



FAUNA

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2023
GREGORIAN

1444-1445
HIJRI

CALENDAR



FAUNA

Written by RICHARD HOATH

In a remote reach of the Sahara, near Egypt's western border with Libya, it takes a scramble across dunes, scree and a cliff to reach the cave of Foggini-Mestikawi.

More an alcove in a rock wall, it is adorned with the 8,000-year-old rock art of the people and the animals they lived with and preyed upon: giraffes, ostriches, antelopes and gazelles, curiously headless lions, and handprints and depictions of the humans who painted them.

That was before the climate warmed and dried. The people moved east, to where the water was: the Nile Valley. Some 5,000 years ago, King Menes united the peoples of Upper and Lower Egypt, and the rest is quite literally history—which is also natural history.

People in pharaonic Egypt continued to depict their animals, wild and domestic, with unprecedented accuracy. Animals were farmed, and they were also deified.

There was Thoth, represented by the Sacred Ibis and the Sacred Baboon—both species now extinct in modern Egypt. There was Sobek, the crocodile god of fertility and the Nile, and there was Horus, the falcon-headed god: In the temple of Kom Ombo, in Upper Egypt, the two were, uniquely, celebrated together.

Today the Nile crocodile is limited to the human-made confines of Lake Nasser. But in the air, still widely resident are the raptors: the Kestrel, the Lanner, Sooty and Barbary falcons. There is also the Saker, renowned for its size and hunting prowess, that has been so extensively captured that it is now endangered. Dozens of species of other birds pass through: Each spring and fall, the greater Middle East plays

host to birds by the millions as they make their way back and forth from breeding lands across Europe and Asia and wintering grounds in Africa.

It is not just birds that migrate. The waters of the Red Sea support some of the richest marine environments on the planet. The coral reefs equate, in terms of biodiversity, to tropical rainforests, and sea turtles, including loggerhead and green turtles, breed in the region. At the Ra's al-Jinz Reserve in easternmost Oman, female green turtles haul themselves ashore at night to lay their eggs after years at sea. It is a moving experience to witness: No flash photography or mobiles are allowed, but in 2015, with my own pencil and paper, I was permitted to sketch with rapt impunity.

Like the Sahara, much of the Arabian Peninsula above the water might seem an austere, even lifeless, biome. But there are myriad species there, many of whose names stem from Arabic—jirds, gerbils, jerboas and more. Among the rare larger denizens, perhaps the rarest is the Arabian oryx, a species recently brought back from the brink of extinction.

Half a century ago, this antelope of only the most extreme of deserts was reduced to a handful of individuals. Since 1972 it has been gradually reintroduced in protected areas such as Jiddat al-Harasis in Oman, Al Reem Biosphere Reserve in Qatar and several reserves in Saudi Arabia. Though large and white with dark, nearly straight horns, it is so elusive in the shimmering desert that the oryx, with its long, slender horns, may have been one of the origins of the legend of the unicorn.

Whether on land, in the sea or in the air, where there are fauna, there are predators, often in addition

The Arabian oryx may have been one of the origins of the legendary unicorn.

to human hunters. Where there are oryx, there are jackals; where there are markhors there are snow leopards, and where there are tigers there are sambars and sikas. There were cheetahs too, once widespread in the Middle East but now reduced to only a few in the wild, in Iran. But cats were worshipped in pharaonic Egypt as the lioness Sekhmet and also as the cat goddess Bastet. In Sumeria the King Gilgamesh was portrayed embracing the lion. On the Arabian Peninsula today, the leopard endures, clinging to the remote reaches of the southern mountains.

Perhaps the best-adapted of desert predators are the foxes. Within Arabia there are there are Blanford's foxes, red foxes and Rüppell's sand foxes, but from Morocco to the Sinai Peninsula, the "poster species" is the fennec fox, which appears on the cover of this calendar. You would be lucky to see one, but after a night out under the desert skies, on the sandy ground crisscrossed by the tracks of numerous nocturnal visitors, perhaps among them you would find those of the fennec.

Today, everywhere, our natural environments are threatened by climate change, habitat loss and the human footprint. Many fauna painted in the Foggini-Mestikawi cave have disappeared. Yet rejuvenations of species and increases in habitat protections by conservation-minded organizations continue to offer hope. The managed population of the Arabian oryx, the protection of the green turtles, and the recent reintroduction of the cheetah into Kuno National Park, India, are examples worth following. The November 2022 United Nations Climate Change Conference in Sharm El-Sheikh, Egypt, gives opportunities for global attention to invigorating environmental resurgences. 🌍

RICHARD HOATH is the author and illustrator of *A Field Guide to the Mammals of Egypt* and writer of the recently published *The Birds of Egypt and the Middle East*. He is a leading naturalist, ornithologist and long-time resident of Egypt who has traveled throughout the Middle East in search of varied, wonderful and elusive wildlife. He is on the faculty of The American University in Cairo.

