

A Late Yemeni Copy of Rasulid Almanac Lore

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Astrolabe of al-Malik al-Ashraf 'Umar ibn Yusuf ibn
'Umar
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Figure 1. First page Tawqa'a almanac text

A Late Yemeni Copy of Rasulid Almanac Lore

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Abstract:

Several agricultural texts and almanacs have survived from Yemen's era of the Banī Rasūl (1454/858–1229/626). Information on agriculture and the seasons from these sources continued to be copied for centuries after. One of these is an anonymous almanac, probably from the early 12th/18th century, that copies information from earlier Rasulid almanacs. This article is a translation, edition and brief analysis of the information in the almanac, which is arranged by the solar calendar.

الملخص:

بقيت بعض النصوص والتقويم الزراعية من عهد بني رسول في اليمن (1454 / 858-1229 / 626). واستمر نقل المعلومات عن الزراعة والمواسم من هذه المصادر لعدة قرون بعد ذلك. إحداهما عبارة عن تقويم مجهول، ربما يعود إلى أوائل القرن الثاني عشر / الثامن عشر، والذي ينقل معلومات من التقويم من عهد بني رسول. هذه المقالة ترجمة وتحرير وتحليل موجز للمعلومات المتضمنة في التقويم الذي أعد وفقاً للتقويم الشمسي.

Introduction

Yemen's famous agricultural heritage is well known throughout the Arab World. As the most fertile part of the Arabian Peninsula, it is not surprising that sophisticated irrigation and dry farming systems developed more than three millennia ago. During Yemen's Rasulid era, lasting from 626/1229 until 858/1454, several agricultural treatises and at least eight agricultural almanacs were written. The Rasulid sultans and their emirs promoted agriculture for the tax revenues, but they also introduced several new and exotic plants in their royal gardens. Although royal support for agriculture declined after the fall of the sultanate, the information compiled in Rasulid almanacs continued to be copied and is relevant for understanding traditional agricultural production and seasonal weather in Yemen to this day.

This article is an edition and annotated translation of a later copy of Rasulid almanac lore in a manuscript viewed by Professor R. B. Serjeant in 1974 on a visit to Shaykh Muḥammad Zayd of Rubāṭ 'Amrān. Shaykh Zayd graciously allowed Serjeant to make a xerox copy of the manuscript and he passed this on

to me in 1989. In its 228 pages there are several almanacs and texts on time telling and astronomy. Along with Ḥusayn 'Abd Allāh al-'Amrī, Serjeant edited the text of an agricultural poem (urjūza) by Aḥmad b. Abī Bakr al-Zumaylī, who appears to be a Shāfi'ī scholar from the Zabīd area (Serjeant and al-'Amrī 1981). I have published another urjūza on agriculture attributed to the highland scholar Ḥasan b. Faṭḥ Allāh b. Sa'īd b. 'Alī b. Qāsim b. 'Izz al-Dīn b. al-Ḥajj al-'Affārī (d. 1122/1710) (Varisco 1989, 1997#XI). The almanac translated here has no author and does not appear to be a specific copy of any of the Rasulid almanacs known. Two other texts in the manuscript were written in 1114/1702-1703, so this may be the approximate time for the almanac examined here.

The Rasulid Corpus of Almanacs

The earliest Rasulid almanac known is a chapter in the unique astronomical text

1. For a description of this corpus, see Varisco (2011a) available online at http://www.filaha.org/medieval_agricultural.html.

2. In addition to my gratitude to Prof. Serjeant for a copy of the manuscript, I thank Dr. Muhammad Gerhoum and Amat al-Alim al-Soswa for their assistance in reading the Arabic text.

al-Tabṣira fī ‘ilm al-nujūm of the third Rasulid sultan al-Malik al-Ashraf ‘Umar (d. 696/1296). From internal evidence the almanac was compiled in 670/1271, more than two decades before al-Malik al-Ashraf became sultan after the long reign of his father al-Malik al-Muẓaffar Yūsuf. The next major almanac was compiled by the astronomer Muḥammad b. Aḥmad b. al-Ṭabarī, known as Abū al-‘Uqūl (fl. ca. A.D. 1300), who lived in the reign of al-Malik al-Mu’ayyad Dāwūd. An almanac for the year 727/1326-1327 was compiled during the reign of al-Malik al-Mujāhid (d. 764/1363).

There is a partial almanac in the agricultural treatise *Bughyat al-fallāḥīn fī al-ashjār al-muthmira wa-alrayāḥīn* by al-Malik al-Afḍal ‘Abbās (d. 778/1376), a major source for Rasulid agriculture that draws on the earlier agricultural text by al-Malik al-Ashraf entitled *Milḥ al-malaḥa fī*

ma‘rifat al-filāḥa and an agricultural text written by al-Afḍal’s father, al-Malik al-Mujāhid ‘Alī. I am currently translating the text of *Milḥ al-malaḥa* for a volume on the history of Rasulid agriculture. In the anthology made for al-Malik al-Afḍal there is an anonymous almanac said to be taken from earlier sources; this is entitled *Fuṣūl fī al-anwa’ wa-al-zurū’ wa-al-ḥiṣād filāḥa mukhtaṣira min al-taqāwīm*; there is also an anonymous Rasulid

3 . The manuscript is located at the Bodleian Library of Oxford University as Huntington 233 (Uri 905). Petra Schmidl is currently preparing both an edition and translation of the text. The almanac is Chapter 32, 7r-108v. I edited and translated the almanac in Varisco (1994a).

4 . There are four copies, but none apparently from the Rasulid era. These are: (1) Milan, Ambrosiana Library. No. 302 (C46, vi, 526). Copied 1106/1694-5, 11 pp.; (2) London, British Library, Or. 3747, ff. 13-17; (3) Ṣan‘ā’, Great Mosque, Western Library, Hadīth 59, ff. 347r-366v. Recent copy; (4) Ṣan‘ā’, Great Mosque, Western Library, Maǰmū‘ 77, ff. 17r-27v. Copied 1319/1901.

5 . This is found in Cairo, Dār al-Kutub, Mīqāt 817, ff. 67r-68r; the copy is probably from the 14th century CE.

6 . There are five known copies of the manuscript: (1) Cairo, Dār al Kutub, Zirā‘a 155. 257 pp, 23 lines per page. Incomplete copy; (2) Ṣan‘ā’. Great Mosque, Western Library, Zirā‘a 1. 177 pp. Copied 1362/1943; (3) Tarīm, Private Library. Copy from 1197/1782. This ms. was copied by R.B. Serjeant in 1953-4; (4) Istanbul, Topkapı, Ahmet III, A. 2432, ff. 177v-225r. Probably copied 1001/1592 by a Kurd at the Turkish court. This is an incomplete text and full of copyist errors; (5) Abridged version in Mixed Rasulid Ms. (Ṣan‘ā’, Private Library), 6 pp. This text was owned by the author, who has marginal notes in the ms. A facsimile copy of the abridged version is available in Varisco and Smith (1998: 206-211). Recently an Omani scholar has edited the text of the full manuscript (al-Wahībī 2016); for my review of this edition, see Varisco (2020)..

7 . An Arabic edition of a copy from Ibb was published by Muḥammad ‘Abd al-Raḥīm Jāzīm (1985). There is also a copy in Vienna in the Glaser Collection. No. 247, 243 pp. Both are relatively late and not from the Rasulid era.



almanac in Dār al-Kutub. Also in the anthology of al-Afdal is a unique almanac according to the zodiacal degrees rather than the solar year; this is entitled *Salwat al-mahmūm fī‘ilm al-nujūm*, compiled around 777/1375-1376 for Ta‘izz, and may have been compiled by al-Malik al-Afdal. An almanac entitled *al-Anwā’ wa-al-tawqī’āt...* was compiled for 808/1404-5 with astronomical data for Ta‘izz. There is also a brief 15th century almanac by month entitled *al-Qawl ‘alā al-shuhūr al-ithna ‘ashr al-Rūmiyya* with information mainly on diet and medicine, as well as basic astronomical data.

A number of Yemeni almanacs compiled after the Rasulid era copied earlier Rasulid almanacs or incorporated information into their own almanacs. Muḥammad b. ‘Abd al-Laṭif al-Thābitī al-Zabīdī included an important almanac for 1047/1637-1638 in his set of astronomical tables. The 18th century scholar Yūsuf ibn Yūsuf al-Maḥallī wrote his almanac

in 1145/1733 in an astronomical text. Al-Maḥallī provides the focal point for his calculations across calendars: 6 Shawwāl, 1145 A.H. = 10 Ādhār, 2044 in the Seleucid Christian calendar = 14 Baramhāt, 1449 in the Coptic reckoning = 28 Shahrīwarmāh, 1102 in the Persian calendar. There is also an almanac by Ḥusayn b. Zayd b. ‘Alī Ibn al-Jaḥḥāf (d. 1065/1655). In recent years Muḥammad Ḥayḍara published an almanac from Ta‘izz. An almanac chart for the twenty-eight Yemeni agricultural marker stars was printed by Muḥammad Ṣāliḥ al-Sirājī in 1379/1959. Most recently Yaḥyā b. Yaḥyā al-‘Ansī (1998, 2006, 2008) has published almanac charts and several volumes with almanac information relating to agriculture, the seasons and astronomy.

