by sprinkling dried owl (*būm*) meat on someone's food,<sup>114</sup> by sticking the droppings of a black chicken on the door of their house,<sup>115</sup> or by fumigating them with the eye of a raven (*zāgh*) or crow (*ghurāb*).<sup>116</sup>

Many remedies intended to cause sleep or wakefulness used parts of birds, and especially their eyes. It was believed that one eye of an owl, a nocturnal bird, caused sleep and the other caused wakefulness. To distinguish between the two, they were tested by putting them in water: the one that sank caused sleep and the one that floated did the opposite. To achieve these effects, the former was put under a pillow and the latter was inserted as an amulet in a ring.<sup>117</sup> The same effect was attributed to the eye of the stork (*luqluq*).<sup>118</sup> Wakefulness could be caused by putting the head and heart of bat (*khuffāsh*) under a pillow,<sup>119</sup> hanging the eye of a swallow (*khuffāf* or *sunūnū*)<sup>120</sup> on a bed, or mixing the blood of a collared dove (*fākhītah*) with pigeon blood, oil, and tar and using it for fumigation.<sup>121</sup>

Protections against the evil eye and magic were also frequently provided. If a hoopoe (*hudhud*) was slaughtered and hung on a house door, it would protect its inhabitants from magic and the evil eye,<sup>122</sup> while the beak of a crow (*ghurāb*) could be hung on a person to protect him from the evil eye.<sup>123</sup>

Parts of birds were used in many remedies intended to acquire good traits: the meat or the tongue of a parrot (*babaghā*) helped a person become fluent and outspoken,<sup>124</sup> the head of an eagle (*uqāb*) helped a person achieve courage, and the bile or bones of a *tannūṭ* (identification uncertain, aside from being a small

<sup>112</sup>Ibid., 4:290.

<sup>113</sup>Al-ʿUmarī, *Masālik*, 20:86, 112; al-Damīrī, *Ḥayāt al-ḥayawān*, 1:150.

<sup>114</sup>Al-ʿUmarī, *Masālik*, 20:76.

<sup>115</sup>Al-Damīrī, *Ḥayāt al-ḥayawān*, 2:418.

<sup>116</sup>Al-ʿUmarī, *Masālik*, 20:88, 99.

<sup>117</sup>Al-ʿUmarī, *Masālik*, 20:76; al-Damīrī, *Ḥayāt al-ḥayawān*, 1:208.

<sup>118</sup>Al-Damīrī, *Ḥayāt al-ḥayawān*, 4:381.

<sup>119</sup>Al-ʿUmarī, *Masālik*, 20:83; al-Damīrī, *Ḥayāt al-ḥayawān*, 2:377.

<sup>120</sup>Al-Damīrī, *Ḥayāt al-ḥayawān*, 2:374; 3, 49.

<sup>121</sup>Al-ʿUmarī, *Masālik*, 20:100.

<sup>122</sup>Ibid., 106; al-Damīrī, *Ḥayāt al-ḥayawān*, 4:453.

<sup>123</sup>Al-ʿUmarī, *Masālik*, 3:220.

<sup>124</sup>Ibid., 112; al-Damīrī, *Ḥayāt al-ḥayawān*, 1:150.



bird) helped a person be well-mannered.<sup>125</sup> Bird parts were also used to reverse negative traits, behaviors, or problems: the blood of a crow (*ghurāb*) caused a person to dislike wine,<sup>126</sup> and the meat of an Egyptian vulture (*rakham*) was an impediment to coition.<sup>127</sup> Strengthening memory, curing insanity, eliminating anxiety, protection against drowning, assistance achieving goals and needs, and facilitating delivery are only some of the many other reasons behind folk and magical remedies that used birds' body parts, extracts, or droppings (see Table 3 for details).

## DISCUSSION

The two sources that this study focuses on derived their information about birds from older sources. Al-ʿUmarī's sources were varied, as he referred frequently to zoological books such as al-Qazwīnī's *ʿAjāʾib al-makhlūqāt* and al-Jāḥiẓ's *Al-Ḥayawān*, medical books by al-Rāzī and Ibn Sīnā, agriculture books such as *Al-Filāḥah al-Nabaṭīyah* by Ibn Waḥshīyah, and older sources by Greek authors. Al-ʿUmarī's most important source was Ibn al-Bayṭār's *Al-Jāmiʿ li-mufradāt al-adwiyah wa-al-aghdhīyah*,<sup>128</sup> which served as a basic guide in botany and materia medica. Al-ʿUmarī quoted verbatim from Ibn al-Bayṭār to the extent that a copy of the twentieth volume of his book—which is devoted to animals—preserved in the Bibliothèque nationale de France was wrongly attributed to Ibn al-Bayṭār.<sup>129</sup> Because of the diversified character of al-Damīrī's book, he depended on and quoted from such a huge number of sources that counting them is beyond the scope of this research.<sup>130</sup> When it comes to his discussion of the benefits of birds, however, his sources did not differ much from those of al-ʿUmarī. Neither of the two authors approached his sources critically; on the contrary, they accepted all their information and copied protracted passages from them. As a result, the knowledge about animals presented in these works was a mixture of scientific and practical knowledge related to how different practitioners and healers had

<sup>125</sup> Al-ʿUmarī, *Masālik*, 20:108; al-Damīrī, *Ḥayāt al-ḥayawān*, 1:213.