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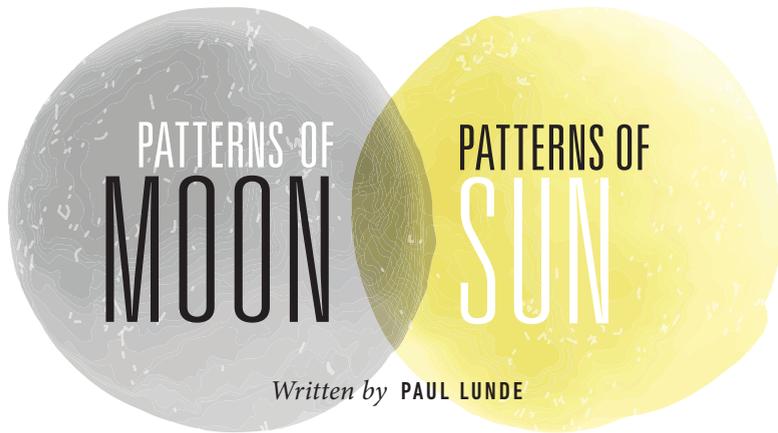
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ON THE COVER Smaller than a house cat, a fennec fox peers over a sand hill in Tunisia. Its large ears both dissipate heat and help give fennecs keen hearing to home in on rodents. Though internationally protected, fennecs are often trapped and sold as exotic pets.

Cover photo by Bruno D'Amicis / Naturepl.com
Above: Lorraine Benney / Naturepl.com



THE HIJRI CALENDAR

In 638 CE, six years after the death of the Prophet Muhammad, Islam's second caliph, 'Umar, recognized the necessity of a calendar to govern the affairs of Muslims. This was first of all a practical matter. Correspondence with military and civilian officials in the newly conquered lands required dating. Pre-Islamic Arab customs identified years after the occurrence of major events. But Persia used a different calendar from Syria, where the caliphate was later based; Egypt used yet another. Each of these calendars had a different starting point, or epoch. The Sasanids, the ruling dynasty of Persia, used the date of the accession of the last Sasanid monarch, Yazdagird III, June 16, 632 CE. Syria, which until the Muslim conquest was part of the Byzantine Empire, used a form of the Roman Julian calendar, with an epoch of October 1, 312 BCE. Egypt used the Coptic calendar, with an epoch of August 29, 284 CE. Although all were solar calendars, and hence geared to the seasons and containing 365 days, each also had a different system for periodically adding days to compensate for the fact that the true length of the solar year is not 365 but 365.2422 days.

In pre-Islamic Arabia, other systems of measuring time had been used. In South Arabia some calendars apparently were lunar, while others were

lunisolar, using months based on the phases of the moon but intercalating days outside the lunar cycle to synchronize the calendar with the seasons. On the eve of Islam, the Himyarites appear to have used a calendar based on the Julian form, but with an epoch of 110 BCE. In central Arabia the course of the year was charted by the position of the stars relative to the horizon at sunset or sunrise, dividing the ecliptic into

28 equal parts corresponding to the location of the moon on each successive night of the month. The names of the months in that calendar have continued in the Islamic calendar to this day and would seem to indicate that before Islam, some sort of lunisolar calendar was in use, though it is not known to have had an epoch other than memorable local events.

There were two other reasons 'Umar rejected existing solar calendars. The Qur'an, in Chapter 10, Verse 5, states that time should be reckoned by the moon. Not only that, calendars used by the Persians, Syrians and Egyptians were identified with other religions and cultures. He therefore decided to create a calendar specifically for the Muslim community. It would be lunar, and it would have 12 months, each with 29 or 30 days.

This gives the lunar year 354 days, 11 days fewer

IT IS HE WHO MADE THE SUN
TO BE A SHINING GLORY, AND
THE MOON TO BE A LIGHT (OF
BEAUTY); AND MEASURED OUT
STAGES FOR HER, THAT YE MIGHT
KNOW THE NUMBER OF YEARS
AND THE COUNT (OF TIME).