Interpreting the Anonymous Yemeni Tawqa‘at Almanac

The anonymous almanac in the manuscript provided to Serjeant by Shaykh Zayd has no title

8 . The almanac in the al-Afdal volume is in Varisco and Smith (1998:517-519) and edited and translated by Varisco (1994b, 1997#XIV).

9. Available in facsimile in Varisco and Smith (1998:97-114).

10 . The manuscript is Cairo, Dār al-Kutub, Taymūr Riyāḍiyāt 274, pp. 102-125 and it is from the 15th century. For the Arabic edition, see Varisco (1985b), for the translation with corrections to the printing errors in the Arabic edition, see Varisco (1993, 1997:#XV).

11. The manuscript is Cairo, Dār al-Kutub, Taymūr Riyāḍiyāt 274, pp. 74-75.

12 . The manuscript is in the Vatican Library, ar. 962, pages 13r-19r.

13. For an edition and translation of this almanac, see Varisco (2011b)

14 . The manuscript copies are at Leiden University, 2807; Berlin Ahlwardt 5784/5769/5720, pp. 1-7r; Landberg-Brill 445.

15. The 1365/1945-1946 edition was translated by Serjeant (1954).

apart from starting each month with *tawqī'āt fī shahr...* (details for the month ...) (Figure 1). As is true for most almanacs, no specific reference is made to earlier sources. The compiler was clearly familiar with the Rasulid almanac tradition, although his almanac appears to be from several sources. The wording of some of the information copies known Rasulid sources, especially the almanac of al-Malik al-Ashraf 'Umar. For example for 2 Tishrīn al-Awwal he copies the same wording as in al-Ashraf's almanac for the same date: "The Nile recedes and the people of Egypt plant" (ينصرف النيل ويزرع أهل مصر). Other borrowing is not on the same day; for example, the almanac mentions the coming of the crane (*kurkī*) to Egypt on 3 Tishrīn al-Awwal, but this is on the 9th day for al-Ashraf and Abū al-'Uqūl. Similarly, the arrival of ships from Mogadishu to Aden is cited on 10 Tishrīn al-Awwal, but in al-Ashraf's almanac this is the 13th day. Much of the specific information on the sowing of sorghum in various wadis of the Tihāma and southern coast is not copied in the almanac.

One of the major references in the almanac, as in the Rasulid almanacs, is to the twenty-eight stars known as *anwā'* (*naw'*, singular). In Arab astronomy the term *naw'* refers to the dawn setting in the West of one of the asterisms also known as *manāzil al-qamar* at the same time as its opposite rises in the east (Ibn Qutayba 1956:6-7). This is the usage in *Tawqī'āt*, although Ibn Qutayba noted that some called the *naw'* for the rising. The use of

naw' refers to the weather, usually rain, that can occur. The classical system begins at the vernal equinox with the rising of *sharaṭayn*, the two horns of *ḥamal* (Aries), at which time *ghafar* (τ κ λ Virginis) sets. The origin of the system of *manāzil al-qamar*, borrowed from India via Sassanian tradition, is a lunar zodiac with arbitrary units of 12° 51' minutes along the zodiacal arc; this represents the nightly position of the moon during its sidereal orbit of twenty-seven and one-third days. When the same twenty-eight stars are plotted against the rising of the sun over a solar year, each star period is thirteen days, with one of fourteen days to equal a total of 365 days. The classic system with the setting dates provided by the almanac and al-Malik al-Ashraf are indicated in Table 1. Since the actual rising of a star would be obscured by the sun, it was the setting star which could theoretically be observed at dawn.

Table 1. The Twenty-Eight *Anwā'* Stars and their Dawn Setting Times

Most of the dates indicated in *Tawqī'āt* are two days earlier than those recorded in the almanac of al-Malik al-Ashraf, although a few of the timings concur with the 14th century almanac entitled *Fuṣūl*, for example the rising of *sharaṭayn* and *buṭayn*, but not for all of the dates. Arab astronomers knew about precession of the equinoxes in the Julian calendar reckoning, but most authors copying the Rasulid material appear not to have known this. It is important to remember that these dates do not indicate the actual date of first observation of each

16. I presented an initial translated of this in Varisco (1982:560-576).

17. I will refer to this copy as *Tawqī'āt*.

18. For a discussion of this astronomical system, see Varisco (1991; 1997#1).

#	Station	Identification	Tawqī'āt	al-Malik al-Ashraf
1	sharaṭān/ sharaṭayn	β γ Arietis	X:18	X:20
2	buṭayn	ε δ ρ Arietis	X:31	XI:2
3	thurayyā	Pleiades	XI:15	XI:15
4	dabarān	α Tauri	--	XI:28
5	haq'a	λ φ1 φ2 Orionis	XII:12	XII:11
6	han'a	γ ξ Geminorum	XII:22	XII:24
7	dhirā'	α β Geminorum	I:4	I:6
8	nathra	ε γ δ Cancri	I:17	I:19
9	ṭarf	κ Cancri, λ Leonis	I:28	II:1
10	jabha	ζ γ η α Leonis	II:12	II:14
11	zubra	δ θ Leonis	{II:24}	II:27
12	ṣarfa	β Leonis	III:10	III:12
13	'awwā'	β η γ δ ε Virginis	III:23	III:25
14	simāk	α Virginis	IV:5	IV:9
15	ghafr	ι κ λ Virginis	IV:18	IV:20
16	zubānā	α β Librae	V:1	V:3
17	iklīl	β δ π Scorpii	V:14	V:16
18	qalb	α Scorpii	V:27	V:29
19	shawla	λ υ Scorpii	VI:9	VI:11
20	na'a'im	σ φ τ ζ γ δ ε η Sagittarii	VI:22	VI:24
21	balda	vacant space	{VII:5}	VII:7
22	sa'd al-dhābih	α β Capricorni	VII:18	VII:20
23	sa'd bula'	μ ε Aquarii	VII:31	VIII:2
24	sa'd al-su'ūd	c1 Capricorni, β ξ Aquarii	VIII:13	VIII:15
25	sa'd al-akhbiya	γ π ζ η Aquarii	VIII:27	VIII:28
26	al-fargh al-muqaddam	α β Pegasi	IX:9	IX:10
27	al-fargh al-mu'akhkhar	δ γ Pegasi	IX:22	IX:23
28	baṭn al-ḥūt	β Andromedae	X:5	X:6

19. The solar months are indicate by Roman Numeral, with Roman Numeral I equal to Kānūn al-Thānī or January and Roman Numeral XII equal to Kānūn al-Awwal or December.

of the anwā' stars, but simply the beginning of the arbitrary division of the year into twenty-eight periods. Several non-zodiacal stars, however, rise at specific times, depending on the location. The bright star Sirius, known as bājis and 'alib in Yemen, rose on 9 Tammūz (July) in all the Rasulid almanacs and its evening rising was at 15

Kānūn al-Awwal (December); these are the dates copied in Tawqī'āt, which also adds the date of 27 Kānūn al-Awwal for its evening rising. It is not clear where the compiler obtained the later date but it suggests he was copying from several sources.

Canopus event	Tawqī'āt	al-Malik al-Ashraf
disappears at dawn	XII:8	β γ Arietis
disappears from night sky	thurayyā	Pleiades
evening rising	XII:30	I:2
disappears from Yemen	--	V:8
morning rising	VII:26	VII:25
disappears from view	VIII:8	VIII:8
rises in Iraq	VIII:9	VIII:8
rises in the Hejaz	VIII:11	VIII:9
rises in Syria	VIII:12	--
rises in Egypt	VIII:20	VIII:20

Table 2. Rising, Setting and Disappearance of Canopus

The almanac has several references to the southern star Canopus (suhayl), although the timings differ from the earlier Rasulid sources as shown in Table 2. As a non-zodiacal southern star, the rising of Canopus is visible at different times depending on the latitude. Due to its location in the south, it was an important marker of direction on the Arabian Peninsula, although it is not visible in northern Syria. Reference is made in Tawqī'āt to several local star names known in the Rasulid era. One of the most important markers for sowing sorghum in the Tihāma was Ursa Major, known as banāt 'na'sh in Arabic. The risings of each of the seven stars in this asterism are mentioned in the almanac. Another locally significant star is α Centauri, known as al-sā'iq al-awwal in the Rasulid sources, but

also known as zāfir al-awwal, the term used in Tawqī'āt, which copies the same date of 10 Ādhār (March) in the almanac of al-Malik al-Ashraf. The second star, β Centauri is recorded as setting 24 Ādhār in Tawqī'āt but 26 Ādhār by al-Malik al-Ashraf. In other parts of the Shaykh Zayd manuscript there are illustrations of the number of stars in the anwā' and other asterisms (Figure 2).