<sup>126</sup> Al-ʿUmarī, *Masālik*, 20:99; al-Damīrī, *Ḥayāt al-ḥayawān*, 3:220.

<sup>127</sup> Al-ʿUmarī, *Masālik*, 20:88.

<sup>128</sup> This book listed about 1400 simple drugs and plants, 400 of which were not known to the Greeks. The drugs were of animal, plant, and mineral origin, arranged alphabetically in a simplified form, and divided into 20 chapters. Ibn al-Bayṭār reviewed 150 works by other scholars and physicians, benefiting from their works, avoiding their mistakes, and adding to them based on his practical experience. Thus, his book was one of the main botany sources that gained fame in the Islamic world and Europe.

<sup>129</sup> BnF Ar. No. 2771.

<sup>130</sup> For more details about al-Damīrī's sources, see: Joseph de Somogyi, "Index des sources de la *Ḥayāt al-ḥayawān* de ad-Damīrī," *Journal Asiatique* 213 (1928): 5–128.



used them. Legality was also essential to include with the general knowledge about animals as it regulated their usage.

Analysis of information in these two sources revealed that only lawful birds were used as nutrients or medicinal nutrients, while the usage of unlawful birds depended on the properties of their parts, extracts, products, and droppings, as well as their effects on the human body and its temperaments when used in medication. They were part of the prosperous diversified *materia medica* that marked medieval Islamic medicine and highlighted its merit and evolution over Greek medicine. The medical benefits of birds (wholly or partly used) ranged to cover the treatment of a wide variety of symptoms and diseases of different types and categories. Some were simple, common symptoms while others were severe or chronic diseases.

Birds were used in both simple and compound medicines. Sometimes the studied sources give a remedy's method of preparation and quantities of its components in detail, but in many cases they only mention that a certain item is useful for a certain disease or symptom. In both cases, the language used in the descriptions of remedies is simple enough that it could be comprehended by non-experts. In terms of their means of application, the medications varied widely, including topical, inhalable, and oral medicines, including—but not limited to—oils and fats (*dahān*), syrups (*sharāb*), liniments and ointments (*ṭilāʾ* or *marham*), pills (*ḥubūb*), dusting powders (*zurūr*), snuffs (*suʿūt*), powders (*sufūf*), eye powders or ointments (*kuḥl*, *akḥāl*), suppositories (*fatāʾil*), eye or nasal drops (*qaṭrah*), and pastes (*maʿjūn*).

Generally, both al-ʿUmarī and al-Damīrī, but especially the former, were keen to mention the sources from which they quoted the uses of birds. In some cases the remedy was followed with an affirmative phrase to ensure its effectiveness such as “*mujarrab*” (tried or tested), “*nafiʿahu inshāʾ Allāh*” (useful for him, God willing), or “*yabraʾ waḥyan inshāʾ Allāh*” (he is cured immediately, God willing). Of course, neither author was a practitioner, and they had not tried the remedies themselves but were quoting from the physicians and experts they relied on, such as Ibn Sīnā, al-Rāzī, and Ibn al-Bayṭār. Such comments from authoritative sources who were considered masters in their field undoubtedly added credibility to the remedies. Moreover, taking care to mention the names of the original authors conferred scientific integrity on the two authors and implied that they considered themselves outsiders to the field of medicine who were simply transmitting existing knowledge to their readers.

The fact that both sources presented folk/magical remedies side by side with medical remedies implies the widespread use and acceptance of folk medicine at the time. In fact, folk medicine satisfied social needs that traditional medicine could not, and was thus of no less importance than tradition-



al medicine. It helped the public to face their fears, achieve their desires, and cure their intractable illnesses. It provided magical solutions to family problems, unfavorable traits, and unexplained fears. Folk medicine represented a field of knowledge where ancient traditions intertwined with talismans, invocations, and prophetic medicine. It also exhibited some of society's prevailing beliefs, such as belief in the harmful effects of the evil eye and the existence of evil beings that could harm humans. In the same vein, it was believed that animals and certain parts of their bodies had hidden powers that could be activated, and that such powers were generally associated with the features of the animal itself. For example, the owl and the bat, which are nocturnal, have powers to cause insomnia and wakefulness, while the parrot, which is marked by its ability to mimic sounds, has power to cause fluency. Similarly, some kinds of cocks known for hostility and fighting have the power to cause dispute and hostility between friends and family, and the eyes of some birds have the power to protect from the evil eye.