—QUR'AN 10:5
(ENGLISH BY YUSUF ALI)

than the solar year. For the epoch of the new Muslim calendar, 'Umar chose the *Hijra*, the emigration of the Prophet Muhammad and 70 Muslims from Makkah to Madinah, where Muslims first attained religious and political autonomy. Hijra thus occurred on 1 Muharram of the year 1 according to the Islamic calendar, which begins the *hijri* era. (This date corresponds to July 16, 622 CE, on the Gregorian calendar.) Today in the West, it is customary, when writing hijri dates, to use the abbreviation AH, which stands for the Latin *anno hegirae*, "year of the Hijra."

Because the Islamic lunar calendar is 11 days shorter than the solar, it is therefore not synchronized to the seasons. Its festivals, which fall on the same days of the same lunar months each year, make the round of the seasons every 33 solar years. This 11-day difference between the lunar and the solar year accounts for the difficulty of converting dates from one system to the other.

THE GREGORIAN CALENDAR

The early calendar of the Roman Empire was lunisolar, containing 355 days divided into 12 months beginning on January 1. To keep it more or less in accord with the actual solar year, a month was added every two years. The system for doing so was complex, and cumulative errors gradually misaligned it with the seasons. By 46 BCE, it was some three months out

of alignment, and Julius Caesar oversaw its reform. Consulting Greek astronomers in Alexandria, he created a solar calendar that added one day to February every fourth year, effectively compensating for the solar year's length of 365.2422 days. This Julian calendar was used throughout Europe until 1582 CE.

In the Middle Ages, the Christian liturgical calendar was grafted onto the Julian one, and the computation of lunar festivals like Easter, which falls on the first Sunday after the first full moon after the spring equinox, challenged some of the best minds in Christendom. The use of the epoch 1 CE dates from the sixth century CE, but did not become common until the 10th century.

The Julian year was nonetheless 11 minutes and 14 seconds too long. By the early 16th century, due to the accumulated error, the spring equinox had begun falling on March 11 rather than where it should, on March 21. Copernicus, Christophorus Clavius and the physician Aloysius Lilius provided the calculations, and in 1582 Pope Gregory XIII ordered that Thursday, October 4, 1582, would be followed by Friday, October 15, 1582. Most Christianized kingdoms accepted the new "Gregorian" calendar, but it was not adopted in England and the Americas until the 18th century. Its use today is common worldwide. The Gregorian year is nonetheless 25.96 seconds ahead of the solar year, which by the year 4909 will add up to an extra day. 🌐

The late **PAUL LUNDE** was a senior research associate with the Civilizations in Contact Project at Cambridge University and author of more than 70 articles for *AramcoWorld*.

CONVERTING YEARS AND DATES

Online calculators can be found by searching "Gregorian-hijri calendar calculator" or similar terms. The following equations show how the conversion is made mathematically. However, keep in mind that in each case, the result is only the year in which the other calendar's year begins. For example, 2023 Gregorian begins in 1444 hijri and ends in 1445; correspondingly, 1445 hijri begins in 2023 Gregorian and ends in 2024.

$$\text{GREGORIAN YEAR TO HIJRI YEAR} = \\ [(32 \times \text{Hijri year}) \div 33] + 622$$

$$\text{HIJRI YEAR TO GREGORIAN YEAR} = \\ [(\text{Gregorian year} - 622) \times 33] \div 32$$



JANUARY

Jumada II - Rajab

MARKHOR (*Capra falconeri*) Also known as the screw-horned goat, the markhor is the national animal of Pakistan. Its name may be derived from the Persian for "snake-eater," and while it is known to kill and eat serpents, its spiral horns also resemble coiling snakes. The markhor is a mountain herbivore with keen senses of smell and sight.

—PHOTO BY JOEL SARTORE / PHOTO ART

Habitat range: Central Asia
Conservation status: Near threatened

SUNDAY		MONDAY		TUESDAY		WEDNESDAY		THURSDAY		FRIDAY		SATURDAY	
1	8	2	9	3	10	4	11	5	12	6	13	7	14
		Playwright and poet Abdulhak Hamid Tarhan born 1852								Author, poet and artist Kahlil Gibran born 1883			
8	15	9	16	10	17	11	18	12	19	13	20	14	21
'Abd al-'Aziz Al-Sa'ud declared King of Hijaz 1926				Poet and writer Oybek born 1905				Leyli and Majnun, first opera in Muslim world, premieres in Baku 1908					
15	22	16	23	17	24	18	25	19	26	20	27	21	28
		'Abd al-Rahman III becomes caliph of al-Andalus 929 CE								Artist Rachid Koraichi born 1947			
22	29	23	1	24	2	25	3	26	4	27	5	28	6
Ausma Zehanat Khan's debut novel published 2015						Film director Youssef Chahine born 1926						Kazakh writer Akhmet Baitrusynov born 1872	
29	7	30	8	31	9	DECEMBER 2022 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31		FEBRUARY 2023 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28		NOTES: _____ _____ _____ _____			
		Desert X AIUla inaugurated in Saudi Arabia 2020											



