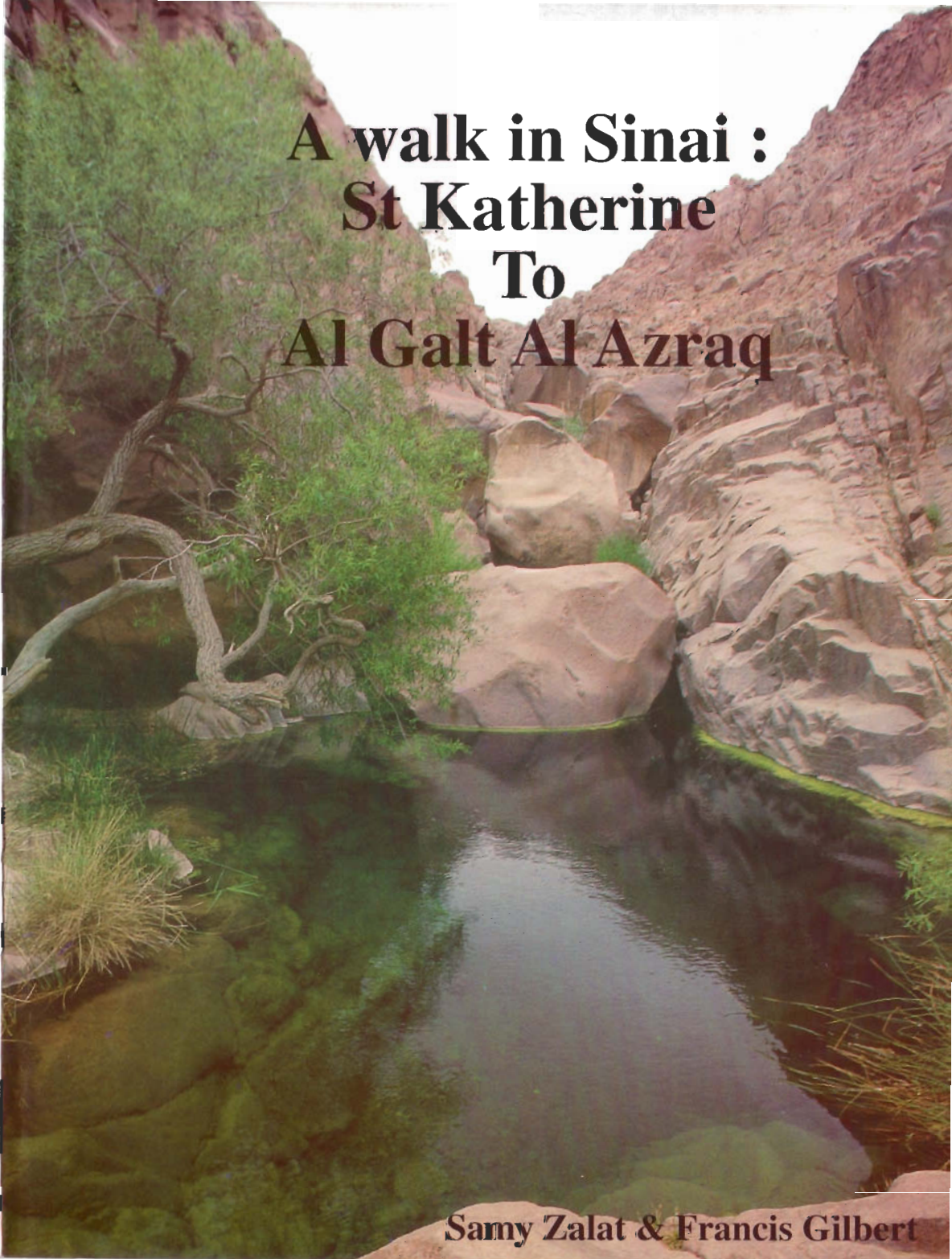
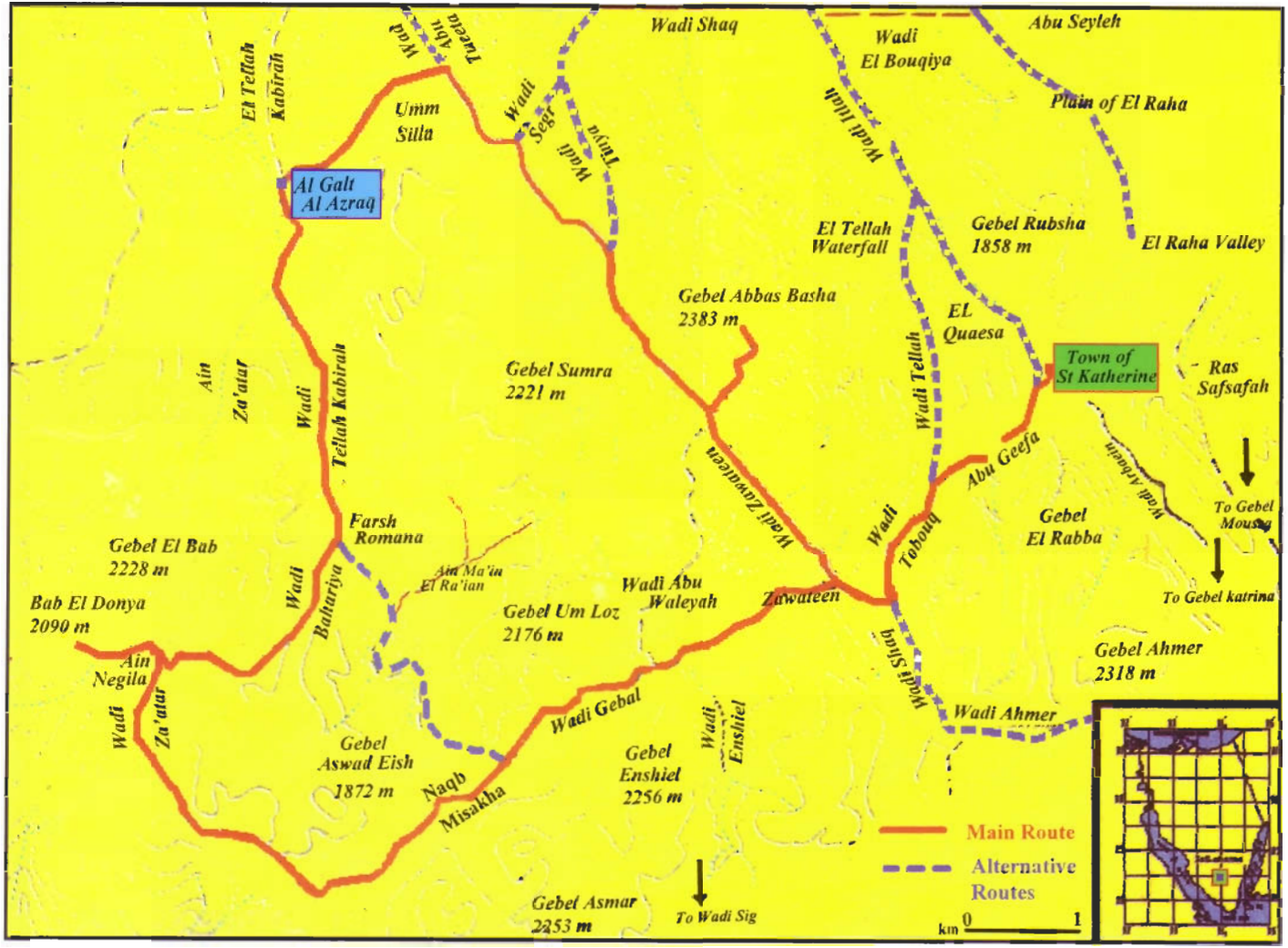


A walk in Sinai : St Katherine To Al Galt Al Azraq

Samy Zalat & Francis Gilbert



Map: The walk from St Katherine to the pool at Al Galt Al Azraq

A walk in Sinai:

St Katherine
To
Al Galt Al Azraq

(The Blue Pool)

Samy Zalat & Francis Gilbert

Dedicated to Somia, Hilary, Salma, Lucy, Heitham, James and Karim
and to the memory of Professor Nagat Farid Shaumar

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First published 1998

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Colour Separation by Apollo Graphics, Cairo, Egypt.
Printed and bound in Egypt by El Haramen Press.

Dar El Kuteb Registration 98 / 7344
ISBN 977-19-1661-6

Front cover photo: Al Galt Al Azraq, The Blue Pool (Rafik Khalil & Dina Ali).
Back cover photo: Town of St Katherine.

Preface

The peninsula of Sinai is unique for its nature and landscapes; it contains some of the most beautiful wadi systems in the world deserts. Many visitors come to the south to see the more exciting panoramas and the fascinating landscape including massif peaks with their beautiful shades of colours, black, red-pink, purple, and to enjoy the clear blue sky with bright stars and breathe the most breezy and clean air in Egypt.

Sinai has by far the richest biodiversity of all Egypt: it probably harbours half of the great variety of Egypt plant species, with 33 endemics, and a visit during the main flowering season (March, April & May) is a wonderful. It also has two-third of Egypt's butterfly fauna, with two endemics, one of them (*Pseudophilotes sinaicus*) can compete for the title of the world smallest butterfly.

One of the main objectives of the Suez Canal University is to explore and safeguard the fragile ecosystem of Suez Canal regions and Sinai. Furthermore, the university encourages collaboration with other universities all over the world for the exchange of expertise and benefits. This nature guide book is one of the outputs of the fruitful collaboration between Suez Canal University (Egypt), Nottingham & St Andrews Universities (UK).

The aim of this nature guide book is to help the visitors to the town of St Katherine enjoy their times through visiting the most fascinating and beautiful wadi system in St Katherine, "Wadi Gebal" with its amazing blue pool.

I congratulate the authors, and I believe that the book will help not only tourists visiting Sinai but also all scientists who are interested in the environment and who would like to explore Sinai fauna and flora.

Professor Ahmed Shoukry
President, Suez Canal University

Introduction

The high mountains of southern Sinai (Sina in Arabic – see the appendix for the transliteration of arabic words) contain some of the most beautiful and isolated places in the world. Steeped in history, the area around the highest peaks of Mt. St. Katherine and Mt. Sinai (= Mt. Moussa) is the homeland of the Gebaliya Bedouin. It is a region designated by other Sinai tribes as "the land of wormwood and scent and helianthemum and pyrethrum" because of the heady smells of these aromatic herbs that fill the wadis (the mainly dry valleys). These smells evoke memories or ideas of incense, lending an odour of sanctity to the entire landscape: the very rocks breathe religious fervour.

Many visitors to the town of St Katherine come mainly to see the Monastery; many climb at night the 3750 stone steps to the summit of Mt. Sinai to see the sun rising over the whole peninsula. More and more visitors are staying longer in order to trek in the wadis, which form a maze of interconnecting valleys traversing the region of the high massif. The experience of trekking in the Sinai mountains is unique and unforgettable.

The aim of this book is to help you to enjoy more the most frequently travelled route, the 3-day trek from St Katherine to Al Galt Al Azraq, the Blue Pool.