This analysis also sparks other important questions. For example, were the many different birds mentioned in our sources actually available in Egypt and thus able to be used in preparing medicines? The chronicles of the Mamluk period prove that a wide variety of birds was, in fact, available. Sources show that incubators were used in Egypt for the mass production of chickens at least as early as the twelfth century, ensuring the abundance of chickens in markets. Domestic birds were bred by the sultan to be used for daily consumption and for special ceremonies<sup>131</sup> and were also bred by farmers and sold in the markets of Cairo and other large cities. Therefore, chickens, geese, and ducks were always available except in times of famine and scarcity. Al-Maqrīzī mentioned that other birds were sold in Cairo's markets on Fridays, such as turtle-doves (*qumārī*), sandgrouse (*qaṭā*), parrots (*babaghā*), quail (*summānī*), sparrows (*ʿaṣāfir*), pigeons (*ḥamām*), and starlings (*zarzūr*).<sup>132</sup> Other types of wild birds, such as crows (*ghurāb*), collared doves (*fākhīṭah*), owls (*būm*), eagles (*uqāb*), vultures (*nīsr*), and falcons (*ṣaqr*), in addition to migrating birds such as cranes (*kurkī*), were also available in Egypt.<sup>133</sup> From this we may conclude that a large number of the birds that were needed for dif-

<sup>131</sup> Al-Maqrīzī, *Al-Mawāʿiẓ wa-al-ʿiṭibār bi-dhikr al-khiṭaṭ wa-al-āthār* (Cairo, 1999), 3:229; Ibn Taghrībirdī, *Nujūm*, 9:119–21; Ibn Iyās, *Badāʾiʿ al-zuhūr fī waqāʾiʿ al-duhūr* (Cairo, 1982–87), 1:1:449; Heba Abdelnaby, “And Meat of Birds that They May Desire,” *EGY Landscape Working Papers 2* (October 2020): 1–3; 6–9.

<sup>132</sup> Al-Maqrīzī, *Khiṭaṭ*, 3:29, 96.

<sup>133</sup> For more details about the availability of different types of birds in Egypt see: Heba Abdelnaby, *Al-Ṭuyūr fī al-ʿaṣr al-Mamlūkī* (Cairo, 2021), 50–54, 67–69, 71–73.



ferent remedies were already available in Egypt and that those that were not available were probably provided through trade.

Another question raised by this study is why so many details about the medical benefits of birds would appear in sources as general in nature as these two. In my opinion, although medicine is perceived as a specialized field, it seems that there was a distinction between knowledge and practice. Medicine was practiced by educated, trained physicians that were authorized to do that work. Nevertheless, other professions related to medicine also existed, such as *ṣaydalānī* (pharmacist) and *ʿaṭṭār* (perfumer, druggist, or herbalist), who dealt with medicine preparation. The former usually depended on patients coming to him with a physician's prescription, while the latter relied for his sales on his own diagnoses and suggested treatments. Very often, patients did not consult a physician but depended on self-medication according to personal knowledge, family traditions, or private medicine books.<sup>134</sup> In that case, a patient would go to an *ʿaṭṭār* to prepare a remedy that the patient or one of his acquaintances had tried before and found successful or to ask the *ʿaṭṭār* to suggest a remedy based on his experience. In rural areas a physician might not be available in the first place. Therefore, it seems that the authors believed that the knowledge itself, as distinct from the practice, should not be restricted to physicians and pharmacists but rather should be available to general or common readers, especially since there was an interest in knowing about diseases and their treatments based on prevailing practices in the society. As al-ʿUmarī was trying to collect all useful—from his point of view—knowledge in one encyclopedic book, a brief overview of the medical benefits of the animals and plants he discussed was a necessity. Al-Damīrī, whose book was zoological in nature, tried to present science side by side with literature so that his book would be beneficial and entertaining at the same time.

## CONCLUSION

*Masālik al-abṣār fī mamālik al-amṣār* (vol. 20) and *Ḥayāt al-ḥayawān* are two Mamluk sources of high importance. They both provided detailed descriptions of animals, including birds, that can be considered a mix of scientific, literary, and historic information. Their coverage of the medical benefits of birds reflects the broad, deep knowledge of Muslims about a wide variety of diseases and symptoms of maladies. They showed that not only the whole bird but also its extracts, droppings, and products were part of the diverse materia medica used for the

<sup>134</sup>Efraim Lev, "Medieval Egyptian Judaeo-Arabic Prescriptions (And the Edition of Three Medical Prescriptions)," *Journal of the Royal Asiatic Society* 18, no. 4 (2008): 458–59.



preparation of both simple and compound medications during the Mamluk period. Further, they clarified that folk medicine was as important as formal medicine since it treated problems that formal medicine could not. The fact that folk medicine dealt with mysterious powers, incurable diseases, individual needs and desires, personal traits, and behavioral and social problems illustrates the prevailing beliefs and traditions in Mamluk society at the time.