FEBRUARY

Rajab - Sha`aban

NILE CROCODILE (*Crocodylus niloticus* and *Crocodylus suchus*) Recent research has shown that the sacred crocodile of ancient Egypt that was worshiped as the god Sobek was actually two distinct species whose appearances are similar enough that the distinction has been only recently recognized. *C. niloticus* is the largest crocodile on the African continent, growing up to 5 meters in length and living for 50 to 80 years. It can be very aggressive, but it was the somewhat smaller and less aggressive *C. suchus* that was most often used in ceremonies and mummified. For all their ferocity, the one animal Nile crocodiles avoid when sharing the same habitat is the much larger hippo. —PHOTO BY LORRAINE BENNER / NATUREPL.COM

Habitat range: Freshwater in Egypt, Sudan, South Sudan, Ethiopia and 22 other countries in Africa
Conservation status: Least concern

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
<p>JANUARY 2023</p> <p>1 2 3 4 5 6 7</p> <p>8 9 10 11 12 13 14</p> <p>15 16 17 18 19 20 21</p> <p>22 23 24 25 26 27 28</p> <p>29 30 31</p>	<p>MARCH 2023</p> <p>1 2 3 4</p> <p>5 6 7 8 9 10 11</p> <p>12 13 14 15 16 17 18</p> <p>19 20 21 22 23 24 25</p> <p>26 27 28 29 30 31</p>		<p>1 10</p> <p>Mughal Empire enters its classical age 1556</p>	<p>2 11</p> <p>Pop star Shakira born 1977</p>	<p>3 12</p>	<p>4 13</p>
<p>5 14</p> <p>Economist Dame Nemat Shafik born 1962</p>	<p>6 15</p>	<p>7 16</p>	<p>8 17</p>	<p>9 18</p> <p>Poet Ali-Shir Nava'i born 1441</p>	<p>10 19</p>	<p>11 20</p> <p>Mughal Emperor Akbar begins reign 1556</p>
<p>12 21</p>	<p>13 22</p>	<p>14 23</p> <p>Saudi King `Abd al-Aziz meets US President Roosevelt 1945</p>	<p>15 24</p>	<p>16 25</p>	<p>17 26</p> <p>Existentialist Abdel Rahman Badawi born 1917</p>	<p>18 27</p>
<p>19 28</p>	<p>20 29</p>	<p>21 1</p>	<p>22 2</p>	<p>23 3</p>	<p>24 4</p>	<p>25 5</p>
<p>26 6</p>	<p>27 7</p> <p>Franciscus Raphelengius, Europe's first printer of Arabic outside Rome, born 1539</p>	<p>28 8</p>	<p>Istiqlal Mosque opens in Jakarta, Indonesia 1978</p>			
<p>NOTES:</p> <hr/> <hr/> <hr/> <hr/>						



MARCH

Sha`aban - Ramadan

SAKER FALCON (*Falco cherrug*) The family of Falconidae includes more than 60 species, and some of the earliest known human depictions of falcons date back 3,500 years in Mesopotamia. Saker falcons are one of the largest and most efficient hunters, and these qualities make them prized for sport falconry—leading to high levels of capture. This together with hazards from live power lines have reduced Saker populations in the wild to critical numbers. This photo shows a Saker nest in the steppe of Mongolia, where in addition to natural-nest protections, more than 5,000 artificial nesting sites have been erected to help preserve Sakers in the region where they remain most prevalent. —PHOTO BY BRENT STIRTON / GETTY IMAGES

Habitat range: Southern and Central Asia, Central and Eastern Europe, Arabian Peninsula, North Africa
Conservation status: Endangered