The full range of information in the almanac includes weather periods of rain, wind, heat and cold. Some of these periods, mentioned in the Rasulid almanacs, were known throughout the Arab World. One of these is the layālī al-'ajūz (Nights of the old Woman), which occur the last three days of Shubāt (February) and first four of Ādhār (March). There are several legends about

the name for this time period, but most refer to an old woman who was afraid to shear her sheep because the cold weather was not over. One of the unique aspects of Yemeni almanacs is their timing of the famous wasmī rain, mentioned by Ibn Qutayba (1956:115), and so named because it was said to be the first to mark (yasimu) the ground with plants. This is usually for a rain in the autumn period and was also called kharīf or rabī‘ by Ibn Qutayba. Tawqī‘āt records the wasmī rain at 27 Tishrīn al-Awwal (October) and the rabī‘ rain in Yemen at 2 Tishrīn al-Thānī (November). In the Rasulid sources al-Malik al-Ashraf explains that the wasmī rain of Syria is called rabī‘ in Yemen and wasmī was used in Yemen for the rain in Shubāt (February). He cited the Yemeni rabī‘ rain at 1 Tishrīn al-Thānī (November), while Abū al-‘Uqūl records a winter (shitā’) rain in Yemen at 30 Tishrīn al-Awwal. The confusion of terms here is due to the fact that the rain periods in Yemen, falling in the early spring and late summer, are different than the timing in Syria and other regions.

The discussion of agriculture is taken from the Rasulid sources, although not always at the same exact times. The most important crop is sorghum, especially in the Tihāma. Among the Rasulid varieties mentioned in Tawqī‘āt are baynī, jahṛī, khāmisī, kharajī, sābi‘ī and wasmī. Also mentioned are bājīsī and ‘alibī, both in reference to the star Sirius, but these varietal terms are not recorded in the Rasulid sources. The period known as the ten select days for sowing sorghum (al-‘ashr al-mukhtāra), starting at 26 Nīsān in the mountains is copied in Tawqī‘āt.

A wide variety of cereal crops, legumes, vegetables and fruits are mentioned, with special attention given to grapes in the Ṣan‘ā’ and eastern regions. The references to Egyptian agriculture and the Nile are taken from the Rasulid sources. In several places, starting at 12 Tishrīn al-Awwal, the author states that it is a good time for work (‘amal); this may be in reference to agricultural activity but it could also reflect astrological knowledge. Several biblical individuals are mentioned, including the casting out of Aden from paradise, Noah saved from the flood, the Torah sent to Moses, the sun stopped for Joshua, the Psalms sent to David, and the annunciation, birth and resurrection of Jesus. In addition the author notes the descent of the Scrolls (ṣuḥuf) of Abraham, mentioned in two surahs in the Qu’ran. Two dates are given for the Festival of the Rose (‘īd al-ward); the first in Egypt at 9 Ayyār (May) and the second for Syria at 24 Ayyār. These dates are actually those of the Coptic month of Bashāns, which is several days shorter than Ayyār (Pellat 1986:180-182).

The information provided in the almanac on sailing times to and from the port of Aden are taken from Rasulid sources. Mention is made of the Kārim merchants, an Egyptian cartel that dominated the pepper trade between the 12th and 15th centuries, but ceased after the Rasulid era. Tawqī‘āt records 29 Ḥazīrān (June) as the final sailing of the Kārim ships from Egypt with their arrival in Aden at 13 Tammūz (July); essentially the same dates in the Rasulid sources. These dates are also recorded in the post-Rasulid almanacs of Ibn al-Jahḥāf and al-Thābitī.

20. For other legends, see Varisco (1994a:124-126).

Other ports mentioned include ships from Egypt, Mogadishu on the African coast, al-Shiḥr, Dhofar, Qalhāt in the Persian Gulf and India. The Rasulid sources often refer to the nayruz navigational calendar for the timing, but this is not the case in Tawqī‘āt.

Like several other Yemeni almanacs compiled after the Rasulid era, information in Tawqī‘āt was copied even if no longer relevant to Yemen. For example, the town of al-Mahjam along Wadi Surdud did not thrive after the fall of the Rasulid dynasty, but the sowing and harvest of sorghum there is mentioned. It is not clear if the timing for agricultural activities stayed the same; there were even changes during the Rasulid era. Similarly the mention of the tax assessment on ṣayf sorghum at 7 Ayyār (May) differs from the Rasulid sources, which list this during either Aylūl (September) or Tishrīn al-Awwal (October), depending on the location. Al-Malik al-Ashraf noted a tithe (‘ushr) in al-Mahjam at 11 Ayyār. The existence of this text, as well as the copies attributed to specific authors like Abū al-‘Uqūl, indicate that Rasulid almanacs have circulated widely in Yemen and been copied and copied from. While not as authoritative as those manuscripts surviving from the Rasulid era, especially the almanac of al-Malik al-Ashraf and several almanacs in the mixed manuscript of al-Malik al-Afḍal, later copies are still valuable for showing the continuation of traditional agricultural knowledge to the present.

Translation:

Details for the month of Tishrīn al-Awwal (October)

- 1 Rising of the fourth [star of Ursa Major].
- 2 The Nile recedes and the people of Egypt plant, blowing of the east [wind].
- 3 Arrive of the crane to Egypt and first harvest of sorghum in the mountains.
- 4 First harvest of sorghum.
- 5 Dawn rising of simāk and naw’ [setting] of baṭn al-ḥūt.
- 6 Last days of the “Pollenating Days” and evening rising of buṭayn.
- 7 First cutting of trees in Syria and there are less fleas.
- 8 Evening setting of the fifth [star of Ursa Major]
- 9 First of the crop estimate (kharṣ) , blood-letting is detested.
- 10 First arrival of the Mogadishi [ships] to Aden.
- 11 Casting out of Adam, prayers to Allah for our Prophet and for him and for Muḥammad’s family, from paradise
- 12 Suitable for work and cutting of wood, first planting of rice.
- 13 First gathering of pomegranates.
- 14 Time for cutting sugarcane and last availability of gourd.
- 15 Evening setting of the sixth [star of Ursa Major] and first availability of carrots and melons.
- 16 Less grapes in Ṣan‘ā’ and they arrive in the eastern region.
- 17 Last harvest of wheat in the mountains.
- 18 Dawn rising of ghafar and illness of black bile intensifies and the naw’ of sharaṭayn.
- 19 Extent of the greatest amount of chicken eggs and evening rising of the Pleiades.
- 20 Frost is possible in the mountains and the activity of black bile intensifies.
- 21 Tree foliage falls.

21 . I discuss the cultivation of sorghum in Varisco (1985a, 1994a:165-174).

22. Details on many of the terms mentioned in the almanac are discussed in Varisco (1994a).

- 22 Extent of the blowing of the south wind.
 23 First body thinning of people and domestic animals.
 24 Arcturus rises in the morning.
 25 Evening rising of Capella and Noah, prayers to Allah for our prophet and for him, is saved from the Flood and the east wind blows.
 26 First arrival of the Dhofari [ships to Aden].
 27 First of the wasmī rain.
 28 First of the “Mixed Nights”.
 29 --
 30 Morning setting of the bright star in naḥ (i.e. sharaṭayn).
 31 Dawn rising of zubānā and naw’ of buṭayn.

Details for the month of Tishrīn al-Thānī (November)

- 1 --
 2 First of the rabī‘ rain in Yemen.
 3 First planting of kharajī sorghum in Zabīd and evening rising of Aldebaran.
 4 Ants go underground
 5 Time passes for manna and quails.
 6 First of the cold period and water cools.
 7 Days for the pomegranate end in the Tihāma.
- 8 Presence of mist (ghamām) in the mountains.
 9. Morning rising of α Coronae Borealis and first harvest of poppy.
 10. Noxious vermin disappear.
 11 Taking of grain from the threshing floor.
 12 Dawn rising of iklīl and evening rising of Orion (jawzā’).
 13 Lifting of infectious disease from people, thanks be to Allāh.
 14 Lifting of infectious disease.
 15 Naw’ of the Pleiades.
 16 First appearance of the frost and presence of sugar cane.
 17 Last of the {Nights of} Bulq.
 18 Working the soil exterminates the worm pest and blowing of the violent winds.
 19 The sea is closed and no ship sails in it.
 20 Arrival of the Dhofar ships to Aden and morning setting of Aldebaran.
 21 Final sailing of the Kārim to Aden and the camel and elephant are sexually active.
 22 Harvest of sābi‘ī sorghum in al-Mahjam.
 23 Planting of jahṛī sorghum in the Tihāma and last blowing of the violent winds.
 24 Start of the blowing of the north wind.
 25 Last sowing of sesame in Zabīd and dawn rising of qalb.
 26 Start of blowing of the north wind.

23. This is not the “Pollenating Winds” for date palms of January and February. It may refer to a period when the face is harmed from the midday heat (Varisco 1994a:120-121).

24. This may be for the tax estimate of crops in the Ta‘izz area (Varisco 1991:15).

25. This is probably in reference to agricultural work. This designation is not found in the Rasulid almanacs.

26. Although a small amount of rice was planted in the Rasulid era, it is doubtful that this continued afterwards.

27. The text reads shamāl, but the Rasulid almanacs read the southern wind called azyab.

28. This is a cold period when the sky is both white and black (Varisco 1994a:126).

29. This is the fall and not the spring rabī‘ rain and is the Yemeni term for what is known as wasmī elsewhere (Varisco 1994a:109-110).