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Table 1: The Properties, Benefits, and Side Effects of the Meat of Lawful Birds

Bird	Its properties	Suitable temperament	Suitable time to eat	Benefits	Side effects	Source
<b>Iwazz (Goose)</b>	Very hot and moist	Hot		Nutritious; fattening and strengthening; has aphrodisiac effect; emits stomach gas	Hard to digest; causes fever	U. 74 D. 1:137
<b>Ḥubārī (Bustard)</b>	Hot and moist	Cold	Winter	Useful to emit gas	Harmful for joints and colic	U. 78 D. 1:291
<b>Ḥajal (Partridge)</b>	Moderate meat			Nutritious; digests quickly		U. 78 D. 2:293
<b>Ḥamām (Pigeon)</b>	Drier than chicken meat			Good for kidneys; increases semen and blood		U. 80 D. 2:336
<b>Ḥawṣal (Pelican)</b>	Low in heat and high in moisture	Hot and choleric				D. 2:348
<b>Dubsī (Palm Dove)</b>	Hot and dry			The best wild bird to eat		D. 2:413
<b>Dajāj (Chicken)</b>	Moderate in temperature	Moderate	Spring	Increases mind and semen; clears the voice; moistens the body; treats chronic fever, stomach bloating, and colic; meat and broth enhance lust; broth has purgative effect		U. 84 D. 2:418
<b>Dīk (Cock)</b>	Moderately hot and moist	Cold	Winter	Good for colic; has purgative effect; good for joints, chronic fever, and tremors		U. 87 D. 2:437
<b>Summānī (Quail)</b>	Hot and dry	Cold		Useful for joint pain; breaks up stones and has diuretic effect	Harmful for hot liver; causes hot blood	D. 3:36
<b>Sūdānīyah (unknown)</b>	Cold, dry, and bad	Cold	Spring	Has aphrodisiac effect	Harmful for brain	D. 3:49
<b>Shifnīn (possibly Turtle-dove)</b>	Hot and dry			Preferable to eat its chicks Useful to release blood; useful for hemiplegia	Causes hot and dry blood; Causes wakefulness	D. 3:68 U. 107



Bird	Its properties	Suitable temperament	Suitable time to eat	Benefits	Side effects	Source
Ṭāwūs (Peacock)		Hot		Good for hot stomach; increases sexual intercourse; useful in stomach pain; repairs stomach	Hard to digest	U. 93 D. 3:114
Ṭayhūj (unknown, possibly a francolin)	Very hot and moist	Moderate	Spring	Has aphrodisiac effect; repairs stomach; causes moderate blood; good for diarrhea; fattening		U. 94 D. 3:127
ʿAṣāfir (Sparrow)	Hot and dry (harder than chicken meat)	Cold	Winter	Has aphrodisiac effect; heats the body; has purgative effect on stomach; useful for dropsy, hemiplegia, facial palsy, and relaxation	Causes yellow bile humor	U. 95 D. 3:149
Qabaj (Partridge)				Fattening; has aphrodisiac effect; useful for dropsy		U. 101
Qaṭā (Sandgrouse)				Useful for liver weakness and bad temperament; useful for dropsy	Hard to digest; not nutritious	U. 103 D. 4:308
Kurkī (Crane)	Cold and dry Has fibrous meat	Hot	Winter	Facilitates release of sediments	Hard to digest; causes thick blood	U. 111 D. 4:333
Karawān (Curlew)				Has powerful aphrodisiac effect		U. 103 D. 4:334



Table 2: Uses of Birds and Their Parts, Extracts, Excrement, and Products in Treatment

Bird	Part or Extract	Product	Targets of Treatment	Source
Iwazz (Goose)	Head/brain		Colorectal tumors	U. 75
	Gizzard		Has aphrodisiac effect	D. 1:137
	Tongue		Eases difficulty with urination	D. 1:137
	Fat		Alopecia	D. 1:137
		Droppings	Scrofula	U. 75
Bāzī (Hawk)	Bile		Watery eyes; facial palsy	U. 108; D. 1:146
Bāshiq (Hawk)	Head/brain		Heart palpitation	U. 75
Babaghā' (Parrot)		Droppings	Cataracts; ophthalmia	U. 112 D. 1:150
Būm (Owl)	Head/ brain		Hair restorer and hair depilatory	U. 76
	Heart		Cataracts	U. 76
	Bile		Colic; facial palsy	U. 76; D. 1:208
	Blood		Bladder stones; incontinence of urine; cataracts	U. 76
		Eggs	Facial palsy	U. 76
Tudruj (Pheasant)	Bile		Madness	D. 1:210
Abū Jarādah (unknown)	Flesh		Hemorrhoids	D. 1:288