The Setting

The Environment

The Sinai massif contains some of the world's oldest rocks, and is geologically very complicated. 80% of the rock dates from 600 million

years ago, and is the very characteristic red granite. Overlying the granite in many places is a dark, almost black, volcanic rock, the result of volcanic activity about 10 million years ago. This volcanic activity created a number of the mountain peaks, including Mt. St. Katherine and Mt. Sinai.

The black volcanic rock results in a very different environment from the red granite. Plants grow earlier and faster on soil derived from the black rock; and these places are hotter and significantly harsher, something to be aware of as a visitor, since there is an increased risk of heatstroke there.

Very different sorts of plants grow in the two areas. Unlike volcanic rock, red granite is not permeable to water, and in basins where soil can accumulate there is a much greater density of vegetation than can exist on volcanic soils because of its higher water-retaining capacity. Most of the Bedouin cultivated gardens occur in these basins.

The mountainsides are everywhere criss-crossed by stripes of darker rock: these are called dykes, and are places where the rock has split and molten volcanic rock has seeped in. Where they cross the wadi bed they are usually places where water collects, and therefore are good places for digging wells.

The Weather

Egypt and Sinai are classified as 'very arid' in climatic classification. However, despite southern Sinai having an average of only 10 - 20 mm of annual rainfall, the lower massif has on average 30 - 50 mm, and the highest parts of the massif 70 - 100 mm. This is four to ten times the amount of rain as mainland Egypt. Despite appearances to the contrary, in fact the area has a great deal of water. Some wadis such as Wadi Isla have permanent running water. It always seems miraculous to come across lush vegetation with ferns in the midst of the arid desert. Averages

hide great year to year variation, and there are periods of great drought as well as short spells of devastating floods. The road from Suez via Wadi Feiran has been washed away several times, including the spring of 1991 when torrential rains resulted in terrible floods that killed an estimated 150 people.

The average maximum daily temperature in July and August reaches 30°C, and occasionally 34°C, but this is not hot by Egyptian standards. In winter temperatures are regularly below freezing at night, with snow frequent at high elevations.

The town of St Katherine

The town of St Katherine has grown rapidly since the metalled road was built. It is the only town in the mountains, and exists primarily because of the presence of the monastery. The population is currently about 3000; most of the Bedouin live in the El-Quaesa area to the north and northwest of the centre (Environmental Research Centre, Suez Canal University).

There are more than 1100 hotel beds available for visitors, and plans for 850 more to be built in four new hotels. The main tourist season runs from mid-September to April, peaking in December, and even now the hotels are not full. The average daily water demand of all the people, tourists and residents, is already three times greater than the supply from ground water and wells; water therefore already needs to be brought in by tanker.

The Monastery of St Katherine

The Monastery of St Katherine is one of the oldest of all Christian establishments. The original chapel was said to have been constructed in 330 AD on the site where the Burning Bush had been located. The present Byzantine fortress was constructed in the 6th century to protect the monks from marauders. The isolation of the monastery allowed it to

escape the destruction of images in the 8th century, with the result that the present collections of icons and manuscripts is possibly the richest and most important in the world.

Pilgrims visited the monastery throughout its existence, from the very first recorded pilgrim of the 4th century, the nun Egeria. Although thousands of pilgrims visited the Holy Land, very few made the difficult, dangerous, and above all, expensive extra journey to Mount Sinai. None except the Russian Count von Tischendorff visited more than once, and he 'borrowed' its most precious manuscript, the oldest extant version of the Gospels and the only copy of the Greek original, the Codex Sinaiticus: he never returned it, and it was sold by the Russian State to the British Museum, where it remains.
In the 19th century, traveling became easier and modern tourism started. This tourism was not problematic for the monks until the last two decades, when enormous numbers of people have arrived merely to see, rather than to gain religious solace.

The Gebaliya Bedouin

'Bedouin' simply means 'people of the desert'. There are about 6 - 7,000 Bedouin living a semi-nomadic existence in the mountains of southern Sinai. They belong to seven main tribes, each occupying a fairly well delimited region (although there are places jointly occupied by two or more tribes). The 2,500 Gebaliya Bedouin are the descendants of a group of Christians brought by the monks of the Monastery from Wallachia in Romania to help them live at the Monastery. Already by the 7th century virtually all had converted to Islam.

Each tribe controls a different part of the Sinai, and the area around St Katherine belongs to the Gebaliya. Bedouin live in small groups of 4-5 families: there are about 40 such settlements in the St Katherine area, more than in other areas because of its natural advantages as well as the availability of work at the Monastery and in the tourist trade. The men

work as guides, drivers and labourers, but the women never leave their settlements: unmarried or elderly women look after the goats and sheep. Each family has on average 5-10 goats, 4-8 sheep, 2-4 camels and 4-8 hens: some also have donkeys to carry water and baggage on very steep slopes or in very rocky wadis. These animals represent a substantial proportion of the family wealth: for example, a camel costs anything between LE 3-5,000.

Traditional small-scale agriculture is typical of the Bedouin, practised in the walled gardens that are so characteristic of the wadis. Vegetables and cereals (wheat and barley) are grown during spring and summer, whilst fruit (almonds, figs, pears, olives, plums, etc.) is the main autumn and winter crop. Water is the principal limiting factor, and the Bedouin possess great skill in using the erratic rainfall and limited groundwater. Such traditional skills are passed from father to sons. Gardens and orchards are always near wells or springs: the black plastic hoses that are now a feature of virtually every wadi bring water from higher wells or springs to the gardens. Most of the produce of these gardens is for the consumption by the family; only families living near St Katherine sell their surplus produce.

The Bedouin have a huge number of names for the different parts of their environment, for the general areas, the wadis, the mountains, and even for very small sites. This enables them to locate people or animals very accurately, especially helpful when looking for something. The names are often descriptive, but also are often connected with stories, accidents, or some other event in the past. They themselves make no distinction between descriptive and historical names, and this may create some difficulties in understanding what the names mean. There are even differences in the interpretation of these meanings amongst the Bedouin. For example, the path from St Katherine into Wadi Gebal is called Abu Geefa. 'Abu' means 'the man/male/thing that has some distinctive characteristic' (in Arabic, all nouns are male or female: if the thing being

described is feminine, it would be 'Umm' rather than 'Abu'), and it is qualified by what the characteristic is; 'Geefa' means 'bad-smelling carrion'. Thus most Bedouin agree that Abu Geefa evokes the idea of the smells associated with the camel traffic up its slope, because the slope is steep and hard-going, and because the luggage is heavy. Some, however, believe that the name is a poetic description of the fact that while climbing and getting very tired, you can see nothing but the uninteresting rock which, just as carrion, would provide an unrewarding sight, in contrast with the beautiful view behind you.

Even if the meaning is unambiguous, transliterating the name can be a problem because of different ways of pronunciation (see appendix for an explanation of the way in which arabic letters are represented in english). This is a particular problem in some words. For example, the arabic name for mint plants in general (*Mentha* spp) is ne^{c}naa^{c}: there is only one species in Sinai, *Mentha longifolia*, whose patches produce one of the most evocative and memorable fragrances for visitors to the wadis. The Bedouin name for this plant is 'habaq', but some pronounce it as 'habak', or 'habag': really it should be 'Habaq', because this means in arabic 'a fragrant place' ('Habak' means 'perfect in trickery', clearly inappropriate here).

Preparations before you arrive in Sinai

Yourself

You should be reasonably fit: consult with your doctor if you have any concerns about your ability to cope with the walk. The terrain is rough by European standards, and in summer during the day the sun is very strong: this is a potent combination, reducing the distances you can expect to make each day to between 5 and 20 Km. Even experienced walkers will find trekking in the Sinai quite taxing. Although this makes it sound

difficult, any reasonably fit person over the age of about 12 years old can have a wonderful experience.

Shoes and clothing

Good-quality strong walking shoes or trainers that grip the rock well are essential. The arid rocky landscape can be very unforgiving if you slip, and, while fortunately rare, when it does happen it can be very serious. Every year there are accidents leading to broken legs, even amongst very experienced hikers, and getting injured people out to hospital is a major undertaking. Take as many precautions as you can to avoid the possibility of serious injury ! For example, make sure your bag does not interfere with your balance, and keep both hands free at all times to help maintain equilibrium. A good walking stick, e.g. a sprung ski-pole, can be very useful.

A sun hat, or cloth to keep the sun off your head and neck is a vital item in your wardrobe. The sun is very strong even if winds reduce the ambient temperature, and you will burn quickly unless you take precautions. Everyone, not just those with sensitive skin, should wear sunscreen, and everyone should carry a long-sleeved shirt to relieve their arms from enduring the sun. Be especially careful of thin cotton or nylon tops, since you will burn through these very easily. The Bedouin cloth head-scarves are very practical, and can be bought cheaply in St Katherine (LE 10-15).

Because of the altitude (1600 m), it can be cold at night even in the height of summer. In winter and spring it can be very cold, with temperatures at or below freezing, and well below freezing with the wind chill. You will need a good sleeping bag and some warm clothes. Many people use sleeping bags that close at the top around the head as a protection against scorpions snuggling in with them at night.

Hygiene arrangements

Hygiene is an important consideration of the trek. Toilet facilities are non-existent - you will need to use convenient rocks. Think carefully about using toilet paper, since it is very important not to leave any behind in the wadis: pieces left by trekkers are beginning to disfigure the wadis and constitute a growing health risk. The norm in the arab world is to use water rather than paper, and this is much less harmful to the environment. For similar reasons, women should avoid leaving sanitary towels or other hygiene products in the wadis.

Cooking and heating

A small butane-gas cooker is very useful, and recommended, although the Bedouin will probably not use it since making bread with it is difficult. Most Bedouin use dead wood for their fires, but firewood is becoming harder to find because of overuse, and is being collected from further and further afield to supply the trade in bought firewood in St Katherine. Many plants are inactive during the heat of summer: they may look dead, but they are actually only dormant - using them for firewood destroys an already fragile environment.

A list of useful items to take

A first-aid kit: be aware of how to use it for minor problems. Include in it some anti-diarrhœa tablets, sun-screen cream, baby lotion or similar face cream, rehydration salts, and antihistamine cream or tablets. A side-effect of dehydration is constipation, so take a laxative such as Senakot. Include also an IV-canula just in case: these aren't always available in the village clinic. Some people can suffer from nose-bleeds at altitude, but this isn't serious.

Torch and lamp: a torch is essential for moving around at night to ensure safe footing, since this is the time that scorpions are active and also when it is easy to encounter a snake. Be sure you have some spare batteries.

A Swiss-army penknife, or equivalent: very useful because of the wide range of implements included on it, especially the can- and bottle-openers.
Vaseline or lip-seal: will prevent dry and sore lips in the very arid atmosphere.
Mosquito repellent: the active ingredients need to contain a high percentage (20 - 40%) of diethyl toluamide, the only really effective substance for deterring biting.