30. This is in reference to the food sent down to the children of Israel in the desert, as mentioned in both the Torah and the Qu’ran. Manna was said to still settle on olive trees in the mountains of the Byzantine Empire (Ibn al-Mujāwir 1954:277-278).

- 27 Evening rising of haq‘a.
- 28 --
- 29 Autumn blends into winter.
- 30 First of the walī rain.

Details for the month of Kānīn al-Awwal (December)

- 1 Snakes mate.
- 2 First collection of cotton in Abyan and vapors come out of mouths.
- 3 First parched grain of sābi‘ī sorghum in Zabīd.
- 4 Presence and birth of young camels.
- 5 --
- 6 --
- 7 First of the Black Nights and availability of parched sābi‘ī sorghum in Zabīd.
- 8 Canopus disappears at dawn and ants enter their hives.
- 9 Dawn rising of shawla and naw’ of haq‘a.
- 10 First planting of trees and snakes go blind.
- 11 Evening rising of dhirā‘.
- 12 Last availability of grapes in Ṣan‘ā’ and its surrounding areas.
- 13 The sun changes declination and entering of shitā’ of the sages and rabī‘ of the Arabs.
- 14 First planting of qiyāḍ wheat.
- 15 Evening rising of Sirius.
- 16 The phlegm humor is active.
- 17 --
- 18 Cold intensifies and the underground cools.
- 19 Season for plentiful sugarcane and first inflorescence of the early date palm variety.
- 20 Water freezes in the cold area.
- 21 Vega rises in the morning and colds, coughs, nasal drainage and asthma increase.
- 22 Dawn rising of na‘ā’im and naw‘ of han‘a.
- 23 Grapevines are pruned in the eastern area.
- 24 First availability of tamarind and

- evening rising of nathra.
- 25 Night of the birth of Jesus, prayers for our prophet and for him and for the family of Muhammad.
- 26 Arrival of the Dhofari boats to Aden. Working {the soil?} is good.
- 27 Evening rising of Sirius.
- 28 Pasturing of horses in Egypt and this is the time ... {they pasture for two months}.
- 29 The rabī‘ rain returns if the Most High wills.
- 30 Evening rising of Canopus and the south wind blows and tree foliage falls.

Details for the month of Kānūn al-Thānī (January)

- 1 Sap flows in wood and the harvest of wasmī sorghum in Ḥaraḍ and ice occurs.
- 2 Dawn rising of balda and naw’ of dhirā‘.
- 3 Evening rising of the first star of Ursa Major.
- 4 Evening rising of ṭarf and naw’ of dhirā‘.
- 5 Last of the Forty Days and the Christian night of Epiphany in Egypt.
- 6 End of the intensity of the cold and then it becomes moderate.
- 7 Arrival of the ships of Qalhāt {to Aden}.
- 8 First bloodletting with cauterization and evening rising of the second star of Ursa Major.
- 9 Pestilential disease and unhealthy air are lifted.
- 10 Trees gain leaves and fruit blossoms.
- 11 Blowing of the Pollenating Winds
- 12 As on the first {day of the month}, the regime of winter strengthens.
- 13 First sailing of the Egyptians {to Aden} and planting of qiyāḍ barley.
- 14 Canopus is seen in the West (maghrib).
- 15 The hoopoe (hudhud) bird departs and last of the Black Nights.
- 16 End of the intensity of the cold and evening rising of jabha and first of the

Pollenating Winds.

17 Dawn rising of sa‘d al-dhābiḥ and naw’ of nathra.

18 Season for pollination of date palms and first pruning of grapevines..

19 The Pleiades is at mid-heaving in the evening.

20 First availability of roses in Ṣan‘ā’.

21 Rising of Altair in the morning.

22 First planting of melons and its fruit.

23 Rising of the third star of Ursa Major.

24 Winds are variable.

25 Last planting of baynī sorghum in Mawr.

26 --

27 Rising of the fourth star of Ursa Major and ... the ground?

28 Dawn rising of Sa‘d Bula‘ and naw’ of ṭarf.

29 Clover is ready and its produce is well established in Egypt.

30 Evening rising of zubra.

31 Like the first {day}, that is that sap flows in wood.

Details for the month of Shubāt (February)

1 First growth of grapes in the eastern area.

2 The strength of the cold lessens and sap flows out of wood.

3 Going out to prune grapevines in the mountains.

4 Harvest of wheat in al-Wahād (al-Wahān?).

5 The Pollenating Winds strengthen and first harvest of qiyād wheat.

6 Setting of the first {two stars of} Pegasus.

7 Ants come out of their hives and falling of the first Coal.

8 Noah, the prayers of Allāh for our Prophet and for him and for {Muḥammad’s} family,

embarks on a ship and most trees have leaves.

9 Evening rising of the fifth star of Ursa Major .

10 First of the spring (rabī‘) rain in Yemen.

11 Last pollination of date palms.

12 Dawn rising of sa‘d al-su‘ūd and naw’ of jabha.

13 Evening rising of ṣarfa.

14 Falling of the second Coal and evening rising of the sixth star of Ursa Major.

15 Last of the time for planting trees.

16 The Pollinating Winds intensify.

17 Slackening of the cold and appearance of noxious vermin.

18 First of the naw’ {setting} of Pegasus.

19 Naw’ of Pegasus.

20 Sap flows in wood and falling of the third Coal.

21 Evening rising of the seventh star of Ursa Major and last pruning of grapevines.

22 Every kind of plant with a wooden stalk bears and last of the pollinating and the pruning of grapevines.

23 The north wind blows.

24 Dawn rising of sa‘d al-akhbiya and winter blends into spring.

25 First of the Nights of the Old Woman and evening rising of ‘awwā.

26 Naw’ of zubra and gourd is planted.

27 First planting of dithā’ wheat in the mountains.

28 Byzantine intercalation on this day.

31 . Al-Malik al-Ashraf simply notes that melons are planted in the Tihāma. The reference to its fruit would not make sense at its planting.

32. Al-Malik al-Ashraf mentions that in Yemen this is called wasmī.

Details for the month of Ādhār (March)

- 1 First growth of grapes in Ṣan‘ā’.
- 2 First abundance of the blossoming of roses and first time for snake cucumbers.
- 3 --
- 4 Last of the Nights of the Old Woman.
- 5 First blossoming of the pomegranate.
- 6 Snakes open their eyes.
- 7 End of the decline in water sources and winds are variable.
- 8 And the Indian ships sail to Aden.
- 9 Last appearance of the leaves of myrtle and first presence of apples.
- 10 Dawn rising of muqaddam and setting of α Centauri and naw’ of ṣarfa.
- 11 The east wind is pleasant.
- 12 Passover feast for the Jews and entry of rabī‘ of the sages and ṣayf of the Arabs.
- 13 Ships sail on the sea and evening rising of simāk..
- 14 First drinking of medicinal purgatives.
15. First harvest of qiyāḍ {wheat and barley} in the mountains.
- 16 First planting of sorghum in the mountains.
- 17 The blood humor is active.
- 18 The cold passes and the heat comes.
- 19 Pestilence, may Allāh protect us from it, is active in its places.
- 20 Season for horse production.
- 21 The north wind blows.
- 22 First sailing of the Dīmānī ships from Aden.
- 23 Dawn rising of mu’akhkhar and naw’ of ‘awwā.

- 24 Setting of the β Centauri.
- 25 Evening rising of ghafar.
- 26 {Agricultural} work is good for seven days from this.
- 27 Annunciation to Mary of her giving birth to Jesus, peace be upon him and prayers for our Prophet Muḥammad and for him and for the family of Muḥammad.
- 28 First availability of almonds and melons.
- 29 Last planting of wheat in the mountains.
- 30 Balsam oil is crushed in Egypt.

Details for the month of Nīsān (April)

- 1 First availability of apricots, plums, and apples in Ṣan‘ā’.
- 2 First appearance of unripe (balaḥ) dates in Zabīd.
- 3 Descent of the Torah to Moses, prayers to Allāh for our Prophet and for him and for the family of Muḥammad and the naw’ of the Pleiades.
- 4 Ḥūt and naw’ of simāk.
- 5 Dawn rising of baṭn al-ḥūt and naw’ of simāk
6. Evening rising of zubānā.
- 7 First sailing of the Egyptian ships to Aden.
- 8 {Agricultural} work is good and plentiful rain returns.
- 9 Roses increase in their areas.
- 10 Descent of the scrolls of Abraham, prayers to Allāh for our Prophet and for him and for the family of Muḥammad.
- 11 Descent of the Psalms for David, the best prayers for our Prophet and for the family of Muḥammad and first of the early grapes in the eastern area.

33 . The intercalation would be on the following day, giving the month 29 days every four years.

34. Abū al-‘Uqūl notes this is for Zabīd.

35 . This is the last sailing time.