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
NOTES:		FEBRUARY 2023 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28	1 9	2 10	3 11	4 12
5 13	6 14	7 15	8 16	9 17 @everydaymiddleeast launches 2014	10 18	11 19 First commercial flow of oil from Saudi Arabia 1938
12 20	13 21 Traveler Nasir Khusraw begins seven-year journey 1046 CE	14 22	15 23 Author and artist Mohammed Mrabet born 1936	16 24	17 25	18 26
19 27	20 28 Palestinian poet Mahmoud Darwish born 1941	21 29	22 30	23 1	24 2 Caliph Harun al-Rashid, patron of the arts, born 763 CE	25 3
26 4 Abu Said Osman becomes sultan of Morocco 1398 CE	27 5	28 6	29 7 Sultan and astronomer Ulugh Beg born 1394 CE	30 8	31 9	APRIL 2023 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
		28 6 Emin Pasha, Ottoman physician of German origin, born 1840			31 9 UK street artist Teakster wins Alhambra Award 2014	



APRIL

Ramadan - Shawwal

FENNEC FOX (*Vulpes zerda*) Fennecs are the smallest of the Canidae family, which includes not only other foxes but also coyotes and dogs. Their large ears serve both to dissipate heat and to help fennecs hear prey even underground. Eating anything from fruits, roots and leaves to rodents, fennecs can go without water indefinitely as they obtain hydration from their food. While fennecs are not presently endangered, trade in them is regulated and protected internationally under the Convention on the International Trade in Endangered Species.

—PHOTO BY BRUNO D'AMICIS / NATUREPL.COM

Habitat range: Northwest Africa to the Sinai Peninsula **Conservation status:** Least concern

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY							
NOTES:				MARCH 2023 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	MAY 2023 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 10							
2	11	3	12	4	13	5	14	6	15	7	16	8	17
			Arabian Nights translator Antoine Galland born 1646					Author "Prince of Tidore" brought to Cape Town from Sumatra 1780					
9	18	10	19	11	20	12	21	13	22	14	23	15	24
Easter		Pan-Islamic newspaper <i>Terjiman</i> begins circulation in Russia 1883										<i>Kawkab America</i> , North America's first Arabic-language newspaper, launches 1892	
16	25	17	26	18	27	19	28	20	29	21	1	22	2
			Inaugural Ouarzazate International Film Festival opens in Morocco 2016					Ibn Wasil, historian and scholar, born 1208 CE		Eid al-Fitr			
23	3	24	4	25	5	26	6	27	7	28	8	29	9
30	10												
						Literary figure Ġabdulla Tuqay born 1886							



MAY

Shawwal - Dhu-al-Qa`dah

SPINNER DOLPHIN (*Stenella longirostris*) While the species name is Latin for “long beak,” the name “spinner” came from its leaps and spins above water. Spinner dolphins ply deep tropical waters around the world, including the Red Sea, where this photo was taken. While trade in live spinners is regulated in many countries, threats to spinner populations come mainly from purse-seine tuna fisheries in which spinners become bycatch, often in large numbers. — PHOTO BY PASCAL KOBEH / NATUREPL.COM

Habitat range: Worldwide in temperate and tropical waters

Conservation status: Least concern

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
<p>APRIL 2023</p> <p>1</p> <p>2 3 4 5 6 7 8</p> <p>9 10 11 12 13 14 15</p> <p>16 17 18 19 20 21 22</p> <p>23 24 25 26 27 28 29</p> <p>30</p>	<p>1 11</p> <p>Tanker loads first Saudi crude oil exports at Ras Tanura 1939</p>	<p>2 12</p>	<p>3 13</p>	<p>4 14</p> <p>India establishes Sundarban National Park 1984</p>	<p>5 15</p>	<p>6 16</p>
<p>7 17</p>	<p>8 18</p>	<p>9 19</p> <p>Author Gamal al-Ghitani born 1945</p>	<p>10 20</p> <p>Poet and writer G'afur G'ulom born 1903</p>	<p>11 21</p>	<p>12 22</p> <p>Writer Achmed Abdullah born 1881</p>	<p>13 23</p>
<p>14 24</p> <p>Djerba becomes part of the Ottoman regency of Tunis 1560</p>	<p>15 25</p>	<p>16 26</p>	<p>17 27</p>	<p>18 28</p> <p>Magtymguly Pyragy, Turkmen poet-hero, born 1724</p>	<p>19 29</p>	<p>20 30</p>
<p>21 1</p>	<p>22 2</p>	<p>23 3</p>	<p>24 4</p>	<p>25 5</p>	<p>26 6</p>	<p>27 7</p>
<p>28 8</p> <p>Kamancheh player Habil Aliyev born 1927</p>	<p>29 9</p>	<p>30 10</p>	<p>31 11</p> <p>Fairuz makes first European TV appearance 1975</p>	<p>JUNE 2023</p> <p>1 2 3</p> <p>4 5 6 7 8 9 10</p> <p>11 12 13 14 15 16 17</p> <p>18 19 20 21 22 23 24</p> <p>25 26 27 28 29 30</p>	<p>NOTES:</p> <hr/> <hr/> <hr/>	<p>Ibn Khaldun, "Father of Sociology," born 1332 CE</p>