Preparations in St Katherine before the trek

Hiring camels and a guide

If you are organizing everything yourself, you should visit the Sheikh to make the arrangements for your trip. If you prefer, you can travel with an organised party, in which case all these arrangements will be made for you. To find the Sheikh's office, ask at the bus station. The bus station in St Katherine is in the middle of the town, next to the row of shops and close to the mosque. Buses run to here from Cairo, Sharm El Sheikh (via Dahab and Nuweiba, and Taba (via Nuweiba). The office is in the El Quaesa area up on the hill above the town towards Gebel Abbas.

It is illegal to trek in the area without a guide, quite apart from the fact that it is extremely dangerous to do this: it is easy to miss the correct path and thereby reach some very dangerous places, and in addition in the case of emergency a guide can reach help very quickly. By agreement amongst the Bedouin, the Gebaliya tribe are the only recognised guides for trekking in the St Katherine area, and the system of allocating camels and guides is organised by the Sheikh. By hiring camels and a guide you are sure of taking the correct path, and of being looked after properly: each camel will be accompanied by a Bedouin handler for the duration of the trip. The guide you hire will be responsible for leading you along the tracks, advising about safety, and for arranging the transportation of your

luggage: unless explicitly arranged, you are expected to share your food with your guide and camel handlers. The Sheikh allocates each guide to trekking parties on a rota system, and therefore you should not make any independent arrangements with individual Gebaliya. The Sheikh will retain your passports during your trip and return them to you when you get back.

The number of camels you will need will depend on how much luggage, food and water you have: each camel can carry up to 60 kg but it is not safe for it to carry more. Except in emergencies, the camels will not carry people: in many places the path is steep and rocky, and riding would be very dangerous. The daily cost of the guide and a camel will be about the same as each other. These prices are fixed by the Sheikh and are not negotiable: however, it can be cheaper to go through an organised trip which can get preferential rates, and priority on camels during very busy times (when the availability of camels can be a problem).

During the trek

Water

Dehydration is the most serious risk you will face. You should drink water regularly in small sips, even if not feeling thirsty. Your body loses water and salt rapidly in sweat, but you may not notice that you are becoming dehydrated. One advantage of drinking mineral water is that the body salts are partially replaced, but you should make sure that you have salt to add to your food. You will need approximately 3-5 litres per person per day, and will need to carry some with you at all times. Mineral water is perfectly safe, but is expensive to buy and to carry by camel. Despite appearances, there are actually many plentiful sources of water along the routes, many of them clean and good to drink, especially flowing sources. To be certain, we recommend using water-purifying tablets if the water is clear enough not to need filtering: individual water filters are an excellent substitute. Most tablets or filters don't kill

everything, and the chemicals involved make some people sick. Iodine-based methods are safer than others, but have a much more pronounced taste and are not suitable for drinking over long periods.

Be sure that you refill your bottles whenever possible, because there is no guarantee that you will be able to do this again until you reach the next camping site. In emergencies you can boil and filter water from standing stagnant water. If you are looking for water, the best indicator is the presence of a lot of mint (*Mentha longifolia*), which usually grows where there is a lot of freely available water (although it may be underground rather than surface water).

Handling plants

Don't handle the wild plants. Most are heavily defended against grazing mammals and insects by spines, sticky hairs, or poisonous chemicals. Many contain chemicals that cause skin reactions and inflammation, and if accidentally introduced into the eyes, can cause serious problems. *Phlomis aurea* is well-known for this, and is common in the Wadi Gebal region. Other unpleasant or dangerous properties are also known for many of the plants of the area: for example, Egyptian henbane (*Hyoscyamus* spp) has very strong anaesthetic properties that can be alarming.

Places for sleeping

Sleep in the camping sites established by the Bedouin, because these contain the right conditions to minimise the risk of venomous animals: open areas of sand are best. If this isn't possible, try to choose an open area, away from large rocks, with coarse gravelly sand. Avoid areas of fine sand containing shrubs, since snakes favour these areas. Similarly, avoid rocky areas where scorpions hunt at night. Don't sleep in gardens, or close to the garden walls, since these are also favourite areas for

scorpions. Generally the camels will not be walking with you, but instead will take your luggage directly from camp site to camp site. Because of this, you will need to have everything you need for the day with you in your bag.

Arrangements for rubbish

It is essential that you carry out everything you bring in. Many wadis are becoming badly littered because trekkers do not follow this rule. You can even see broken glass in some areas; leaving such litter is astonishingly irresponsible for everyone using the wadis. You should take bags to keep the rubbish, and make sure that your guide brings these bags back with the camels. At many camping sites a small charge is made per person per night for providing you with water, and clearing up afterwards, but it is up to you to minimise the need for collecting litter. It isn't an easy job to collect and store litter safely, or to transport large quantities back to St Katherine. Do not leave anything behind after you, particularly not plastic mineral water bottles or tins.

Following the trail

Follow the recommendations of your guide, who will know every detail of the route. Although the track is usually marked with piles of stones, these can easily be missed, and it is not a good idea to head in the correct direction rather than actually to walk on the path, since there are many dangerous places in the mountains. Don't rely on your own experience or opinions developed elsewhere. Above all, don't take unnecessary risks !

Dealings with the Bedouin

The Bedouin are famous for their hospitality, and are very helpful and honest people. They respect strangers and foreigners greatly as guests in their land, and treat women with particular respect. One tourist lost more than $1000 in one of the wadis, and regained it the next day from the

Sheikh, to whom it had been handed in by the Bedouin responsible for the wadi in which it had been lost. Thus you need not be worried at all about safety or theft from the Bedouin. In return, you should respect their feelings and customs, especially in what you wear and how you behave. Bedouin expect women to be reasonably covered up, and they do not appreciate public shows of affection between couples. Don't try to photograph Bedouin houses or especially the women, unless permission has been obtained first: treat a refusal as an absolute rule.

It is really important that you don't touch or eat any of the fruits of the trees either inside or outside the gardens. Some Bedouin can sell you fruit from their gardens; it is reasonable to ask if you would like some, but you should pay for them since they represent an important resource for Bedouin families.

You should pay for services rendered by Bedouin during your visit, and it is normal to add a tip if you have been happy with what was done. Tips normally are between LE 10 and 50, depending on the service offered, but there is certainly no problem if you would rather not add a tip.

Respect the environment

Please respect the environment, and leave it in the same condition you found it. Do not write on the rocks - this is regarded as vandalism, ruining the environment for others.

The Walk

The walk from the town of St. Katherine to the pool at Al Galt Al Azraq is within the Wadi Gebal system. Wadi Gebal is both the name for the region, and for a particular wadi within it: Gebal itself means 'mountains', a particularly appropriate name. The system of wadis is in the higher

tributaries of the Wadi Sulaf sub-basin, a main branch of the Wadi Feiran basin. The main road to St Katherine from Suez runs through Wadi Feiran, and the beautiful Oasis of Feiran with its abundance of palm trees.

Characterized by straight wadis with steep walls, there are few open areas in the Wadi Gebal area - where they do occur, they are recognized by the name 'farsh', a name meaning 'a place for laying out your bed'. The region is dominated by a number of conspicuous mountains either of volcanic (G. Katherine, Abbas Pasha, Somra, Enshiel) or granitic rocks (G. Ahmar, El Bab, Abu Rugum). Basic rocks weather more easily than acidic rocks, and throughout the area there are many extraordinary patterns of weathering.

The main mountains of the area

Gebel Katherine (Mt. St. Katherine - 2841 m)

This is the highest mountain in Egypt, and has three peaks of black volcanic rock that contrasts strongly with the surrounding rocks. Monks from the Monastery gave it this name because they believe the body of Saint Katherine was transported to the mountain top by angels after her martyrdom in Alexandria in 307 AD. From the summit you can see both of the Gulfs, Aqaba and Suez. There are a number of natural springs providing water on the way up; e.g. Ain El Shinar (='the spring of chukar partridges'), so called because a monk living in the Monastery of the 40 Martyrs in Wadi Arbaʿin saw shinar (chukar partridges - *Alectoris chukar*) scratching for water there, realised that this was a good indicator of water and dug the hole) and Ain El Klabeya (='spring of the pear tree'). On the summit is a chapel built in 1905. Fifty metres below this is a small set of rooms for sleeping and cooking, with a water tank that collects rainwater: previously clean, the water is now not drinkable because the tank has been contaminated by the leavings of visitors to the summit. If you want to

trek in this area, camels and guides are more expensive than for the trek to the Al Galt Al Azraq.

Gebel Moussa (Mt. Sinai - 2285 m)

Identified as Mt. Sinai since the 4th century BC, the mountain is famous throughout the world as the mountain where Moses received the Ten Commandments, and on account of the Monastery of St Katherine at its foot. There are numerous churches, chapels and small monasteries on the mountain and the surrounding area. On the summit are a small church and a mosque. There was a church on the summit in the 4th century AD, rebuilt by the Byzantine emperor Justinian in 532 AD and many times subsequently; the current church was constructed in 1934. The mountain is climbed every night by hundreds of tourists in order to witness the rising of the sun over the mountains of southern Sinai - an unforgettable experience. Unfortunately this also brings with it serious problems of pollution, and prevents the monks of the Monastery from conducting their traditional services there.

Gebel Ahmar (The Red Mountain - 2318 m)

Named after the unusual colour of its red granitic rock, this mountain is 6 km west of Gebel Moussa. It has a number of peaks, and you can get wonderful views of all the great mountains of southern Sinai from its summit. In the wadis around Gebel Ahmar are the only known sites for one of Sinai's rarest and most interesting endemic animals, the Sinai Baton Blue butterfly (*Pseudophilotes sinaicus*).

Gebel Serbal (Mt. Serbal - 2070 m)

Until the 5th century AD, this mountain was usually regarded as the true Mt. Sinai, and many pilgrims visited it. 'Serb' means 'a group' in Arabic, probably referring to the several peaks that make up the summit of the

mountain. Na^{c}im Shoqair in the History of Sinai considers the name to be a contraction of 'Serb Baal', meaning a group of palm trees embodying the god Baal. He thinks that pilgrims of that religion used to visit the area to worship the god at Feiran Oasis at the foot of the mountain. Some buildings, caves and paintings attest to the antiquity of worship there. The only Roman presence in southern Sinai was a small administrative post at Feiran. There are Nabatean sites of worship on the top of the mountain, and in the surrounding areas (the Nabateans were an Arabic people whose empire in the region of Sinai and southern Palestine flourished in the Greek and Roman period).

***Gebel Umm Shomar* (Mt. Umm Shomar - 2586 m)**

This is a huge mountain east of El Tur, towering above the El Qa^{c}a Plain next to the Gulf of Suez. Ignoring actual height above sea level and considering standing height above the surrounding land, this is by some distance the highest mountain in Sinai and Egypt. This was the site of one of the last (unconfirmed) reports of leopard in Sinai (in 1987), and is probably the animal's last stronghold.