36. This star is also called sā’iq and is one of two stars in what are known as muḥlifān in classical Arab astronomy.

- 12 The regime of spring strengthens and colds and eye diseases are more common.
- 13 The arrival of Egyptian ships to Aden occurs and birds hatch chicks.
- 14 Last appearance of the pomegranate and harvest of cumin in the mountains.
- 15 First entering of the Indian ships to Aden.
- 16 Descent of the Gospel message to Jesus, prayers to Allāh for our Prophet and for him and for the family of Muḥammad and disappearance of the Pleiades
- 17 First entry of the ripe dates.
- 18 Dawn rising of sharaṭayn and naw' of ghafar.
- 19 Evening rising of iklīl and setting of the Pleiades.
- 20 The sun is at mid-heaven in Ṣan'ā'.
- 21 {Agricultural} work is good.
- 22 The availability of apricots increases in Ṣan'ā'.
- 23 Greatest extent of the Euphrates in Iraq.
- 24 The second star of Ursa Major sets in the morning.
- 25 --
- 26 First of the ten select {days} for sowing sorghum.
- 27 The eastern winds blow.
- 28 The bright star of naḥ (α Arietis) rises.
- 29 Evening setting of Aldebaran.
- 30 Setting of the second star of Ursa Major.
- sorghum.
- 6 First sailing of the Indian ships from Aden.
- 7 {Agricultural} work is good and the availability of young sheep and goat increases.
- 8 First of the disappearance of the Pleiades in Yemen.
- 9 Festival of the Rose in Egypt and limes are plentiful and end of the time for broad beans.
- 10 End of the time for melons in the Tihāma.
- 11 Evening rising of Vega and resurrection of Jesus, son of Mary, prayers to Allāh for our Prophet and for his family and also upon him.
- 12 First abundance of honey and morning setting of the fifth star of Ursa Major.
- 13 Apricots and plums are good to eat and the humor of blood is more active.
- 14 Dawn rising of the Pleiades and naw' of iklīl.
- 15 Morning rising of Capella and first arrival of grapes, peaches and pears in Ṣan'ā'.
- 16 First arrival of peaches and grapes in Ṣan'ā'.
- 17 Evening rising of shawla.
- 18 {Agricultural} work is good for seven days.
- 19 Sowing of sorghum in Ṣan'ā' and its area.
- 20 First harvest of rice in Egypt.
- 21 The thawr (Taurus) rain and end of the time for roses.
- 22 Morning setting of the seventh star of Ursa Major.
- 23 Coming out of the red flies.
- 24 Festival of the Rose.
- 25 Last crushing of sugarcane and its juice.

Details for the month of Ayyār (May)

- 1 Dawn rising of buṭayn and naw' of zubānā and last appearance of grapes in Ṣan'ā'.
- 2 First intensity of the heat and evening rising of qalb.
- 3 Planting of millet in the Tihāma.
- 4 Planting of sesame in the Tihāma.
- 5 Last of the ten select {days} for sowing

37. The first part of this line was not completed.

38. Abū al-'Uqūl states 4 Ayyār is the time for planting broad beans in al-Mahjam.

- 26 --
 27 Dawn rising of Aldebaran and naw' of qalb.
 28 First planting of wheat and last planting

Details for the month of Ḥazīrān (June)

- 1 First arrival of peaches and ripe dates.
 2 First of the rise of sediments in the Nile in Egypt.
 3 First of the samā'im {hot winds}.
 4 End of the sailing of Indian ships to Aden.
 5 First sailing of the Mogadishu ships to Aden.
 6 Sexual desire is active these days.
 7 Sexual desire is active.
 8 --
 9 Dawn rising of haq'a and naw' of shawla.
 10 The Coal of Summer blazes.
 11 Pears are ripe and ready to eat.
 12 --
 13 End of the availability of apricots and increase in the presence of grapes in the eastern area.
 14 Morning rising of the shoulder of Orion.
 15 Last availability of plums, which are then gone.
 16 Figs are good to eat and are available in some areas.
 17 First presence of the mist in Dhofar.
 18 Collecting of most fruits in Ṣan'ā'.
 19 --
 20 First availability of walnuts.
 21 --
 22 Dawn rising of han'a and naw' of na'ā'im.
 23 Flooding of the Nile in Egypt.
 24 Stopping of the sun for Joshua, son of Nun, prayers to Allāh for our Prophet and for him and for the family of Muḥammad.

- of sorghum in the mountains.
 29 Apricots are less.
 30 Evening rising of na'ā'im.
 31 The south wind blows.

- 25 --
 26 --

- 27 Mulberries are good to eat.
 28 Locusts and worms perish.
 29 Last leaving of the Kārim {merchant ships} from Egypt to Aden.
 30 End of the time for pears.

Details for the month of Tammūz (July)

- 1 Availability of quince and pomegranate.
 2 Grapes are ripe.
 3 The air is cold sometimes.
 4 Pestilence departs from its areas.
 5 Dawn rising of dhirā' and end of the intense heat.
 6 --
 7 Evening rising of sa'd al-dhābiḥ.
 8 End of the abundance of water in springs.
 9 Morning rising of Sirius.
 10 First planting of bājīsī sorghum and 'alibī sorghum.
 11 Winds intensify and the Nile flow increases.
 12 The availability of grapes increases in Ṣan'ā'.
 13 First arrival of the Kārim merchants to Aden.
 14 Grapes increase in Ṣan'ā'.
 15 First arrival of the snake cucumber in Ṣan'ā' and the regime of the kharīf season of the Arabs and ṣayf of the sages strengthens.
 16 First sowing of emmer wheat ('alas) and gourds increase.
 17 The underground cools.
 18 Dawn rising of nathra and Sirius?

39. Bājīs is the Tihāma term for Sirius and 'alib is the mountain term.

- (‘alib?) is blocked from view and naw’ of sa‘d al-dhābiḥ.
- 19 Evening rising of sa‘d al-su‘ūd and peaches are good to eat.
- 20 Fleas proliferate and Sirius is visible.
- 21 Harvest days for date palms.
- 22 End of the rising of the Euphrates in Iraq.
- 23 --
- 24 Decline of the Tigris and Euphrates.
- 25 Sowing of wheat and first sowing of barley and {agricultural} work is good.
- 26 Morning rising of Canopus in Yemen.
- 27 Arrival of the last Egyptian ships to Aden.
- 28 Morning rising of Altair in Yemen.
- 29 End of the time for figs and mulberries.
- 30 End of abundant rainfall in the mountains.
- 31 Dawn rising of ṭarf and naw’ of sa‘d bula‘.

Details for the month of Āb (August)

- 1 Morning rising of the first star of Ursa Major and grapes are good to eat.
- 2 Evening rising of sa‘d al-akhbiya.
- 3 Sailing of the Egyptians from Aden.
- 4 Cutting of wood.
- 5 First planting of khāmisī sorghum in the Tihāma.
- 6 The sun is at mid-heaven in Ṣan‘ā’ of Yemen.
- 7 There is less milk.
- 8 Rising of the second star of Ursa Major and disappearance from view of Canopus.
- 9 Rising of Canopus in Iraq.
- 10 Last prohibition by Hippocrates of medicinal purgatives.
- 11 Rising of Canopus in the Hejaz.
- 12 End of the time for peaches and rising of Canopus in Syria.
- 13 Dawn rising of jabha and naw’ of sa‘d al-su‘ūd.
- 14 Season for horse {sales} in Aden.
- 15 Winds are variable.
- 16 The Pleiades is at mid-heaven in the morning.
- 17 Last blowing of the samūm wind.
- 18 --
- 19 --
- 20 Rising of the southern Canopus in Egypt.
- 21 Last of the major sailing season for Indian ships.
- 22 Rising of the third star of Ursa Major.
- 23 First collecting of grapes in the eastern area.
- 24 First of parched sorghum in the mountains.
- 25 --
- 26 The manna and quails fall in their places.
- 27 Dawn rising of zubra and naw’ of sa‘d al-akhbiya.
- 28 First of the Majarr Nights and evening rising of mu’akhhkar.
- 29 Rising of the fourth and fifth stars of Ursa Major and first day of the new year.
- 30 --
- 31 Summer blends into autumn.

40. The blocking of Sirius at this time is not mentioned in the Rasulid almanacs, but is noted by al-Thābitī.

41. Al-Malik al-Ashraf defines this as a seven-day hot period opposite the Nights of the Old Woman (Varisco 1994a:126-127).

42. The new year (nayrūz) begins with Aylūl.

Details for the month of Aylūl (September)

- 1 First parching of sorghum.
- 2 The select time for planting khāmisi sorghum.
- 3 Last of the Majarr Nights and last sailing of the Indian ships.
- 4 Pomegranate is available in the Tihāma and last planting of sābi‘ī sorghum in al-Mahjam.
- 5 Last sailing of Indian ships from Aden.
- 6 Cowpeas and green peas are available.
- 7 First tax estimate of summer-cropped land.
- 8 Setting in of infectious disease and fevers on people in the mountains.
- 9 Dawn rising of ṣarfa and naw’ of muqaddam.
- 10 Evening rising of baṭn al-ḥūt.
- 11 First planting of wallflower and first blowing of the azyab wind.
- 12 First harvest of muqādim barley in the mountains.
- 13 Collecting of grapes in the Ṣan‘ā’ region.
- 14 Morning rising of the fifth star of Ursa Major.
- 15 The humor of yellow bile is active and the entering of kharīf of the sages and shitā’ of the Arabs.
- 16 Night and day are equal.
- 17 First harvest of wheat and barley in the mountains and stirring of the black bile humor.
- 18 Jewish Feast of the Tabernacles.
- 19 The violent winds are stirred up and there is hunting with birds of prey.
- 20 Leaves of trees yellow.
- 21 Morning rising of the sixth star of Ursa Major.
- 22 Dawn rising of ‘awwā and naw’ of mu’akhkhar.
- 23 Evening rising of sharaṭayn.
- 24 The heat passes and the cold comes.
- 25 First birth of sheep and goat in al-Sha‘bāniyya.
- 26 Intensity of the midday heat.
- 27 Departure of the Mogadishu ships from their country to Aden and blowing of the lawāqih .
- 28 Arrival of the ships of al-Shiḥr to Aden.
- 29 Last of the sābi‘ī sorghum in the Tihāma.
- 30 Rising of the seventh star in the morning and picking of raisins in the areas with grapes.