Bird	Part or Extract	Product	Targets of Treatment	Source
<b>Ḥubārī</b> (Bustard)	Fat		Sprue	U. 77
	Gizzard		Freckles; cataracts	U. 77
	Blood		Asthma	U. 77
		Eggs	Dye hair black	D. 1:291
<b>Ḥajal</b> (Partridge)	Head/ brain		Jaundice	U. 78
	Liver		Headache	U. 78
	Bile		Cataracts; watery eyes	U. 78; D. 2:293
	Blood		Scabies	U. 78
	Eggs		Stomach ache; gripes	D. 2:293
<b>Ḥid'ah</b> (Kite)	Blood		Asthma	U. 79; D. 2:296
	Head/brain		Hemorrhoids	U. 79
	Feathers		Gout	U. 79
	Bile		Stings	U. 79; D. 2:296
		Eggs	Leukoderma	U. 79
<b>Ḥamām</b> (Pigeon)	Flesh		Scorpion sting; increases semen	U. 80
	Blood		Eye surgeries; epistaxis (nosebleeds); eye inflammation; cataracts; burns	U. 80; D. 2:336
		Droppings	Gout; alopecia; hard tumors; burns; dropsy; dysuria; leprosy	U. 81; D. 2:336
<b>Khuṭṭāf</b> (Kingfisher or Swallow)	Bird and chick		Diphtheria	U. 82
	Head/ brain		Cataracts; watery eyes	U. 82
	Heart		Has aphrodisiac effect	D. 2:374
	Blood		Headache	D. 2:374
	Bile		Dye hair black	U. 82; D. 2:374
		Droppings	Cataracts	U. 83



Bird	Part or Extract	Product	Targets of Treatment	Source
<b>Khuffāsh (Bat)</b>	Blood		Has depilatory effect	U. 83; D. 2:377
	Flesh		Incontinence of urine; hemiplegia	U. 83; D. 2:377
	Head/brain		Gout; hemiplegia; tremors; swelling; asthma; cataracts; watery eyes	U. 83; D. 2:377
	Bile		Dystocia (difficult labor)	U. 83; D. 2:377
		Droppings	Ringworm	U. 83; D. 2:377
<b>Dajāj (Chicken)</b>	Head/brain		Cut bleeding; vermin stings; madness	U. 84
	Fat		Hemorrhoids; leprosy; has aphrodisiac effect	U. 85; D. 2:418
		Droppings	Diphtheria; colic; dog bite	U. 85
<b>Dīk (Cock)</b>	Bile		Cataracts	U. 85
	Blood		Cataracts; has aphrodisiac effect; vermin bites	U. 85; D. 2:437
<b>Rakham (Egyptian Vulture)</b>	Bile		Migraine; ear pain; scorpion stings; cataracts	U. 88
	Gizzard		Anti-poison	U. 88; D. 2:461
		Droppings	Leprosy	U. 88; D. 2:461
<b>Zāgh (Raven)</b>	Bile		Cataracts; dye hair black	U. 89; D. 3:7
	Flesh and crop		Vitiligo	U. 89
	Blood		Hemorrhoids	U. 89
	Crop		Watery eyes	D. 3:7
		Eggs	Hemorrhoids	U. 89
		Droppings	Spleen pain	U. 89
<b>Zarzūr (Starling)</b>	Blood		Abscesses	D. 3:9
		Droppings	Ringworm	U. 92



Bird	Part or Extract	Product	Targets of Treatment	Source
<b>Zummaj</b> (a type of falcon or small eagle)	Flesh		Heart weakness; heart palpitation	U. 92; D. 3:13
	Bile		Cataracts	U. 92; D. 3:13
		Droppings	Freckles; melasma	U. 92; D. 3:13
<b>Salwá</b> (Quail)	Eye		Liver pain	D. 3:36
	Bile		Vitiligo	D. 3:36
		Droppings	Erosive sores	D. 3:36
<b>Summānī</b> (Quail)	Flesh		Has diuretic effect; breaks up stones	D. 3:36
	Blood		Earache	D. 3:36
<b>Shifnīn</b> (unknown, possibly Turtle-dove)	Fat		Deafness; cataracts; ophthalmia; eye swelling	U. 92; D. 3:68
		Eggs	Has aphrodisiac effect	D. 3:68
		Droppings	Uterine pain	D. 3:68
<b>Ṣaqr</b> (Falcon)	Head		Has aphrodisiac effect; melasma	D. 3:87
<b>Ṭāwūs</b> (Peacock)	Bile		Chronic abdominal pain; vermin stings	U. 93; D. 3:114
	Blood		Sores	U. 94; D. 3:114
	Bones		Melasma	U. 94; D. 3:114
		Droppings	Warts	U. 94; D. 3:114
<b>ʿAṣāfir</b> (Sparrow)	Blood		Has aphrodisiac effect	D. 3:149
		Droppings	Melasma; facial warts	U. 96; D. 3:149
<b>ʿUqāb</b> (Eagle)	Bile		Watery eyes; cataracts	U. 97; D. 3:165
		Droppings	Melasma; facial warts	U. 97