Itinerary (see map)

1 *St Katherine to Abu Geefa*

From the bus station in the centre of the town, set off in a south-easterly direction towards Wadi Tofaha (= 'apple'). You are heading for Abu Geefa, the steep path leading out of the Basin of El Mileyqah (the area containing the town of St Katherine) into the Wadi Gebal system of wadis: Mileyqah means the place where the Bedouin meet each other. You pass the new Islamic El Azhar secondary school surrounded by its painted undulating wall. Behind the school is the pretty whitewashed building of the Monastery of the Holy Apostles and its garden (Geninat El

Dir, sometimes called El Rabba because it located at the foot of El Rabba mountain: see map): this is one of the oldest of all the gardens in the area, and the immediate area around it is called El Howaweit, meaning surrounded by stones. In the past the monks from St Katherine's Monastery used to come to this Monastery on Sundays to conduct services, and one monk called Father Daniel still lives there. Further round in the mouth of Wadi Arbaʿin is the Environmental Research Centre of Suez Canal University and a military camp.

At the foot of Abu Geefa on the left-hand side there are two Bedouin-owned gardens, and slightly further up is another with a small house painted white with floral designs. There used to be a small spring of water under the large rock between these gardens, but this has now been diverted to the Monastery garden. Finally before you start the steep ascent there are more gardens, two on the left and a large one on the right called Abu Murayegha, meaning 'place where camels and donkeys clean themselves by rolling in the dust': the path runs along the wall of the garden of Abu Murayegha. The path divides, and the right-hand path is our route. The small left-hand path up Wadi Tofaha is called Lamasridi (= 'isolated'), leading over a pass to Wadi Razana and Gebel Ahmar: this is a steep and very rocky path.

The ascent of Abu Geefa will take about 30 minutes of tiring and thirsty climbing, constantly zigzagging up the track. We have explained the meaning of 'Abu Geefa' above. This path is one of the few that has been painstakingly constructed from rocks to minimise the difficulty of the ascent, and to permit camels to negotiate it. Two-thirds of the way up is a garden belonging to the Monastery. It contains a walnut tree (*Juglans regia*: the Arabic name is Ain El Gamal, which means 'eye of the camel', from the size and shape of the fruit). The garden is tended by a Bedouin under an ancient agreement between the Gebaliya and the Monastery, whereby the Monastery either pays for the work or gets a share of the produce.

Near the top there are two large rocks. One of these is hollowed out and has a wall, creating a cool, shaded spot for a rest. The rock is called Hajar Abu Geefa, meaning 'the rock of Abu Geefa'; the space under the rock used to house a tea-shop, and there still remains the door to the storeroom.

Further up the path, right at the top of the pass on the left-hand side, there is a heap of stones. You could easily pass this by without noticing it, but it will repay investigation. It is called Nosret Al Nimr, a leopard trap, necessary in the past because of the depredations of these animals on the sheep and goats. It is a pit covered by stones, and with a stone door: it worked by having the stone door suspended on a rope attached to a piece of meat. Once the leopard was trapped, it was either left to die naturally, or shot through gaps in the stones. The Bedouin say they have seen leopards (*Panthera pardus*) in this region during the 1940's, but not since: one was killed by a British man in 1948. Some Bedouin keep dogs for guarding their animals, and say these dogs are afraid of no animals apart from leopards: thus if a dog appears to be afraid and takes refuge inside the house, this is attributed to the presence of a leopard - this was last said to have happened in 1967 in Wadi Za^{c}tar in the Wadi Gebal region. Leopards were thought to be extinct throughout the Sinai from the 1970's. There were however persistent reports of sightings: in 1987 on Gebel Umm Shomar; in 1994 from a helicopter near Gebel Serbal. In 1996, one was killed by Bedouin near Sharm El Sheikh following a loss of some goats to a predator, thus confirming that leopards do indeed still survive in the Sinai.

At the top of Abu Geefa, look back at the magnificent view of the town of St Katherine, and the Plain of El Raha (= 'resting place'), traditionally the site where the Israelites gathered before their 40 years of suffering in the Sinai wilderness. Make your way down the other side to the bottom, a much easier path to walk. You will notice a metal pipe running all the way up Abu Geefa, over the top, and across to the other side of the wadi elevated up above ground. Most wadis contain black plastic pipes serving the same purpose, which is to siphon water from higher up the wadi to the

garden holding tanks for use in irrigation. This one is the only metal one, and runs for 6 km from Wadi Zawateen (= 'Valley of Olives') to one of the Bedouin gardens at the bottom of Abu Geefa. You will also notice a small stone-built reservoir perched right on top of a large rock in the middle of the descent. Originally a siphon pipe filled this reservoir from Wadi Zawateen, and from there water was taken to the garden below. This arrangement was unsatisfactory, however, and was replaced by the direct metal pipe, at great cost.

2 *Wadi Tobouq to Wadi Zawateen*

At the bottom of Abu Geefa, you are in Wadi Tobouq (='surrounded closely by many mountains'). To the right you will see the mouth of Wadi El Tellah (= 'long wadi difficult to negotiate'), which starts at Sed Dawoud , meaning Dawoud's dam. You can see that the wadi entrance is naturally blocked by large rocks: the only way to pass through to Wadi El Tellah is by climbing down a tunnel through the rocks. The tunnel is only 60 cms wide, and is 3 m deep. Wadi Tellah is a wide and beautiful wadi, full of water, and with a number of lovely gardens. Near the end it turns into Wadi Itlah (= 'fruit trees') at a set of huge rocks that create a wonderful waterfall: the waterfall is at its best in April.

Just in front of you, as you start down Wadi Tobouq, you will see three gardens. The middle one belongs to Farag Feteyh, who is happy to let you rest in the deep and cool shade of his fruit trees, and can sell you hot or cold drinks. Behind these two gardens is a hill called Maᶜariid (='broad barrier').

Turning left down Wadi Tobouq along the garden wall, the path leads you along the bottom of the wadi, past many fig trees. On the left you will come across Ain Shkaiyeh (='permanent spring'), a seepage from the rock collected by an artificial trough: this was made for general use by an old man called Dairwish. The water is always cool, and is a favourite

watering site for camels: the water is therefore not suitable for drinking without treatment.

A little further on there are several gardens on the right, a large stand of mint usually full of insect visitors, and the entrance to Wadi Shaq (='division of rock', i.e. a short narrow gorge) that leads to the ascent to Gebel Ahmar. Opposite this entrance in the gardens are large amounts of very tall bamboo (*Phragmites australis*). After this there are more gardens on both sides, and the path leads past a giant mulberry tree with multiple trunks, and large walnut and tamarind trees. Then the wadi splits in two. You should follow the right-hand narrow path, leading to Wadi Zawateen (following the metal siphon pipe). The left-hand path leads to Wadi Razana. Once through the narrow section, the wadi opens out and there is a crossroads, with paths going to the left, straight on, and to the right. This area is called Khedeid El Deeb (= 'cheek of the wolf', so called because a wolf was seen here with bloodied cheeks after having killed a donkey).

3 *Wadi Zawateen to Wadi Gebal*

You are now in Wadi Zawateen. Following the track, there are a number of gardens on the left and the path runs alongside the walls. In the wall of one of these gardens is a huge walnut tree. This area is called El Baraghashy, describing the fact that it used to be a very difficult track for camels, but now it has been made much easier. Further on there is a crossroads formed from the walls of three gardens.

On the right is a Bedouin house owned by Moussa overlooking Wadi Masᶜoud (named after a person): this wadi rises to a pass and then back to the garden of Farag in Wadi Tobouq, and thence to Abu Geefa. To the left, between two gardens belonging to Farhan Farag and Saᶜeed Farag, is the path called Naqb Zawateen (='the pass from Zawateen'). Almost immediately on this path there is a camping site owned and run by Moussa. Straight ahead is the path that leads past a number of gardens

famed for their ancient zeitun (olive) trees to Gebel Abbas, Wadi Tinya and Wadi Abu Tueeta. On the ground underneath the olive trees in autumn , you can see the footprints of chukar partridges, which love to come here to search for olives to eat.

At this crossroads, you have a choice about which direction round the loop you will travel. If you go left to Naqb Zawateen, you will visit Wadi Gebal, Farsh Romana (the last stop for the camels), Al Galt Al Azraq, Naqb Umm Sillah, Wadi Abu Tueeta (where you will meet the camels again), Wadi Tinya, Gebel Abbas, and back to Wadi Zawateen. Alternatively, you can go round the circle in the opposite direction by going straight ahead at the crossroads, leaving the camels at Wadi Abu Tueeta and picking them up again at Farsh Romana. We will describe the first route.

4 *Wadi Gebal to Farsh Romana*

Taking the left path at the crossroads in Wadi Zawateen, you climb Naqb Zawateen to the top, where it broadens out into Rehebet Nada (='wide flat plain where the Nada family used to live'). This is the start of Wadi Gebal (='valley of mountains'). You will notice on the left a number of stones set vertically into the ground. This is the sign of a Bedouin cemetery: this particular one is no longer in use, but as elsewhere in the world, the Bedouin pay great respect to their ancestors and you should take care to respect these sites. The Bedouin say salaam aleikum (='peace upon you') when passing, acknowledging that all of us will ultimately join together in death. Behind this cemetery there is a mountain called Azeiga (= 'a comfortable place', smooth near the top) with a high peak, its black colour betraying its volcanic rock constituents.
On the right there are two mountains. The jagged smaller and closer of the two is called Gebel Abu Gidda (='with a dyke, and coloured red'); behind is the larger one called Gebel Umm Loz (='giver of almonds'). To the right of Abu Gidda is an open area called Farsh Deghemiat (='plain

with broken rocks'), and from this area there is a track to Wadi Abu Tueeta (see later). Moving further on down Wadi Gebal, you will see Wadi Abu Waleyah ('narrow steep wadi where flash floods are especially violent') leading off to the right, with stone houses on the hill overlooking the entrance to the wadi. On the left is a small gorge called Klabeya ('pear tree'), and then the two gardens at the entrance to Wadi Enshiel (the name of a person), which ends in the black volcanic Gebel Asmar ('black mountain'). Opposite is a camping site operated by Saleh Mubarak, the owner of the gardens; the area is called Khozaim Bareyah ('wild area with plants and animals, surrounded by mountains'). Wadi Enshiel will lead ultimately to Wadi El Sig: it is not suitable for trekkers.

Carrying on down Wadi Gebal, you pass a number of gardens. At the end where the wadi turns sharply to the right, you will see Gebel Al Monadir directly ahead. At this point you can take the El Bab loop (see below) to Farsh Romana, or you can proceed directly to Farsh Romana by turning right. If you do turn right, you make your way past a set of gardens and houses called Maʿrufa, and across a flat area. To the right is a wadi called Ain Maʿin El Raʿiyen (= 'spring where girls looking after the goats fill their water containers'), where there are poplar trees and plenty of mint plants. Further on down Wadi Gebal is another set of gardens, ending at a broad flat area: this is Farsh Romana ('of pomegranates').