43. Although missing from Tawqī‘āt, al-Malik al-Ashraf and Abū al-‘Uqūl mention this for the area of al-Shā‘bāniyya near Ta‘izz.
44. Al-Malik al-Ashraf defines lawāqih here in reference to the intense midday heat rather than the pollenating winds.

Arabic:

٣١ الفجر بالزبانا ونوء البطين

توقيعات في شهر تشرين الثاني

- ١ صفر
- ٢ أول مطر الربيع في اليمن
- ٣ أول زراعة الخرجي بزويد وطلوع الدبران عشاء
- ٤ يدخل النمل جوف الأرض
- ٥ يذهب المن والسلوى ويشتد غيلان البحر
- ٦ أول وقت البرد وتبرد المياه
- ٧ تنقضي أيام الرمان بتهامة وزراعة الجلجلان بزويد
- ٨ حدوث الغمام بالجبال
- ٩ يطلع نير الفكة ضحي وأول حصاد الخشخاش
- ١٠ تختفي الهوام
- ١١ ارتفاع الحبوب من المجران
- ١٢ الفجر بالاكليل وطلوع الجوزاء عشاء
- ١٣ يرتفع الوباء عن الناس بحمد الله تعالى
- ١٤ يرتفع الوباء
- ١٥ نوء الثريا
- ١٦ أول حدوث الضريب {ووجود} قصب السكر
- ١٧ آخر البلق ويكره شرب الماء بالليل
- ١٨ العمل في الأرض تقلع الدود وهبوب العواصف
- ١٩ يتعلق البحر فلا تجرى فيه السفن
- ٢٠ وصول مراكب ظفار عدن وسقوط الدبران ضحي
- ٢١ نهاية سفر الكارم الى عدن ويهيج الابل والفيل
- ٢٢ صراب السابعي في المهجم
- ٢٣ متنم الجحري بالتهائم وآخر هبوب العواصف
- ٢٤ ابتداء هبوب ريح الشمال
- ٢٥ آخر زراعة الجلجلان بزويد ويطلع الفجر بالقلب
- ٢٦ ابتداء حبوب ريح الشمال
- ٢٧ طلوع الهقعة عشاء
- ٢٨ صفر
- ٢٩ يمتزج الخريف بالشتاء
- ٣٠ أول مطر الولي

توقيعات في شهر تشرين الأول

- ١ طلوع الرابع
- ٢ ينصرف النيل ويزرع اهل مصر وهبوب شرقي
- ٣ مجئ الكركي الى مصر وأول حصاد الذرة بالجبال
- ٤ أول حصاد الذرة
- ٥ الفجر بالسماك ونوء بطن الحوت
- ٦ آخر ايام اللواقح وطلوع البطين عشاء
- ٧ أول قطع الاشجار بالشام وتقل البراغيث
- ٨ يغيب الخامس عشاء
- ٩ أول خرص، يكره الفصد
- ١٠ أول وصول المقدشي عدن
- ١١ هبوط ادم صلوات الله على نبينا وعليه وآل محمد الجنة
- ١٢ يصلح فيه العمل وقطع الخشب وأول زراعة الارز
- ١٣ أول قطع الرمان
- ١٤ زمان قطع السكر وينقضي وجود اليقطين
- ١٥ يغيب السادس عشاء وأول وجود الجزر والبطيخ
- ١٦ يقل العنب بصنعاء ويقدم في المشارق
- ١٧ آخر حصاد البر بالجبال
- ١٨ الفجر بالغفر ويشتد مرض السوداء و نوء الشرطين
- ١٩ غاية كثرة بيض الدجاج وطلوع الثريا عشاء
- ٢٠ يمكن الضريب بالجبال احيانا ويشتد هيج السوداء
- ٢١ يساقط ورق الشجر
- ٢٢ غاية هبوب الريح الازيب
- ٢٣ أول هزال الناس والبهائم
- ٢٤ يطلع السماك الرامح ضحي
- ٢٥ طلوع العيوق عشاء ونحا نوح صلوات على نبينا وعليه من الطوفان ويهب الصبا
- ٢٦ أول وصول الظفاري
- ٢٧ أول مطر الوسمي
- ٢٨ أول الليالي البلق
- ٢٩ صفر
- ٣٠ يغيب النير من كواكب النطح ضحي

45. بمعنى سقوط .

46. الشمال! بالاصل.

47. في! بالاصل.

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٣٠ طلوع سهيل عشاءً وتهبّ ريح الجنوب
ويساقط ورق الشجر

توقيعات في شهر كانون الثاني

- ١ يجرى الماء في العود وصراب الوسمي يحرض
ويوجد الثلج
- ٢ الفجع بالبلدة ونوء الذراع
- ٣ طلوع الأول عشاءً
- ٤ طلوع الطرف عشاءً ونوء الذراع
- ٥ آخر الاربعينات وليلة الغطاس بمصر للنصارى
- ٦ اقضى شدة البرد ثم يعتدل
- ٧ وصول مراكب قلهاات
- ٨ أول فصد الكي وطلوع الثاني عشاءً
- ٩ يرتفع الوباء والوخم
- ١٠ تورق الاشجار وتزها الثمر
- ١١ تهبّ الرياح اللواقح
- ١٢ مثل الأول يتقوى حكم الشتاء
- ١٣ أول سفر المصري ومذاري شعير القياض
- ١٤ يرى سهيل بارض المغرب
- ١٥ يخرج الهدهد وآخر الليلى السود
- ١٦ اقضى شدة البرد و طلوع الجبهة عشاءً وأول
الرياح اللواقح
- ١٧ الفجر بسعد الذابح ونوء النثرة
- ١٨ اوان تلحق النخل و أول تقليم الكروم
- ١٩ توسط الثريا بالسما عشاءً
- ٢٠ أول وجود الورد بصنعاء
- ٢١ طلوع النسير الطائر ضحى
- ٢٢ أول زرع البطيخ وثمره
- ٢٣ طلوع الثالث عشاءً
- ٢٤ تختلف الرياح
- ٢٥ آخر متنم البيني بمرور
- ٢٦ صفر
- ٢٧ طلوع الرابع عشاءً و... الارض
- ٢٨ الفجر بسعد بلع ونوء الطرف
- ٢٩ يدرك القرط ويحمد الثمر بمصر

- ١ تهيج الحيات
- ٢ أول جنا القطن بايين وخروج البخار من الافواه
- ٣ أول جهيش السابعي بزبيد
- ٤ وجود الفصلان وميلاده
- ٥ صفر
- ٦ صفر
- ٧ أول الليالي السود ويوجد فريك السابعي بزبيد
- ٨ يغيب سهيل فجراً وتدخل النمل بيوتها
- ٩ الفجر بالشولة ونوء الهقعة
- ١٠ أول غرس الشجر وتعمى الحيات
- ١١ طلوع الذراع عشاءً
- ١٢ آخر وجود العنب بصنعاء واعمالها
- ١٣ وقوف الشمس ودخول شتاء الحكماء وربيع
العرب
- ١٤ أول زراعة القياض
- ١٥ طلوع الشعري اليمانية عشاءً
- ١٦ يهيج البلغم
- ١٧ صفر
- ١٨ يشتدّ البرد ويسخن باطن الارض
- ١٩ اوان كثر قصب السكر وأول طلع النخل
بالمقادم
- ٢٠ تجمد المياه في البلاد الباردة
- ٢١ يطلع النسر الواقع ضحي ويكثر الزكام
والسعال والنزلات والربو
- ٢٢ الفجر بالنعائم ونوء الهنعة
- ٢٣ تقليم الكروم بالمشارك
- ٢٤ أول وجود التمر الهندي وطلوع النثرة عشاءً
- ٢٥ ليلة ميلاد عيسى صلوات على نبينا وعليه
وال محمد
- ٢٦ وصول الظفاري عدن والعمل طيب
- ٢٧ طلوع الشعري اليمانية عشاءً
- ٢٨ ربيع الخيل بمصر وهو الوقت يبقي ...؟
{شهرين بمصر}؟
- ٢٩ يرجى مطر الربيع ان شاء الله تعالى