Bird	Part or Extract	Product	Targets of Treatment	Source
<b>Ghurāb (Crow)</b>	Head/ brain		Headache	U. 99
	Liver		Cataracts	D. 3:220
	Blood		Hemorrhoids	D. 3:220
	Flesh		Colic	D. 3:220
		Droppings	Diphtheria; scrofula	D. 3:220
<b>Ghurnīq (Heron)</b>		Droppings	Nose sores	U. 100; D. 3:224
<b>Ghawās (Loon)</b>	Blood/bones		Spleen	D. 3:234
<b>Qabaj (Partridge)</b>	Bile		Watery eyes; eye whitening; night blindness (nyctalopia); fever	U. 101 D. 4:288
	Blood		Eye surgery; night blindness	U. 101
	Fat		Apoplexy; facial palsy	D. 4:288
		Eggs	Eye pain	U. 101
<b>Qubrah (Lark)</b>	Flesh		Colic; has aphrodisiac effect	U. 102; D. 4:290
	Comb		Colic	U. 102
		Droppings	Warts	D. 4:290
<b>Qaṭā (Sandgrouse)</b>	Bones		Alopecia; hair restorer	U. 103 D. 4:308
<b>Nisr (Vulture)</b>	Flesh		Spasms	U. 104
	Bile		Watery eyes; cataracts; eye scabies	U. 104 D. 4:419
	Fat		Deafness	U. 104
	Liver		Has aphrodisiac effect	D. 4:419
		Eggs	Has aphrodisiac effect	D. 4:419



Bird	Part or Extract	Product	Targets of Treatment	Source
Na'ām (Ostrich)	Fat		Has anesthetic effect on tumors; scorpion stings	U. 105
		Droppings	Ringworm	D. 4:428
Hudhud (Hoopoe)	Chicks (alive)		Stings	U. 106
	Intestines		Dye hair black	U. 106
Waṭwāṭ (Bat)	Head/ brain		Watery eyes	U. 107
Kurkī (Crane)	Head/ brain		Night blindness (nyctalopia); swelling of hands and feet	U. 111
	Bile		Facial palsy; ringworm; scabies; leprosy	U. 111
	Testicles		Eye whitening caused by smallpox	U. 111
Yu'yū' (a type of falcon)	Head/brain		Eye whitening	D. 4:487
	Bile		Headache	D. 4:487



Table 3: Use of Birds, Their Parts, and Their Products in Folk Medicine

Bird	Part, extract, or product	Method of usage	Reason for use/effect on user	Source
<b>Bāzī</b> (Goshawk)	Droppings	Mixed with water and drunk warm by sterile woman	Helps her get pregnant	D. 1:146
<b>Babaghā'</b> (Parrot)	Tongue	Eaten	The eater becomes fluent	D. 1:150
	Bile	Eaten	The eater has difficulty speaking	D. 1:150
	Blood	Dried and sprinkled	Causes enmity between friends	U. 112; D. 1:150
	Flesh	Eaten	The eater becomes fluent	U. 112
<b>Būm</b> (Owl)	Eye	Mixed with musk and carried	Whoever smells it will love its carrier	U. 76
	Eye (floats)	Set in a ring	Has awakening effect	U. 76; D. 1:208
	Eye (sinks)	Put under a pillow	Has soporific effect	U. 76
	Flesh	Dried and eaten	Causes rivalry between those who eat it	U. 76
	Bones	Fumigated among wine drinkers	They become wild and boisterous	U. 76
	Heart	Put on the left arm of a sleeping woman	She speaks of what she did all day	D. 1:208
<b>Tannūṭ</b> (unknown)	Blood	Drunk by reveler while intoxicated	He will stop such behavior	D. 1:213
	Bile	Cooked with sugar and drunk by a young boy	He will behave well and his character will improve	D. 1:213
	Bile	Eaten by a boy	He will become well-behaved and loved	U. 111
	Bones	Hung on a boy at time of full moon	He is loved by people	D. 1:213