The owner of this site, Muhammed Saleh, has made a number of facilities available for trekkers, including water on tap, primitive showers, a small shop selling basic foodstuffs and serving hot and cold drinks, four rooms in each of which four people can sleep, and even a swimming pool ! This is the largest camping site in the area. He used to put the rubbish left by trekkers in a deep hole, but this is now full, and he has built a new tank for this purpose: despite this, the only permanent solution is for you to remove all your own rubbish. Because of its size and facilities, Farsh Romana is often crowded, sometimes with more than 100 people staying there. Sleeping outside there at night during summer is a delightful

experience, although you may be woken up by the roaming donkeys looking for food !

5 *The detour to Gebel El Bab*

This optional detour starts near the end of Wadi Gebal, as it turns right towards Farsh Romana at a garden with bamboo and fig trees. The detour ends back at Farsh Romana itself.
Behind the garden called Abu Qasaba (='with bamboo'), there is a track called Naqb Misaikha (= 'unpleasant path') leading forwards to the steep pass to Gebel El Bab: it is one of the traditional routes used by the monks to go to El Tur, the capital of South Sinai, via Wadi Mi^{c}r (others are through Wadi Hebran or Wadi Isla). To the right is the path up Wadi Gebal to Farsh Romana; to the left is a track to Wadi El Sig and Gebel Umm Shomar. Take the embanked path going straight ahead, and climb the steep rocky track to Naqb Misaikha, the pass at the top. From this point you have a marvellous view to Gebel Umm Shomar, El Qa^{c}a Plain, the Gulf of Suez, and the mountains of the Eastern Desert on the Egyptian mainland beyond.

You will descend a little into a small open area; you then follow the track on the right-hand side that climbs up and out of this area, across a rocky plain, and then bear right into Wadi Za^{c}tar (='valley of oregano or thyme'). Ironically, this wadi now appears to contain very little oregano (*Origanum syriacum*) or thyme (*Thymus decussatus*), but it may have done so in the recent past. It does have many trees of the rare and endangered Sinai hawthorn (*Crataegus sinaica*). By the garden of Sheikh Muhammed there is his qasr ('palace') called El Za^{c}tar, a huge hollowed-out rock made into a dwelling-place. Beyond the garden there are many mint plants and also some trees, and after less than a kilometer, the path splits right and left: take the left-hand track, which almost immediately turns right into a rocky area with large amounts of water. This is called Ain Negila ('grassy spring'), and is a pleasant stopping place.

From here, you can see El Bab (='the gate'), named because it forms a gateway to a magnificent view across southern Sinai. Sometimes it is called Bab El Donya, the 'gateway of the world/life'. The path to El Bab threads its way around the nearby hills and up to the gate itself. On the same side of the valley, you can see a ruined building, reputed to be a small and very old monastery where monks used to live and cultivate their gardens. The climb to the gate is short and almost vertical. From the gate, you can see on the left Gebel Madsous (='hidden behind other mountains'). In the centre are the curves of the wide Wadi Kabrin (= probably 'ore-bearing' because it contains some minerals) with a number of gardens, and on the right is Wadi Baghaibigh (='isolated and far away').

There is a path from this point directly to Al Galt Al Azraq, but it is steep and time may dictate that you need to head for the camping site at Farsh Romana. You can return therefore to Ain Negila via the same path. From there, you now need to return to the Qasr El Za'tar, the Sheik's palace, and from there turn left into Wadi Bahariya (from 'bahr', the sea, because you are approaching the plentiful water of Farsh Romana). This wadi is rocky and descends extremely steeply to Farsh Romana. It is a dangerous descent, scrambling over large boulders, and you should take great care indeed to follow exactly the route indicated by your guide as there is no marked path. You can see at the bottom the beginning of Wadi Tellah Kabirah (='the large narrow valley') with a number of gardens and a cemetery in the middle of an open raised sandy area. Just round the corner to the right is Farsh Romana.

6 *Farsh Romana to Al Galt Al Azraq*

From Farsh Romana, you walk first along the sandy bottom of Wadi Tellah Kabirah, past a number of gardens and fruit trees. In the wall of one garden on the right-hand side is a huge rock called Hajar Nasrani (='rock of the Christian', because a Greek Christian used to live in this

area, called El Tebq). The rock divides the wadi into two parts, with Tellah proper starting from this point.
The track shifts to the right-hand side and climbs the side of the wadi. You should follow this track, because in the bottom of the wadi the route is almost impassable. The vegetation in the bottom of the wadi becomes exceptionally luxuriant, with reeds and mint predominating. The path becomes more and more rocky, turning into a spectacular mountainside track: marked with cairns, it is essential to keep to the correct path here. On the track you reach a point where there is a patch of vegetation to the right, consisting mainly of mint (*Mentha longifolia*). This spot is called Abu Hebbeiq (='place of mint'). If you look across to the other side of the wadi there is deep gorge with a rock (Abu Hebbeiq rock) suspended in between its sides, and thick vegetation including the rare endemic Sinai rose (*Rosa arabica*).

After Abu Hebbeiq, you can either climb further up and go on directly to Al Galt Al Azraq, or go down to the bottom of the wadi to a spring called Ain Za^{c}tar (='spring of thyme') where there is a waterfall in certain years. It is critical to hit the right path down to this spot, since if you miss it, it is difficult or impossible to get down. The vegetation is very dense, with very thick reeds (*Phragmites australis*) and plenty of water.

Finally you reach a rock headland, from where you can see the secluded pool of Al Galt Al Azraq (='blue pool') far below at the wadi bottom, surrounded by trees: a magical sight. You can also see the rest of Wadi Tellah Kabirah, with large groups of trees indicating rich water resources. Beyond you can see through to a distant view of western parts of Sinai. The descent is very steep with a real danger of slipping on the fine soil covering many of the rocks: take even more care than usual ! Finally you reach the pool, with its overhanging willow tree (*Salix*) creating a cool and restful spot for a long rest and a swim. The dimensions of the pool are about 10 x 7 m, and it is about 7 m deep: it never dries up, even during long droughts. Because of the great number of its visitors, you

must take special care here to remove your litter, and to take care of the hygiene arrangements of your trip, particularly if staying overnight.

7 *Al Galt Al Azraq to Wadi Abu Tueeta and Wadi Tinya*

From the pool, you can return back to Farsh Romana the same way, and return back to St Katherine by retracing your steps. Alternatively, you can carry on to complete a circular route by climbing a steep and very rocky ascent to a pass, Naqb Umm Sillah (='pass with *Zilla spinosa*), to reach the wadis on the other side. This climb is difficult and tiring, but is recommended if you can manage it. To reach the track, you return up the path from the pool about half-way, and then branch off vertically straight up the mountainside. At the top, this leads you to Farsh Umm Sillah and thence to Wadi Abu Tueeta (='valley of the mulberry tree', after the single large tree there). At the beginning of this wadi, there is a garden with a camping site. The owner has small tea-shop, and can sell you hot and cold drinks.

After walking down this wadi for a short distance, you turn left up and over a low pass via a track called Naqb Tinya into Wadi Tinya (='wadi with fertile soil'). This route is negotiable by camels, and therefore the garden in Wadi Abu Tueeta is the first point at which you can pick up your camels again after leaving them at Farsh Romana. The mountain between these two wadis (Abu Tueeta and Tinya) is called Abu Toufan (='heavy floods').

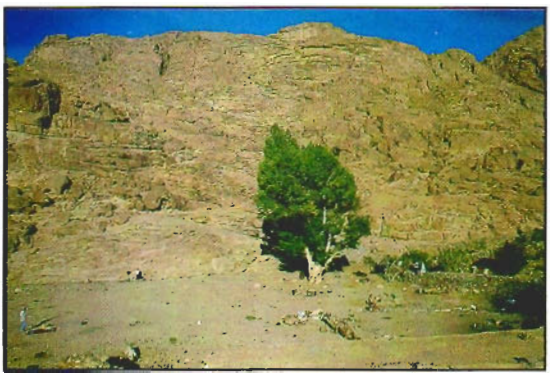
At the end of Wadi Tinya is a garden and a camping site with a man-made swimming pool for trekkers: the area is called Mabiit Segr (='overnight sleeping by Wadi Segr'). This point is actually the junction between Wadi Tinya and Wadi Segr ('Saqr' in Arabic, which means 'falcon'). Wadi Segr is only about a metre wide, and is not passable by camels (but donkeys can get through): a small branch of this wadi provides access through to the end of Wadi Itlah. If you decide to go back via Wadi Itlah, you can either walk up this wadi directly to pass at El Quaesa and into the

town, or you can climb out of Itlah on the left-hand side via Wadi El Bouqiya (='horn', because the monks used to come to the top of this wadi and blow a horn, calling the Bedouin inhabitants of Wadi Itlah to come to collect the cereals that they regularly provided for them; in this wadi, if you call out, you will hear the echo returning to you). The top of Wadi El Bouqiya is called Abu Seylah (='point from which water emerges during a flood, and descends to the plain'), and is at the side of the Plain of El Raha.

From Wadi Tinya, you can also return back via Wadi Zawateen. Walking down the wadi, you pass several gardens, the camping site of Mabiit Klabeya (='pear trees') on the left, and the camping site of Mabiit Sakakreya (='trees bearing a small, sweet pear variety').

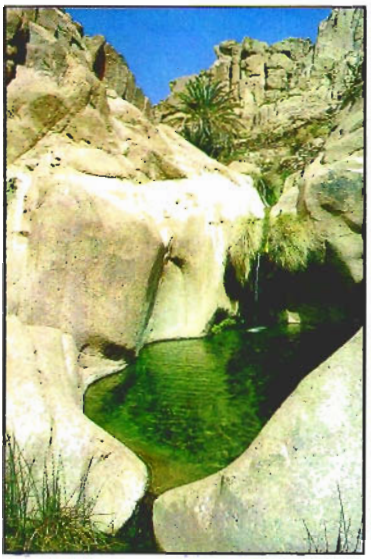
After climbing to the low pass, you can now take a detour to the left, to climb the mountain of Abbas Pasha. At the top of this mountain are the ruins of the palace of King Abbas, who died before the building was completed. Ironically he was going to live there to improve his health, as recommended by his doctors. The track from Abu Geefa was smoothed in readiness for his carriage, which took him to the foot of the mountain. Many of the olive trees just a bit further on in Wadi Zawateen were planted for his benefit.

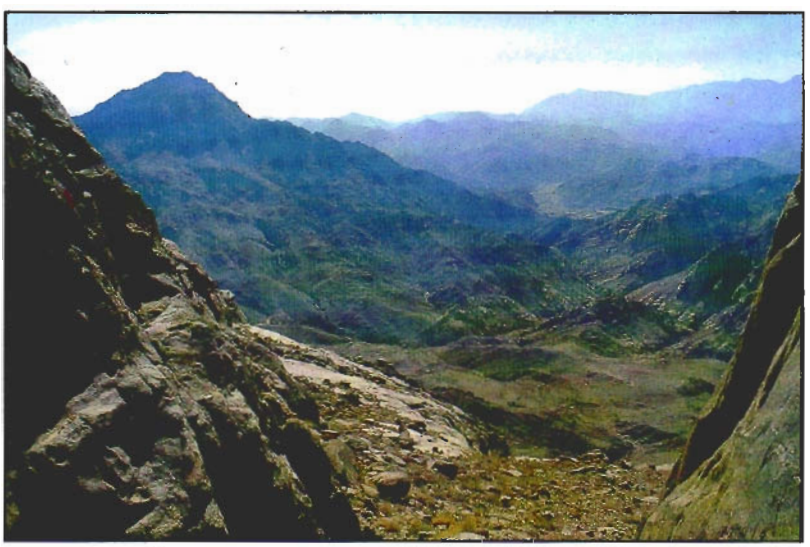
Returning from Abbas Pasha, you descend Wadi Zawateen and back again to Wadi Tobouq and Abu Geefa.