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٣٠ طلوع الزبرة عشاءً

٣١ مثل الأول ايّ يجرى الماء في العود

توقيعات في شهر آذار

- ١ أول خروج الأعناب بصنعاء
- ٢ أول كثرة فتح الورد وأول زمان القثاء
- ٣ صفر
- ٤ آخر ليالي العجوز
- ٥ أول زهر الرمان
- ٦ تفتح الحيات اعينها
- ٧ نهاية نقص المياه وتختلف الرياح
- ٨ وسفر الهندي الى عدن
- ٩ آخر ظهور أوراق الاس وأول وجود التفاح
- ١٠ الفجر بالمقدّم وسقوط الظافر ونوء الصرفة
- ١١ تتنفس ريح الصبا
- ١٢ عيد الفطر لليهود ودخول ربيع الحكماء
- وصيف العرب
- ١٣ مجرى السفن في البحر وطلوع السماك عشاءً
- ١٤ أول شرب الأدوية المسهلة
- ١٥ أول حصاد القياض بالجبال
- ١٦ أول زراعة الذرة بالجبال
- ١٧ يهيج الدم
- ١٨ يولي البرد ويقبل الحرّ
- ١٩ يهيج الطاعون نعوذ بالله منه في امكانها
- ٢٠ اوان نتاج الخيل
- ٢١ تهبّ رياح الشمال
- ٢٢ أول سفر الديماني من عدن
- ٢٣ الفجر بالمؤدّر ونوء العوا
- ٢٤ سقوط الظافر الثاني
- ٢٥ طلوع الغفر عشاءً
- ٢٦ العمل طيبّ سبعة ايام من هذي
- ٢٧ بشارة مريم محمّل عيسى عليه السلام
- صلوات على نبينا محمّد وعليه وعلى آل محمّد
- ٢٨ أول وجود اللوز والبطيخ
- ٢٩ آخر مذارى البرّ بالجبال
- ٣٠ يتعصر دهن البالسان بمصر

توقيعات في شهر شباط

- ١ أول خروج الاعناب بالمشارك
- ٢ تنكسر قوة البرد ويخرج الماء من العود
- ٣ اصطحب لتقليم الكروم بالجبال
- ٤ حصاب البرّ في الوهاد
- ٥ تقوى الرياح اللواقح وأول حصاد برّ القياض
- ٦ سقوط أول الصواب
- ٧ يظهر النمل من اجهرة وسقوط الجمرة الاولى
- ٨ يركب نوح صلوات الله على نبينا وعليه وعلى
- آله في السفينة ومعظم ورق الاشجار
- ٩ طلوع الخامس عشاءً
- ١٠ أول مطر الربيع باليمن
- ١١ آخر تلقح النخل
- ١٢ الفجر بسعد السعود ونوء الجبهة
- ١٣ طلوع الصرفة عشاءً
- ١٤ سقوط الجمرة الثانية وطلوع السادس عشاءً
- ١٥ آخر اوقات غرس الاشجار
- ١٦ تشتدّ الرياح اللواقح
- ١٧ فتور البرد وظهور الهوام
- ١٨ أول نوء الصواب
- ١٩ نوء الصواب والعمل طيبّ
- ٢٠ يجرى الماء في العود وسقوط الجمرة الثالثة
- ٢١ طلوع السابع عشاءً وآخر تقليم الكروم
- ٢٢ يحمل كل شئ ذات عود وآخر اللواقح وتقليم الكروم
- ٢٣ تهبّ الرياح الشمال
- ٢٤ الفجر بسعد الاخبية ويمتدّ الشتاء بالربيع
- ٢٥ أول ليالي العجوز وطلوع العوا عشاءً
- ٢٦ نوء الزبرة ويزرع اليقطين
- ٢٧ أول زراعة الدثاء بالجبال
- ٢٨ كبيسة الروم هذا اليوم

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- ١ الفجر بالبطين ونوء الزباني وآخر خروج العنب بصنعاء
- ٢ أول شدة الحر وطلوع القلب عشاء
- ٣ زراعة الدخن بالتهائم
- ٤ زراعة الجبلان بالتهائم
- ٥ آخر العشر المختارة لمذاري الذرة
- ٦ أول سفر الهندي من عدن
- ٧ العمل طيب ويكثر وجود الفصلان
- ٨ أول استتار سهيل باليمن
- ٩ عيد الورد بمصر ويكثر الليم وينقضي وقت الباقلاء
- ١٠ ينقضي وقت البطيخ بالتهائم
- ١١ طلوع النسر الواقع عشاء ورفع عيسى بن مريم صلوات الله على نبينا وعلى آله وعليه ذلك
- ١٢ أول يثرو العسل يغيب الخامس ضحي
- ١٣ يطيب المشمش والاجاص ويتقوى هيح الدم
- ١٤ الفجر بالثريا ونوء الاكليل
- ١٥ طلوع العيوق ضحي وأول دخول العنب والخوخ والكمشرة بصنعاء
- ١٦ أول دخول الخوخ والعنب بصنعاء
- ١٧ طلوع الشولة عشاء
- ١٨ العمل طيب سبعة ايام
- ١٩ مذاري الذرة بصنعاء وبلادها
- ٢٠ أول حصاد الارز بمصر
- ٢١ مطر الثور وينقضي وقت الورد
- ٢٢ يغيب السابع ضحي
- ٢٣ خروج الذباب الاحمر
- ٢٤ عيد الورد
- ٢٥ آخر كسر قصب السكر وعصره
- ٢٦ صفر
- ٢٧ الفجر بالدبران ونوء القلب
- ٢٨ أول زراعة البر وآخر زراعة الذرة بالجبال
- ٢٩ تقل المشمش
- ٣٠ طلوع النعائم عشاء
- ٣١ تهب ريح الجنوب

توقيعات في شهر نيسان

- ١ أول وجود المشمش والاجاص والتفاح بصنعاء
- ٢ أول دخول البلح زبيد
- ٣ نزول التوراة على موسى صلوات الله على نبينا وعليه وعلى آل محمد ونوء الثريا
- ٤ {الفجر في بطن} الحوت ونوء السماك
- ٥ الفجر ببطن الحوت ونوء السماك
- ٦ طلوع الزبانا عشاء
- ٧ أول سفر المصري الى عدن
- ٨ العمل طيب ويرجى الغيث
- ٩ تكثر الورد ببلاده
- ١٠ نزول صحف ابراهيم صلوات الله على نبينا وعليه وعلى آل محمد
- ١١ نزول الزبور على داود على نبينا افضل الصلوات وعلى آل محمد وأول باكورة العنب بالمشارك
- ١٢ يتقوى حكم فصل الربيع ويتقوى الزكام ووجع العين
- ١٣ يتوقع وصول المصري الى عدن وتفريخ الطير
- ١٤ آخر ظهور الرمان وحصاد الكمون بالجبال
- ١٥ أول دخول الهندي عدن
- ١٦ نزول الانجيل على عيسى صلوات الله على نبينا وعليه وعلى آل محمد واستتار الثريا
- ١٧ أول دخول الرطب
- ١٨ الفجر بالشرطين ونوء الغفر
- ١٩ طلوع الاكليل وسقوط الثريا عشاء
- ٢٠ تسامت الشمس بصنعاء الرأس
- ٢١ العمل طيب
- ٢٢ يكثر وجود المشمش بصنعاء
- ٢٣ غاية مدّ الفرات بالعراق
- ٢٤ يغيب الثاني صباحاً
- ٢٥ صفر
- ٢٦ أول العشر المختارة لمذاري الذرة
- ٢٧ تهب الرياح الشرقية
- ٢٨ يطلع النير من كوكب النطح
- ٢٩ افول الدبران عشاء
- ٣٠ يغيب الثاني صباحاً

توقيعات في شهر حزيران

- ١ أول دخول الخوخ والرطب
- ٢ أول توذّم النيل بمصر
- ٣ أول السمائم
- ٤ نهاية وصول الهندي الى عدن
- ٥ أول سفر المقدشي عدن
- ٦ تحرك الباءة في تلك الايام
- ٧ تحرك الباءة
- ٨ صفر
- ٩ الفجر بالهقعة ونوء الشولة
- ١٠ تلهب جمرة القيظ
- ١١ يطيب الكمثره ويستوى
- ١٢ صفر
- ١٣ ينقضي وجود المشمش ويكثر وجود العنب بالمشارق
- ١٤ طلوع منكب الجوزاء ضحي
- ١٥ آخر وجود الاجاص ويعدم
- ١٦ يطيب التين ويوجد في بعض البلاد
- ١٧ أول وجود الخرف بظفار
- ١٨ اجتماع اكثر الفواكه بصنعاء
- ١٩ صفر
- ٢٠ أول وجود الجوز
- ٢١ صفر
- ٢٢ الفجر بالهنعة ونوء النعائم
- ٢٣ اندفاع النيل بمصر
- ٢٤ وقوف الشمس ليوشع بن نون صلوات الله على نبينا وعليه وعلى آل محمد
- ٢٥ صفر
- ٢٦ صفر
- ٢٧ يطيب التوت
- ٢٨ يموت الجراد والدود
- ٢٩ آخر خروج الكارم من مصر الى عدن
- ٣٠ ينقضي وقت الكمثره