Bird	Part, extract, or product	Method of usage	Reason for use/effect on user	Source
<b>Ḥubārī (Bustard)</b>	Heart	Hung on a person who sleeps a lot	Sleep decreases	U. 78; D. 2:291
	Stone from the gizzard	Hung on a person who has nosebleeds	Stops nosebleeds	U. 78
	Stone from the crop	Hung on a person who has diarrhea	Stops diarrhea	D. 2:291
<b>Ḥajal (Partridge)</b>	Liver	Swallowed hot with flesh	Effective for dread and panic	D. 2:293 U. 78; D. 2:293
	Bile	Nasal application once a month	Decreases forgetfulness, sharpens eyesight, improves the brain	
<b>Ḥamām (Pigeon)</b>	Droppings	Fumigating women with labor contractions	Hastens labor and delivery	D. 2:336
<b>Khuṭṭāf (Kingfisher or Swallow)</b>	Eye	Put in a piece of cloth in a bed	Whoever lies on the bed will be unable to sleep	D. 2:374
	Eye	Dried, crushed with fine fat, and drunk by a woman	She will love the one who gives it to her	D. 2:374
	Blood	Drunk by a woman without her knowledge	Inhibits lust	U. 82; D. 2:374
	Heads of a male and a female	The ashes are added to a drink	The user never gets drunk	U. 82
	Two stones	Tied to the chest or neck of an epilepsy patient	Has curing effect	U. 82
	Two stones	Not identified	Cures sexual impotence, obsession, and dysuria (difficult or painful urination)	D. 2:374
<b>Khuffāsh (Bat)</b>	Head	Put inside a pillow	Causes wakefulness	U. 83; D. 2:377
	Head	Rubbed on feet	Has aphrodisiac effect	U. 83
	Heart	Hung on a person	Has aphrodisiac effect	D. 2:377
	Heart	Burnt in a house	Repels snakes or scorpions	D. 2:377





Bird	Part, extract, or product	Method of usage	Reason for use/effect on user	Source
<b>Dajāj (Chicken)</b>	Eggs	Certain words are written on a sword that cuts the egg in half and it is eaten by a man/woman	Removes an impediment to coition	D. 2:418
	Stone from the gizzard	Not specified	Has aphrodisiac effect; cures epilepsy; protects from the evil eye; protects children from dread and panic	D. 2:418
	Droppings	Stuck on the door of a house	Causes rivalry and dispute in the house	D. 2:418
	Head	Buried in a cup under the bed of a man in a quarrel with his wife	They reconcile	D. 2:418
<b>Dīk (Cock)</b>	Comb	Burnt and drunk	Cures incontinence of urine	U. 87; D. 2:437
	Comb	Fumigate a mad person	Madness is cured	U. 87; D. 2:437
	Tail feathers	Put in the wash water	Has aphrodisiac effect	D. 2:437
	Wing bones	Hung on a person	Cures fever, fatigue, and sleepiness	U. 87; D. 2:437
	Testicle	Grilled and eaten by a sterile woman during menstrual period	She will get pregnant	D. 2:437
	Testicle	Put in paper and tied to the left arm of a man	Has a powerful aphrodisiac effect	D. 2:437
	Bile	Mixed with lamb broth and eaten	Treats forgetfulness, helps memory	U. 87; D. 2:437
	Blood	Mixed with honey and rubbed on the male sex organ	Has aphrodisiac effect	U. 87; D. 2:437
	Blood	Eaten by a group of people	Causes dispute between them	U. 87
<b>Rakham (Egyptian Vulture)</b>	Liver	Grilled, crushed, and eaten by a mad person	Madness is cured	U. 88; D. 2:461
	Head feathers	Hung by a woman suffering dystocia	Hastens her labor	U. 88; D. 2:461
	Head bone	Hung on a person	Cures headache	D. 2:461
	Meat	Fumigated on a man suffering impediment to coition	He is cured	U. 88
	Droppings	Fumigated on a pregnant woman	Causes abortion	U. 88



Bird	Part, extract, or product	Method of usage	Reason for use/effect on user	Source
<b>Zāgh</b> (Raven)	Eye	Fumigated between two people	Causes rivalry and dispute between them	U. 88
	Tongue	Dried and eaten	Removes thirst (even in July)	D. 3:7
	Heart	Dried, crushed, and drunk by a traveler	The traveler will not feel thirst	U. 88; D. 3:7
	Fat	Rubbed on forehead before meeting the sultan or other authority	The request will be accepted	U. 88
	Egg	Eaten by a person who drinks wine	The person will hate wine	U. 88
<b>Salwá</b> (Quail)	Eye	Hung on a person suffering from insomnia	Insomnia is cured	D. 3:36
	Head	Fumigated in a place	Removes termites	D. 3:36
<b>Summānī</b> (Quail)	Heart	Eaten	Softens a hard heart	D. 3:36
<b>Sunūnū</b> (Swallow)	Eye	Hung on a bed	Whoever lies on the bed will not be able to sleep	D. 3:49
	Eye	Fumigating a person with fever	Fever is cured	D. 3:49
<b>Shifnīn</b> (unknown, possibly Turtle-dove)	Blood	Rubbed on the male sex organ	His wife will not marry after his death	D. 3:68
<b>Ṭāwūs</b> (Peacock)	Bile	Drunk	Causes madness	D. 3:114
‘ <b>Aṣāfir</b> (Sparrow)	Head	Melted with sesame oil and drunk by a wine lover	The person will hate wine	D. 3:149
‘ <b>Uqāb</b> (Eagle)	Feather	Fumigating a woman with uterine asphyxia	It is useful	U. 97