↑ Farsh Romana

The Pool of Kharazet El Shaq →





View from Bab El Donya, the 'gateway of the world/life'.

The plants

Acacia tortilis raddiana

Acacia tree

Rafik Khalil & Dina Ali

Family: Leguminosae (peas)
Arabic name: **sa-'yal**
Acacia is a very large genus of plants, with about 1200 species worldwide; the trees dominate in many dry and semi-dry African habitats. Only four species survive the harsh climate of southern Sinai, and only two are at all common, of which *Acacia tortilis* is one. The trees are not found in the wadis of the Wadi Gebal trek, but are included here because they are so characteristic of the lower elevations of the southern Sinai mountains, up to 1400 m. The species is found all over the drier parts of Africa, reaching its optimal growth conditions in the savannas of East Africa. Flowering is from June to November, and does not seem to depend on rainfall: the Bedouin say the trees can survive ten years of drought, and they are therefore a very reliable and valuable resource.

Acacia wood is sometimes used for making incense, but the main use of the tree is in grazing: the leaves, flowers and fruits are important sources of forage for sheep, goats and camels. For this reason, the Bedouin do not cut these trees for fuel, but overgrazing is a real problem. Sometimes the stems are injured by insects, and the tree secretes a gum in response: this gum is used as a base for sweets by the Bedouin. A very high proportion of the seeds are attacked by seed beetles, and together with current overgrazing this results in very few if any seedlings surviving to become trees.

Achillea fragrantissima
Fragrant Milfoil
Family: Compositae (daisies)
Arabic name: **qay-'Suum**

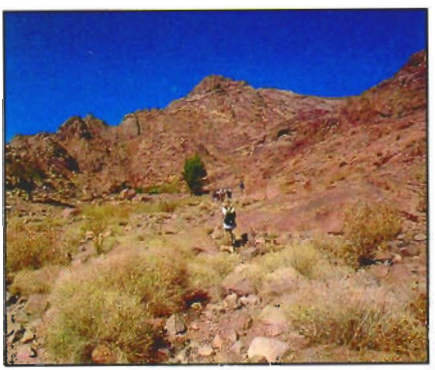
A mainly European genus of about 115 species, species of *Achillea* contain chemicals (alkaloids) for defending themselves against insect and other herbivores; these compounds often also have medicinal properties, and hence these plants are often used for folk remedies.
The Bedouin use an infusion of the leaves of this plant applied as eyedrops against eye infections. The name 'Achillea' presumably is derived from the Greek hero of the Trojan war, Achilles: 'fragrantissima' means 'most fragrant' – and indeed the smell of this plant is one of the most characteristic of the region. It flowers between March and October, but flowers can still be found in December or January.

Alkanna orientalis
Yellow Gromwell
Family: Boraginaceae (borages)
Arabic name: **lou-'bayd**

In Egypt, this plant only occurs in the high mountains of southern Sinai, fading out at relatively high elevations. It can be found at higher elevations of Greece and Turkey, and elsewhere in the mountains of the Middle East, with an additional isolated outpost in Algeria. Flowering in spring and early summer, it produces very large quantities of nectar, as with many other species of its family, and is

therefore particularly heavily visited by bees. A high proportion of the flowering heads are attacked by the larvae of a moth that hides in the hollowed stems during the day. All parts of the plant are covered with sticky glandular hairs producing a nasty defensive phenolic substance - do not get any near your eyes, otherwise you will suffer for hours! Perhaps because of this defence, the plant is not grazed very heavily, and in overgrazed areas it survives better than other plants, and comes to dominate.

Artemisia herba-alba
White wormwood
Family: Compositae (daisies)
Arabic name: '**shiH**



This is one of the commonest plants in the entire region, dominating the plant communities of lower elevations, and yet still being common right up to the top of Mt St Katherine. The generic name '*Artemisia*' is named after Artemis, the Greek goddess of modesty and of the hunt in Ancient Greece. '*herba-alba*' means 'the white herb', referring to its white woolly stems and leaves. Starting re-growing in spring, the plant flowers from August to November and its seeds are dispersed by the wind in winter. If the plant has sufficient water, it develops large winter leaves which start to be shed in April.

The green leaves and stems produce a tasty drink when boiled in water with sugar. It can also be used to flavour tea. The Bedouin use it for relieving upset stomachs, and inhaling the vapour of boiling water containing leaves and stems may help to ease the symptoms of headcolds. The white woolly insect galls on the stems can be used to start a fire without matches, by using a magnifying glass to concentrate the sun's rays, or from a spark from a flint.

Asclepias sinaica
Sinai Milkweed
Family:Asclepidaceae (milkweeds)
Arabic name: **'Har-gal**

This is a common plant all over the Sinai peninsula and the Middle East, occurring in sandy or rocky, protected places. At lower elevations, it flowers from September to May, but around St Katherine flowers can be seen from June to September. As in all milkweeds, the plant is full of a thick milky alkaloid fluid, a highly poisonous chemical defence against insects or other herbivores trying to eat it. As so often is the case, some insects have overcome this defence, and now concentrate entirely on feeding on the plant. You can often see conspicuous holes in the fruits caused by female weevils laying their eggs there; the larvae of these beetles eat the seeds, protected from desiccation and from their own enemies by the tough and spiny fruit.

Astragalus echinus
Spiny Milkvetch
Family: Leguminosae (peas)
Arabic name: **'gadas**

Astragalus is the largest genus of vascular plants, with 2000 species worldwide. In Egypt, the Spiny Milkvetch occurs only in southern Sinai. This spiny dwarf shrub grows to about 50 cms in height, exclusively at high elevations, generally above 1800 m where it is a dominant component of the vegetation of stony and rocky slopes. It has very dense spines that hide the stem. Flowering in March-April, the flowers occur in clusters almost hidden in dense white wool.

Crataegus sinaica
Sinai Hawthorn

Rafik Khalil & Dina Ali

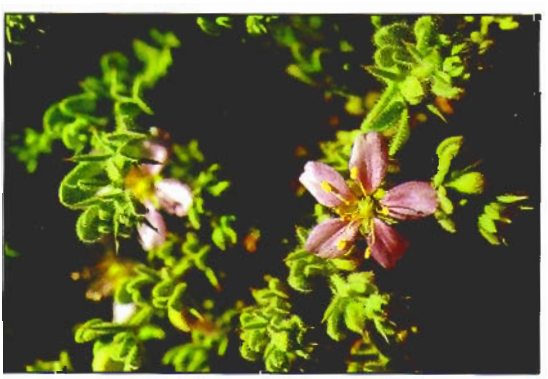
Family: Rosaceae (roses)
Arabic name: **'za^{c}-rour**

This is a very rare plant, classified as endangered; some botanists have considered it is be endemic to Sinai, but in fact it has also been recorded from Syria, Iran and once from Saudi Arabia. In his recent checklist of the flora of Egypt, Loutfy Boulos considers it to be a hybrid between the cultivated Mediterranean Medlar, *Crataegus azarolus*, and the common European Hawthorn, *Crataegus monogyna*. Within the genus *Crataegus* there are many forms previously considered to be species, which are now known to be hybrids.

The Sinai Hawthorn has been used for centuries by Gebaliya gardeners, who are masters of the art of grafting. They take advantage of its drought resistance by grafting fruit tree varieties onto hawthorn rootstock, particularly the variety of pear called *shitawi*. The flowers appear between March and May. The fruit is small, pea-sized, and varies in colour: red, black, or yellow. The flesh is usually juicy and can be eaten, although it is not very tasty.

Fagonia mollis

Rafik Khalil & Dina Ali



Family: Zygophyllaceae (caltrops)
Arabic name: **wo-'ra-qa**

This plant is very common in Sinai, together with other species of the same genus. All are small spiny shrubs growing close to the ground in all types of situation. Their large pretty purple flowers

appear in March to May, and are mainly visited by beeflies (Bombyliidae). The plant is used for treating superficial wounds where the skin has been removed. The green leaves are burnt to produce an ash, which is then applied to the open wound to allow rapid healing.

Ficus carica* and *F. palmata
Fig tree

Family: Moraceae (mulberries)
Arabic name: **'tiin**

The fig trees (genus *Ficus* of the family Moraceae) form one of the largest of all plant genera, with more than 700 species. In order to reproduce, figs depend on highly specialized fig wasps (Hymenoptera: Agaonidae) for pollination. Each species of fig has its own species of fig wasp associated with it. What looks like the fruit of the fig is actually an inside-out mass of flowers (an inflorescence), with flowers on the inside.

A female wasp emerges from her pupa inside the fig, and mates with one of her brothers: often only a few males emerges from the eggs laid by its mother, and their job is to mate with all their sisters, and cut holes for them to emerge from the fig. Once mated, a female collects pollen from the mature flowers inside the fig, and waits for the CO_2 concentration inside the fig to drop, indicating that a hole has been made to the outside. She then emerges to fly away to look for another fig at the correct stage. Some species (but not the fig wasp *Blastophaga psenes*, the pollinator of *Ficus carica* in the Sinai) have special pockets for carrying the pollen. Having found another fig, she forces her way into the new fig via a tiny hole in the top protected by small scales, and deliberately pollinates the flowers inside. Then she lays her eggs in the developing seeds. There are many seeds in each fig, some within the female's reach but many beyond her reach: the fig sacrifices some seeds to feed the offspring of the female, in return for the pollination service. If you eat wild figs, you can often see

the grubs of these wasps when you open up the fig. There are two species in the mountains of Sinai: Ha-'maa-T (='sour': *Ficus palmata*) with small, rather sour, inedible fruits and a milky latex; and 'tiin 'be-ri (='wild fig': *Ficus carica*) with large, edible, and very tasty fruits that are valuable. The Bedouin graft wild fig onto sour fig root stock, because the sour fig is highly tolerant of dry conditions, and has a strong and very efficient root system for extracting water from the soil.