توقيعات في شهر تمّوز

- ١ وجود السفرجل والرمان

- ٢ تستوى الاعناب
- ٣ يبرد الجوى احياناً
- ٤ تذهب الطواعين من اماكنها
- ٥ الفجر بالذراع واقض شدّة الحرّ
- ٦ صفر
- ٧ طلوع سعد الذابح عشاء
- ٨ نهاية غزر مياه العيون
- ٩ طلوع الشعري اليمانية ضحي
- ١٠ أول زراعة الباجسي والعلبي
- ١١ تشتدّ الرياح وتزيد النيل
- ١٢ يكثر وجود الاعناب بصنعاء
- ١٣ أول وصول الكارم عدن
- ١٤ يكثر العنب بصنعاء
- ١٥ أول دخول القثاء بصنعاء ويتقوى حكم فصل خريف العرب و صيف الحكماء
- ١٦ أول مذارى العلس ويكثر اليقطين
- ١٧ يبرد باطن الارض
- ١٨ الفجر بالنترة واعراض القلب ونوء سعد الذابح
- ١٩ طلوع سعد السعود عشاء و يطيب الخوخ
- ٢٠ تكثر البراغيث ويبين الشعري
- ٢١ انصرام ايام النخل
- ٢٢ نهاية مدّ الفرات بالعراق
- ٢٣ صفر
- ٢٤ نقصات دجلة والفرات
- ٢٥ مذارى البرّ وأول مذارى الشعير والعمل في الطيب ...؟
- ٢٦ طلوع سهيل ضحي باليمن
- ٢٧ وصول المصري الآخر عدن
- ٢٨ يطلع النسر الطائر ضحي باليمن
- ٢٩ ينقضي وقت التين والتوت
- ٣٠ نهاية غزر الامطار بالجبال
- ٣١ الفجر بالطرف ونوء سعد بلع
- ٥ أول زراعة الخامسي بالتهائم
- ٦ تسامت الشمس الرأس بصنعاء اليمن
- ٧ تقلّ الالبان
- ٨ طلوع الثاني ويعترض سهيل
- ٩ طلوع سهيل بالعراق
- ١٠ آخر نهي بقراط عن المسهلات

61. الثريا باصل.

62. والاخضر! بالاصل.

63. الجو بالاصل.

64. اخر كلمة غير واحدة.

١٥ يهيج الخلط الصفراوي ودخول خريف الحكماء
 وشتاء العرب
 ١٦ يستوى الليل والنهار
 ١٧ أول حصاد البرّ والشعير بالجبال ويهيج خلط
 السوداء
 ١٨ عيد المظلة لليهود
 ١٩ تهيج العواصف وصيد جوارح الطير
 ٢٠ يصفر ورق الشجر
 ٢١ طلوع السادس ضحى
 ٢٢ الفجر بالعوا ونوء المؤذّر
 ٢٣ طلوع الشرطين عشاء
 ٢٤ يولي الحرّ و يقبل البرد
 ٢٥ أول نتاج الفصلان الشعبانية
 ٢٦ شدة الهواجر
 ٢٧ خروج المقدشي من بلاده الى عدن وهبوب
 اللواقح
 ٢٨ وصول مراكب الشجر الى عدن
 ٢٩ آخر السابعي بتهامة وحصاد الارز بمصر
 والحجاز
 ٣٠ طلوع السابع ضحى وقشوش الزبيب في بلاد
 الاعناب

١٢ ينقضى وقت الخوخ وطلوع سهيل بالشام
 ١٣ الفجر بالجبهة ونوء سعد السعود
 ١٤ موسم الخيل بعدن
 ١٥ تختلف الرياح
 ١٦ يتوسط الثريا في السماء ضحى
 ١٧ آخر هبوب السموم
 ١٨ صفر
 ١٩ صفر
 ٢٠ طلوع سهيل اليماني بمصر
 ٢١ آخر الموسم الهندي الكبير
 ٢٢ طلوع الثالث
 ٢٣ أول قطع الاعناب بالمشارك
 ٢٤ أول فريق الذرة بالجبال
 ٢٥ صفر
 ٢٦ يسقط المنّ و السلوى في مواضعه
 ٢٧ الفجر بالزبرة ونوء سعد الآخبية
 ٢٨ أول الليالي مجرّ وطلوع المؤذّر عشاء
 ٢٩ طلوع الرابع {و} الخامس أوله النيروز
 ٣٠ صفر
 ٣١ يمتزج الصيف بالخريف

توقعات في شهر ايلول

١ أول جهيش الذرة
 ٢ الوقت المختار لزراعة الخامسي
 ٣ آخر ليالي مجرّ وآخر سفر الهندي
 ٤ يوجد الرمان بالتهائم وآخر زراعة السابعي
 بالمهجم
 ٥ آخر سفر الهندي من عدن
 ٦ يوجد اللوبياء والعتز الاخضر
 ٧ أول استخراج مال الصيف
 ٨ حلول البوبا والحميات بالناس في الجبال
 ٩ الفجر بالصرفة ونوء المقدم
 ١٠ طلوع بطن الحوت عشاء
 ١١ أول غرس المنثور وأول هبوب الازيب
 ١٢ أول حصاد المقادم بالجبال
 ١٣ قطف الاعناب بالأعمال الصنعانية
 ١٤ طلوع الخامس ضحى

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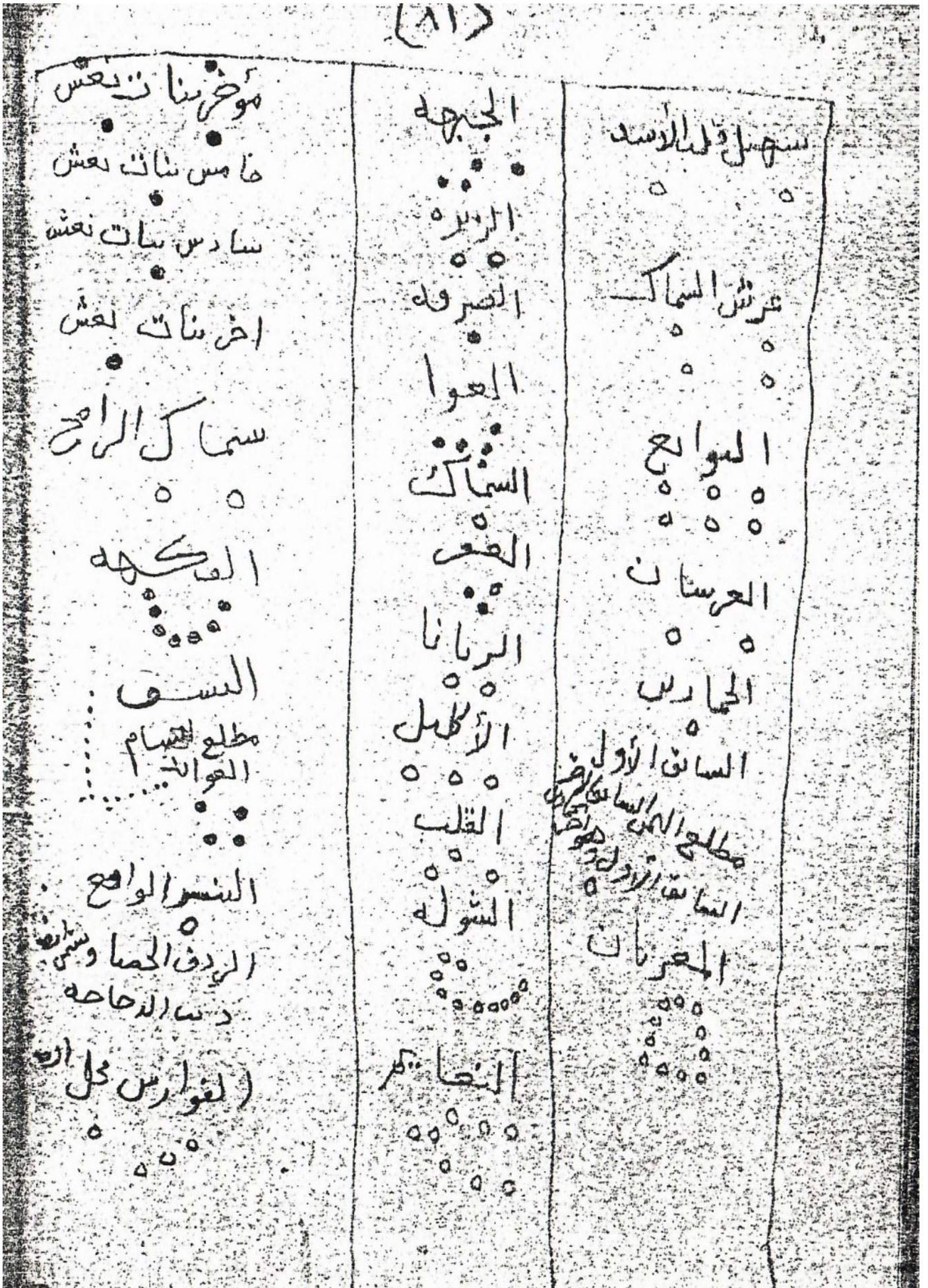


Figure 2. Illustration of anwa and other asterisms in Shaykh Zayed manuscript



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