JUNE

Dhu-al-Qa`dah - Dhu-al-Hijjah

SNOW LEOPARD (*Panthera uncia*) Genetically related more to the tiger (*Panthera tigris*) than to the leopard (*Panthera pardus*), the snow leopard inhabits the highlands and mountains, usually from 3,000 to 4,500 meters in altitude, in 12 Central Asian nations. Everywhere it is also regarded as a symbol and talisman of history, heritage and identity. Extremely elusive to humans, this photo was made using a motion-triggered camera set along the Uchkol River in eastern Kyrgyzstan.

—PHOTO BY SEBASTIAN KENNERKNECHT / PANTHERA

Habitat range: Mountains of Central Asia **Conservation status:** Vulnerable

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
NOTES:			MAY 2023 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 12 Jakarta Charter, five guiding principles for the Indonesian state, presented 1945	2 13	3 14
4 15	5 16 Beirut becomes first Arab country to host World Environment Day 2003	6 17	7 18	8 19 Egyptian football star Mohamed "Mo" Salah born 1992	9 20	10 21 Poet, Manaschi and folk singer Togolok Moldo born 1860
11 22 Pope Innocent VIII buys seven Mamluk carpets from Cairo 1489	12 23	13 24 Süleymaniye Mosque cornerstone laid 1550	14 25	15 26	16 27	17 28 First Kazakh satellite launched into orbit 2006
18 29	19 1 King Roger, a Sicilian opera, debuts 1926	20 2	21 3 Citadel of Erbil recognized on World Heritage List 2014	22 4	23 5	24 6
25 7	26 8	27 9 Eid al-Adha	28 10	29 11 Mathematician Sir Ashutosh Mukherjee born 1864	30 12	JULY 2023 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31



JULY

Dhu-al-Hijjah - Muharram 1445

ARABIAN ORYX (*Oryx leucoryx*) The largest of the Arabian Peninsula’s desert mammals, the oryx has been praised by poets for its grace and beauty. Its Arabic name, *maha*, references its wide, beautiful eyes, and the word is also a common name among women in the region. In the sandy wild, the oryx’s white coat reflects the sun with little to no glare, which makes it hard for humans to spot oryx in the desert even from as near as 100 meters. Capable of smelling rain up to 80 kilometers away, oryx can survive in what may seem like impossibly dry terrain. Once hunted to near extinction, since the 1970s conservation efforts by several countries have restored stable population levels, which still total under 1,000 individuals.

—PHOTO BY MOHAMMED ALEBNALSHAIKH / ARAMCO

Habitat range: Southern Levant and Arabian Peninsula **Conservation status:** Vulnerable

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
NOTES:				JUNE 2023 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	AUGUST 2023 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 13
2	14 3	15 4	16 5	17 6	18 7	19 8 20
Raha Moharrak becomes first woman from Saudi Arabia to climb seven summits 2017			Algerian independence 1962		Ons Jabeur becomes first Arab and African to become Wimbledon champion 2022	
9	21 10	22 11	23 12	24 13	25 14	26 15 27
	Composer and `ud player Hamza el Din born 1929					Tunisian Husainid Dynasty founded 1705
16	28 17	29 18	30 19	1 20	2 21	3 22 4
			Hadith compiler al-Bukhari born 810 CE		Austrian, Venetian peace with Ottomans 1718	
23	5 24	6 25	7 26	8 27	9 28	10 29 11
30	12 31		Philantropist Azim Premji born in Bombay 1945			



AUGUST

Muharram - Safar

AKHAL-TEKE HORSE (*Equus ferus caballus*) Renowned for speed, agility and intelligence, the Akhal-Teke is one of the world's oldest breeds. Its name comes from the region of Akhal, in what is now Turkmenistan, and a southern Turkmen tribe historically associated with it, Teke. The Akhal-Teke is also sometimes referred to as "the golden horse" due to the way sunlight appears to shimmer off its coat. Turkmenistan today celebrates the Akhal-Teke on its national emblem as well as on banknotes and stamps. Now a rare breed, its worldwide population is estimated at fewer than 7,000. —PHOTO BY AIGERIM DENGELBAYEVA