Juncus rigidus **(Rush)**

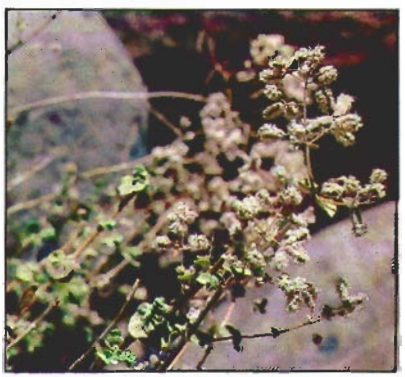
Family: Juncaceae (rushes)
Arabic name: '**dees**
Rushes have been economically important in Egypt since Neolithic times, being used for matting ('HaSeir') and later for making pens for writing. Traditionally it forms the prayer mats of old mosques. This species is pale green, growing from a creeping rhizome in the ground. Common in marshy and other wet areas, it can be found in flower for most of the season. To the European eye, it seems very strange to see areas of dense rushes and bulrushes in such a very arid environment, but their presence emphasizes that there is a great deal of water here – but it is not very obvious at first glance.

Mentha longifolia
Mint

Family: Labiatae (mints)
Arabic name: '**Ha-ba-q**
Mint has one of the most characteristic and evocative aromas of the entire region; walking through a dense patch of this plant fills the mind with its powerful scent. It has another extremely useful feature, a good sign in the desert, in that

it indicates abundant water, either on the surface or very close to it. The pale purple flowers are visited by an enormous variety of insects, including all the insects included in this booklet (see below). A convenient site to see these insects is the areas of mint in Wadi Tobouq at the mouth of Wadi Shaq.

Origanum syriacum
Oregano



Family: Labiatae (mints)
Arabic name: '**za^{c}-tar, bar-da-'ghosh**
There is some confusion in the English names for the plants of this genus. The 'oregano' used as a herb in cooking in Europe and America refers to *O. vulgare*, whereas its relatives, *O. majorana* and *O. onites*, also used as herbs in cooking, are called 'marjoram'. The Sinai plant, *O. syriacum*, is widely distributed in the Middle East, and was called 'hyssop' in the Bible: however, the name hyssop now refers to plants of a closely related genus, *Hyssopus*. Fresh oregano is used as a herb in food, and makes a special dish when mixed with sugar cane, sesame seed, and olive oil.

Peganum harmala
Wild Rue

Family: Zygophyllaceae (caltrops)
Arabic name: '**Har-ma-laan, 'Har-mal**
Wild Rue is a plant of disturbed areas, such as roadsides or tracks. For most of the year, the plant is completely withered and dry, with the old flowering stems with their three-valved fruits being very

visible features of the wadis. In April, the dark green leaves grow rapidly from the base of the plant, and by May they have produced a cushion-like plant. The terminal large white flowers appear in May and do not last very long before withering and disappearing as the whole plant dries up. This plant is a source of several medicinal substances, including the sedative harmine, used to improve the mood of patients. The Bedouin also use it for toothache. However, it should be regarded as poisonous.

Phlomis aurea
Wickweed
Family: Labiatae (mints)
Arabic name: **ʿa-'war-war**
Phlomis is a genus of about 200 species, occurring in dry stony habitats of the Mediterranean to China. *Phlomis aurea* is endemic to Sinai, but is not at all rare. Many individuals are usually to be found growing together in rocky gullies and mountain slopes. The large and obvious buttery-yellow flowers appear in May-July, growing in rings around the main stem. The stem and leaves are covered in thick golden woolly hair. It is very poisonous, and therefore should not be handled, especially since it is particularly dangerous to get it in your eyes.

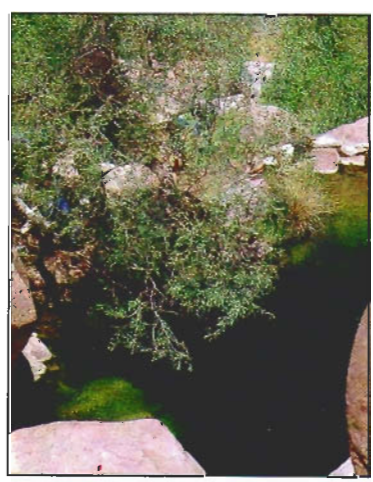
Rosa arabica **Sinai Rose**
Family: Rosaceae (roses)
Arabic name: **'ward 'be-ri**
There is some doubt as to whether this plant is really different from the *Rosa abyssinica* of the regions to the south. Assuming it is different, then it is endemic to the mountains of southern

Sinai. The plant is endangered because people take cuttings for grafting onto cultivated roses, and because children collect its edible fruits. It is a thorny shrub with erect or scrambling stems, flowering and fruiting from June to August.

Rubus sanctus
Burning Bush
Family: Rosaceae (roses)
Arabic name: **ʿo-'lei-qa**

Traditionally the original Burning Bush of the Bible was transplanted a few metres so that the chapel that now occupies the eastern end of the Monastery church could be built over its roots. The chapel altar is constructed on the silvered-over roots of the bush. An extremely rare plant in Sinai, the large bush now growing just outside the chapel is one of the few known individuals of *Rubus sanctus*; there is another at Al Galt Al Azraq, one in Wadi El Tellah, and another in Wadi Itlah. The plant is widely distributed throughout Europe and Asia.

Salix subserrata
Palestine Willow
Family: Salicaceae (willows)
Arabic name: **'Saf-Saf**



This is a common willow throughout Egypt: although native to the Near East, it has also been planted in many areas. The tree is dioecious, meaning that there are male and female trees; female trees are much commoner than the males. The trees grow up to 10 m high, and indicate

the presence of water in the ground. The bark of willows was for a long time the only source of salicylic acid, which most people know as aspirin, but now it is commercially synthesized. Not surprisingly, the bark has been used for centuries in folk medicine wherever it grows.

Stachys aegyptiaca
Egyptian Woundwort
Family: Labiatae (mints)
Arabic name: **qor-'Tom**

This is a common species all over Egypt and Sinai, growing on calcareous soils. It grows up to 1 m high, and the pink/mauve flowers appear from March to July. It is a favourite plant for goats to eat, especially the flowers. Like many Sinai plants, the stems and leaves are covered with woolly hairs, presumably to reduce the evaporation of water.

Tanacetum santalinoides
Sinai Tansy
Family: Compositae (daisies)
Arabic name: **'mir**

The Sinai Tansy is a shrubby fragrant plant that contains chemical compounds useful for killing insects. The old name for this plant was *Pyrethrum sinaica* ('mir); pyrethrum is a well-known insecticide, derived commercially from *Tanacetum cinerariifolium*. In Egypt, the Sinai Tansy occurs only in Sinai, although it is not endemic. It grows on the rocky slopes of the mountains, the yellow flowering heads appearing from May to June.

Teucrium polium

Felty Germander

Family: Labiatae (mints)

Arabic name: **'ga^{c}-da**

The genus *Teucrium* contains about 100 species occurring all over the world, and with very varied forms, from small herbs to large shrubs. *T. polium* is a dwarf shrub with downy leaves and stems, and is very common in the wadis. Its small white flowers are gathered into a compact inflorescence which appears in May-June. A heteropteran plant bug "*Copium tecurii*" induces plant galls on the flowers.

Thymus decussatus

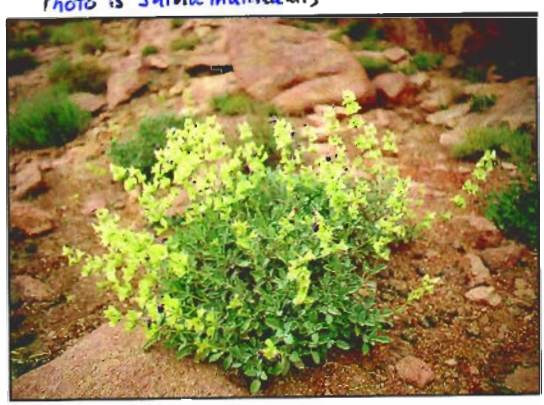
Sinai Thyme

Family: Labiatae (mints)

Arabic name: **'za^{c}-tar, 'za^{c}-ta-raan**

Photo is Salvia multicaulis

Rafik Khalil & Dina Ali



This plant has always been regarded as one of the specialities of the National Park, although now not technically endemic since it has also been found in other Eastern Mediterranean areas. It is a perennial, and furthermore virtually all living plants are old since it is not regenerating properly because of overgrazing. In areas protected from grazing, plants normally grazed down to invisibility suddenly reappear; unless steps are taken soon, this plants may soon be extinct in Egypt. A further cause for serious concern is the fact that it is the food plant of a Park speciality, the endemic Sinai Baton Blue Butterfly

(*Pseudophilotes sinaicus*). Boiled leaves of thyme made as a tea are used by the Gebaliya as a remedy for nausea.

Varthemia montana

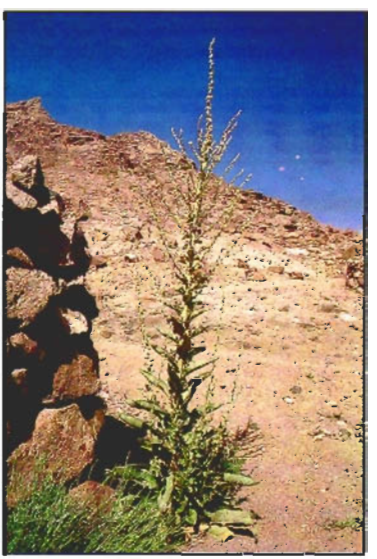
Family: Compositae (daisies)
Arabic name: **hi-'nay-da**

This plant flowers late in the season, between September and November. It has yellow heads when in flower, but for most of the season what you see is the dried calyx that used to contain the flower. The plant grows to about 40–60 cms high, in rocky areas throughout the Sinai. Donkeys love eating this plant. It has many other uses, for example, the plant is used in tanning ibex or goat skins.

Rafik Khalil & Dina Ali

Verbascum sinaiticum
Sinai Mullein

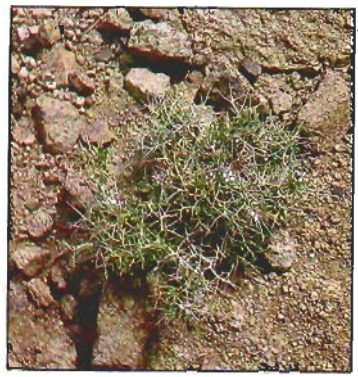
Family: Scrophulariaceae (figworts)
Arabic: **'kher-ma, wi-'daan el 'Ho-mar**



This is a very tall plant, 60 – 150 cms high, with bright yellow flowers from April to July. It is common and characteristic of the St Katherine area because it grows in disturbed ground. It is covered with reddish or golden woolly hair, and has large broad basal leaves. Often the underside of the leaves have been colonised by a dense aggregation of yellow aphids, which attract a wide variety of other insects to feed either on the aphids themselves, or on the honeydew they produce.