Bird	Part, extract, or product	Method of usage	Reason for use/effect on user	Source
<b>Ghurāb (Crow)</b>	Eye	Fumigated between a group of people	Causes enmity between them	U. 99
	Heart	Dried, crushed, and drunk by a person	The person will not feel thirsty	U. 99
	Bile	Added to wine	The drinker is intoxicated from the first cup	U. 99
	Bile	Coated on a bewitched person	The magic is stopped	D. 3:220
	Spleen	Hung on a person	Stirs up love	U. 99
	Blood	Added to wine	The drinker will hate wine	U. 99
	Beak	Hung on a person	Protects from the evil eye	D. 3:220
	Head and heart	Added to wine	The drinker will love the person who gave the wine	D. 3:220
	Droppings	Put in a piece of cloth and hung on a young boy	Cures chronic cough	U. 99; D. 3:220
<b>Fākhītah (Collared Dove)</b>	Blood	Mixed with pigeon blood, oil, and tar, and fumigated	Whoever smells it will not sleep	U. 100
	Droppings	Hung on a boy with epilepsy	It is useful	U. 100; D. 4:240
<b>Qabaj (Partridge)</b>	Bile	Nasal application once at the beginning of the month	Sharpens eyesight and improves the brain	U. 101
	Liver	Grilled and eaten by a boy	Protects against epilepsy	U. 101
<b>Qubrah (Lark)</b>	Fat	Rubbed on the sex organ of a man whose wife hates him	She will love him	D. 4:290
<b>Qaṭā (Sandgrouse)</b>	Head	Put in a linen cloth and hung on the thigh of a woman	She will tell everything she has done	D. 4:308
	Stomach fat of two birds	Rubbed on a person (without their knowledge)	They will deeply love the person who applies it	D. 4:308
<b>Kurkī (Crane)</b>	Bile	Mixed with the head and mercury and used as nasal medicine	The user will remember forgotten things	U. 111; D. 4:333



Bird	Part, extract, or product	Method of usage	Reason for use/effect on user	Source
Luqluq (Stork)	Head	Melted with rennet of rabbit and eaten	Stirs up love	D. 4:381
	Bones	Carried by a person	Removes concerns	D. 4:381
	Eye	Carried by a person	The left eye causes sleepiness, the right causes wakefulness, and the carrier will not drown—even if he cannot swim	D. 4:381
Nisr (Vulture)	Heart	Put in fox leather and hung on a person	He will be loved and his requests granted	D. 4:419
	Feather	Put under a woman with dystocia	Hastens delivery	D. 4:419
	Feather	Fumigate a house	Expels vermin	D. 4:419
	Bones	Hung on a servant of kings or sultans	He is secured from their anger and is loved by them	D. 4:419
Na'am (Ostrich)	Fat	Smelled	Whoever smells it will faint.	U. 105



Bird	Part, extract, or product	Method of usage	Reason for use/effect on user	Source
<b>Hudhud (Hoopoe)</b>	Eye	Hung on a person	Helps to remember what was forgotten; causes love; prevents leprosy	U. 106; D. 4:453
	Feather	Carried by a person	Leads to victory over a rival	U. 106; D. 4:453
	Feather	Put in a ruined house	It will never be rebuilt	D. 4:453
	Feather	Burnt, ashes sprinkled on the road of the one you love	Causes deep love	D. 4:453
	Heart	Grilled and eaten	Good for memorization	D. 4:453
	Beak	Carried by a person before meeting the sultan	The carrier will be treated well and his request granted	D. 4:453
	Wing	Burned and used to fumigate an ant colony	Ants are removed	U. 106
	Flesh	Fumigation of a bewitched person or someone suffering from impediment to coition	They are cured	U. 106
	Comb	Fumigation of a mad person	It is useful	U. 106
	Claw	Hung on a boy	He is protected from the evil eye and harm	D. 4:453
	Tongue with beak	Put on leather (with magic words), buried under entrance	Causes love, compassion, and acceptance to whoever passes over it	D. 4:453
Whole bird	Hung on a house's door	Secures the house from magic and the evil eye	U. 106	