Habitat range: Central Asia **Conservation status:** Vulnerable

SUNDAY		MONDAY		TUESDAY		WEDNESDAY		THURSDAY		FRIDAY		SATURDAY			
NOTES:				1	14	2	15	3	16	4	17	5	18		
				Sicily becomes part of Aghlabid Empire 902 CE				Republic of Upper Volta renamed Burkino Faso 1984							
6	19	7	20	8	21	9	22	10	23	11	24	12	25		
Prince Fakhr al-Din Ma'n born on Mount Lebanon 1572								Zain Bhikha, pioneer performer of al-Nashid songs, born 1974				Surfer Ramzi Boukhiam wins ASP Europe Junior Champion 2012			
13	26	14	27	15	28	16	29	17	1	18	2	19	3		
		Poet-theologian Jami born 1414 CE													
20	4	21	5	22	6	23	7	24	8	25	9	26	10		
Mo Farrah becomes first Briton to win four Olympic gold medals 2016				US entrepreneur Yarrow Mamout manumitted 1796								Physician and polymath al-Razi born 865 CE			
27	11	28	12	29	13	30	14	31	15	JULY 2023		SEPTEMBER 2023			
				Sitar virtuoso Vilayat Khan born 1928				Premiere of <i>Wadja</i> , first commercial feature film by a Saudi woman, 2012				1		1 2	
										2 3 4 5 6 7 8		3 4 5 6 7 8 9			
										9 10 11 12 13 14 15		10 11 12 13 14 15 16			
										16 17 18 19 20 21 22		17 18 19 20 21 22 23			
										23 24 25 26 27 28 29		24 25 26 27 28 29 30			
										30 31					



SEPTEMBER

Safar - Rabi` I

ZANZIBAR COLOBUS (*Ptilocolobus kirkii*) One of 17 species of colobus monkeys that range across Central and Southern Africa, *P. kirkii* is native to the East African archipelago of Zanzibar, where like most other colobus species, it is endangered by poaching and habitat loss. As herbivores, colobus monkeys are prolific dispersers of seeds, which proves vital to keeping the forests where they reside healthy.

—PHOTO BY DAVID PATTYN / NATUREPL.COM

Habitat range: Zanzibar, Tanzania **Conservation status:** Endangered

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY							
NOTES:			AUGUST 2023 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	OCTOBER 2023 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1	16	2	17					
3	18	4	19	5	20	6	21	7	22	8	23	9	24
Mamluks save Cairo from Mongol armies 1260 CE				Amir Abd el-Kader born 1808						Geographer and traveler Ibn Jubayr born 1145 CE			
10	25	11	26	12	27	13	28	14	29	15	30	16	1
		Moroccan artist Hassan Hajjaj solo retrospective 2019								House of Wisdom patron Caliph al-Ma'mun born 786 CE			
17	2	18	3	19	4	20	5	21	6	22	7	23	8
Ibn al-Nadim, cataloger of scholars, dies 995 CE								Radio talk host Diane Rehm born 1936				Kingdom of Saudi Arabia declared 1932	
24	9	25	10	26	11	27	12	28	13	29	14	30	15
		Polar explorer Amyr Klink born 1955				Abbasid Caliph of al-Ma'Mun begins reign 813 CE							



OCTOBER

Rabi` I - Rabi` II

SUMATRAN TIGER (*Panthera tigris sondaica*) Though they are the smallest species of tigers, Sumatran tigers can still grow up to two meters and weigh 140 kilograms. As ambush hunters—mostly at night—they can sprint up to nearly 100 kilometers an hour. While Indonesia has established several protected reserves in tiger habitats, poaching, logging and agriculture all threaten its survival. —PHOTO BY EDWIN GIESBERS /NATUREPL.COM

Habitat range: Sumatra, Indonesia **Conservation status:** Critically endangered

SUNDAY		MONDAY		TUESDAY		WEDNESDAY		THURSDAY		FRIDAY		SATURDAY	
1	16	2	17	3	18	4	19	5	20	6	21	7	22
				World's largest falcon hospital opens in Abu Dhabi 1999								Al-Mahdi, third Abbasid caliph, begins reign 775 CE	
8	23	9	24	10	25	11	26	12	27	13	28	14	29
		Writer and dramatist Tawfiq al-Hakim born 1898						Royal Opera House Muscat opens 2011		First exhibit highlighting Enheduanna, earliest-known poet, 2021			
15	30	16	1	17	2	18	3	19	4	20	5	21	6
Hulagu, founder of Ilkhanate, born 1218 CE						Filmmaker Emily Jacir wins Leone d'Oro 2007						Issyk Kul Forum addresses world issues 1986	
22	7	23	8	24	9	25	10	26	11	27	12	28	13
		Architect Hassan Fathy wins Aga Khan Award 1980						Lebanon's The Committee of Cedar Forest Friends founded 1985		Rimsky-Korsakov's <i>Scheherazade</i> premieres in Saint Petersburg 1888			
29	14	30	15	31	16	SEPTEMBER 2023 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30		NOVEMBER 2023 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30		NOTES:			
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NOVEMBER

Rabi` II - Jumada I

INDIAN OCEAN ORIENTAL SWEETLIPS (*Plectorhynchus vittatus*) Often seen near a coral reef alone or in a small groups, oriental sweetlips can grow to be as long as 86 centimeters. They are docile in the presence of divers and often traded for use in large aquariums. They feed at night, and the fleshy lips that inspired their name help them search through sand for food.

—PHOTO BY GEORGETTE DOUWMA / NATUREPL.COM

Habitat range: Coastal Indian Ocean from East Africa to Western Oceania

Conservation status: Least concern

SUNDAY		MONDAY		TUESDAY		WEDNESDAY		THURSDAY		FRIDAY		SATURDAY																																																																																					
NOTES:						1	17	2	18	3	19	4	20																																																																																				
						Ruler Mahmud of Ghazni born 971 CE																																																																																											
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Tashkent metro begins operation 1977										Radiyya bint Iltutmish begins reign as Sultan of Delhi 1236 CE																																																																																							
12	28	13	29	14	30	15	1	16	2	17	3	18	4																																																																																				
Morocco, Sudan and Tunisia join the United Nations 1956						Literary giant Taha Hussein born 1889						Sultan Qabooz bin Said of Oman born 1940																																																																																					
19	5	20	6	21	7	22	8	23	9	24	10	25	11																																																																																				
										Classical music master Kayhan Kalhor born 1963																																																																																							
26	12	27	13	28	14	29	15	30	16	<table border="1"> <tr> <th colspan="7">OCTOBER 2023</th> <th colspan="7">DECEMBER 2023</th> </tr> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td> </tr> <tr> <td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td> <td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td> </tr> <tr> <td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td> <td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td> </tr> <tr> <td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td> <td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td> </tr> <tr> <td>29</td><td>30</td><td>31</td><td colspan="4"></td> <td>29</td><td>30</td><td>31</td><td colspan="4"></td> </tr> </table>				OCTOBER 2023							DECEMBER 2023							1	2	3	4	5	6	7	1	2	3	4	5	6	7	8	9	10	11	12	13	14	8	9	10	11	12	13	14	15	16	17	18	19	20	21	15	16	17	18	19	20	21	22	23	24	25	26	27	28	22	23	24	25	26	27	28	29	30	31					29	30	31				
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Carter and Carnarvon open King Tut's tomb 1922				Grand Vizier Rustem Pasha takes office 1544				Gari Abdulbasit Abdussamed dies 1988																																																																																									



DECEMBER

Jumada I - Jumada II

LOGGERHEAD SEA TURTLE (*Caretta Caretta*) Named for its large head, it has powerful jaws that can crush hard-shelled prey. This photo was made in Oman, where in addition to loggerheads, four of the world's other six species of sea turtles come ashore to breed—some in protected areas and others on unprotected beaches. They can grow to over a meter long, and at sea they are vulnerable to incidental capture in purse-seine fishing nets.

—PHOTO BY ORIOL ALAMANY / NATUREPL.COM

Habitat range: Worldwide, temperate and tropical waters **Conservation status:** Endangered

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
NOTES: _____ _____ _____			NOVEMBER 2023 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	JANUARY 2024 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	1 17	2 18
3 19	4 20	5 21	6 22	7 23	8 24	9 25
	Carthage film festival, oldest in Africa, opens 1966.		Hayy Jameel, cultural art center, opens in Jiddah 2021		Ithra cultural center opens in Dhahran, Saudi Arabia 2017	Inaugural Gahwa Championships held in Abu Dhabi 2019
10 26	11 27	12 28	13 29	14 1	15 2	16 3
Historian and leader Zeki Velidi Togan born 1890		Author Chingiz Aitmatov born 1928		Polymath and author on music theory al-Farabi born 950		
17 4	18 5	19 6	20 7	21 8	22 9	23 10
			Morocco becomes first country to recognize US independence 1777			Zaynab (Zenobia), queen of Palmyra, born 1245
24 11 31 18	25 12	26 13	27 14	28 15	29 16	30 17
	Christmas				Artist Zainul Abedin born 1914	

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