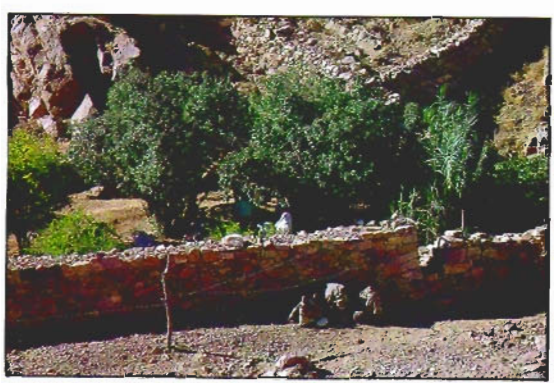
Zilla spinosa **Roquette**

Family: Cruciferae (cress) Arabic: '**Thi-lah**



Zilla grows in warmer parts of Sinai, mainly in the wadis. Its green stems photosynthesize when the leaves have been shed in mature plants. The violet or liliac flowers are produced in spring, and are pollinated by bees. producing fruits in the summer. The fruits stay on the mother plant until dispersed through floods breaking up the plant. If there is too little water, the plants die after two years, but they can be perennial if the water supply is sufficient. *Zilla* is used as a fodder plant, fed to camels.

Juglans regia, Malus domestica, Olea europaea & Prunus dulcis.



Many trees occur in the gardens, and grow also semi-wild in the wadis. For example, *Juglans regia* (walnut), *Malus domestica* (apple), *Olea europaea* (olive), *Prunus dulcis* (almond), *Populus nigra italica* (populus). Their presence are particularly notable in the Wadi Gebal system, where they have been cultivated for centuries, and where there are many very old trees in various gardens, especially in Wadi Tobouq and Wadi Tellah Kabirah, between Farsh Romana and Al Galt Al Azraq.

Arthropods other than insects

Scorpions

Leiurus quinquestriatus

Mohamed Alaa Abd El Aziz

Scorpion

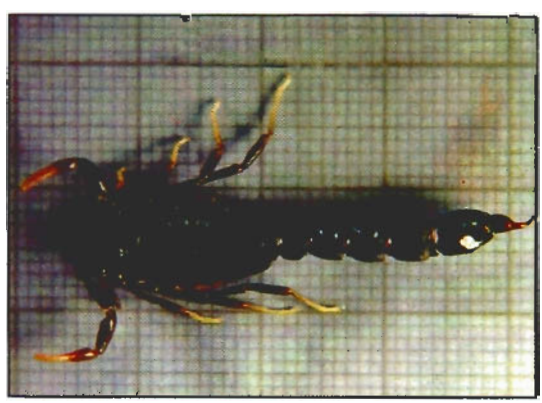
Family: Buthidae (scorpions)

Arabic name: **ʿaq-rab**

A yellow scorpion, usually less than 10 cms long, it is the commonest scorpion in Sinai, living under flat stones or in loosely built stone walls, and occasionally building a burrow; it sometimes enters houses. It is very agile, climbing shrubs and bushes when searching for the large arthropods that are its food. It stings rapidly with a sting that is dangerous to man, sometimes causing death in children and the elderly. The sting is followed by sharp pain, restlessness, excessive salivation, crying and accelerated respiration; muscular convulsions and paralysis occasionally ensure. In Sinai, this scorpion is active from March to October, with maximum activity on the ground surface during July-September. 12 – 25 young are born in July – August.

Mohamed Alaa Abd El Aziz

Orthochirus scrobiculosus



Black scorpion

Family: Buthidae (scorpions)

Arabic name: **ʾʿaq-rab ʿes-wed**

This small, black scorpion is widespread in the Middle East, with a particular form (subspecies *negebensis*) from the Sinai and Israel. It lives

on fine-textured soil under small stones, and moves slowly, carrying its 'tail' curled and pressed to its back with the stinger completely hidden. It does not sting readily: the sting is painful, but produces no after-effects. In Sinai, it is active on the ground surface from March to November, highest in July-August when the 5 – 12 young are born. Unlike some other species of scorpion, there is no cannibalism.

Sun-spider

***Galeodes* sp.** Family: Solpugidae (sun spiders)

Arabic name: **ʾᶜan-ka-boot es-'shams**

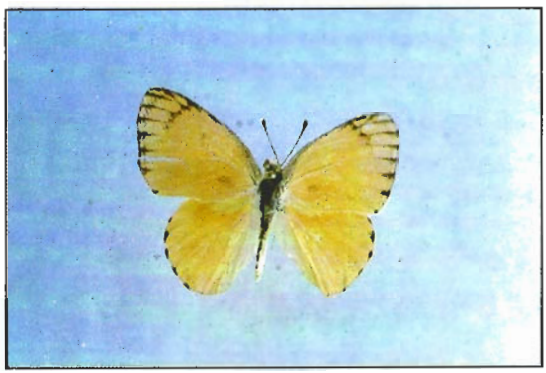
Sun spiders are small but ancient group of very effective fast-running predators; most individuals are small, but some grow to be really large. Their fearsome appearance, essentially a huge pair of jaws on legs, may have given rise tothe erroneous Bedouin belief that they are highly poisonous. They are nocturnal, and when the night is warm they are very active in pursuit of their prey. Though they might make you jump if they suddenly run into the light of a torch or fire, they never bite humans and are essentially harmless. They are reputed to have the most powerful bite for their size than any animal, and will eat even small mice and lizards.

Rafik Khalil & Dina Ali

The Insects

Butterflies

Madais fausta
Salmon Arab
Family: Pieridae (whites)
Arabic: **fa-'ra-shet el 'ʿa-rab al 'por-to-'qa-le-ya**



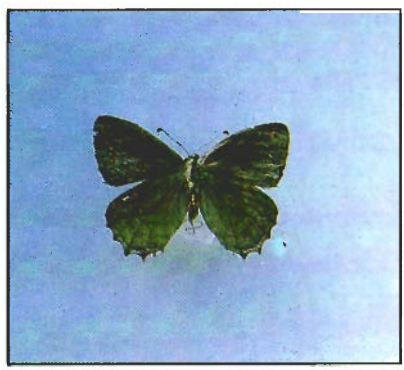
This very beautiful butterfly is common throughout the mountains of southern Sinai: it has an Oriental distribution. Females are more strongly marked with black than are the males. Adults are on the wing from March until October. The larvae are known to feed on *Capparis* species, which do not occur in the high mountains, but are common at middle and lower elevations.

Pontia glauconome
Desert White
Family: Pieridae (whites)
Arabic: **fa-'ra-shet al 'Sa-Ha-ra' al bai-'Da'**

This butterfly is found in arid areas from the western Sahara to Pakistan. It is closely associated with its larval food plant, *Zilla spinosa*. It is not migratory, with small colonies being found regularly in the same place year after year. Its survival in the desert can be attributed to its ability to spend at least four years in suspended animation in the pupal stage when necessary.

Pseuditergumia pisidice

Desert Grayling



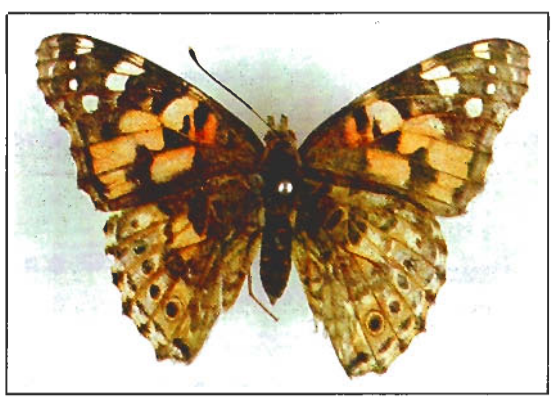
Family: Satyridae (browns)

Arabic: **fa-'ra-shet 'Sa-Ha-ra' ru-ma-'de-yah**

A very common species in the mountains, this is the only Egyptian representative of the family of Brown butterflies. The southern Sinai populations are slightly different from those further north in the Negev desert. Adults emerge in May, but remain inactive during the summer, re-emerging in autumn to mate and lay their eggs. The larvae feed on grasses.

Vanessa cardui

Painted Lady



Family: Nymphalidae (brush-footed butterflies)

Arabic name: **fa-'ra-shah mu-zar-'ka-shah**

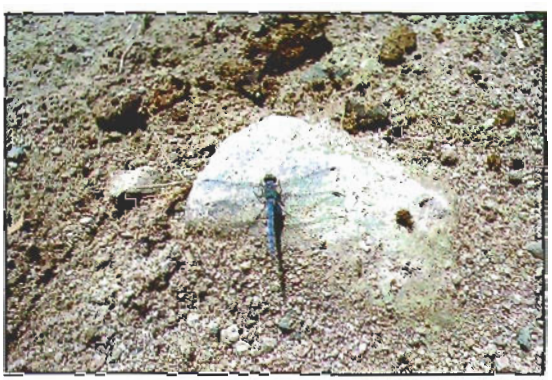
One of the world's most widely distributed butterflies, the Painted Lady can be found almost anywhere in Egypt because of its extensive but erratic migrations. The larvae feed on a great variety of different plants, but we have few records from the Sinai mountains.

Dragonflies

Crocothemis erythraea
Red Darter
Family: Libellulidae
Arabic name: **ra-'ᶜash 'aH-mar**

The abdomen of the males turns from brown in recently emerged individuals to brilliant scarlet when mature: females are brown. The species is very widely distributed in Africa, southern Europe and the Middle East, and is particularly common near open water in the wadis throughout southern Sinai.

Orthetrum chrysostigma
Blue Darter
Family: Libellulidae
Arabic name: **ra-'ᶜash 'az-ra-q**



When mature, these robust dragonflies have the thorax and abdomen completely covered with blue bloom, like the bloom found on plums: the technical name for this is 'pruinosity'. Males have blue bases to their legs, whereas in females the legs are entirely brown. They are very common in summer in the wadis near water. This is one of the commonest species of the arid parts of north Africa, partly because the predatory and normally aquatic larvae can survive the dry summer by resting in damp sand.

Beetles

Coccinella undecimpunctata
11-spot Ladybird

Ibrahim Hassan Kamal

Family: Coccinellidae (ladybird beetles)
Arabic: **khon-fi-'sa' 'Zaat He-'da-shar bo-'q^{c}a**

Ladybirds are common in Sinai; both larvae and adults usually feed on aphids, and hence they are useful for the biological control of aphids. The 11-spot ladybird was introduced into Egypt by the Ministry of Agriculture as a biological control agent, and has become one of the commonest beetles in the country.

Hydaticus decorus
Diving Beetle

Family: Dytiscidae (diving beetles)
Arabic: **khon-fi-'sa' gho-'wa-Sah mo-zar-'ka-sha**

This is a black beetle, about 10 mm long, with yellow patches of different sizes. It is found in spring-fed pools with a coarse gravel bed, that are free of any vegetation. It occurs only at high altitudes, and can be caught in light traps flying at night.

Bees and wasps

Hamdy EL Akkad

Megachile submucida

Leaf-cutter bee

Family: Megachilidae (leaf-cutter bees)

Arabic name: **'naH-l 'qaa-'te^{c} al 'wo-ra-q**

Species of the genus *Megachile* are known as 'leaf-cutter bees' because females cut round sections from leaves to line their nest holes. They can be easily recognised because females carry the pollen they collect from flowers on hairs underneath the abdomen, rather than in pollen baskets of the hind legs as in other bees. This small species is about 10 mm long, and usually has a thick coating of yellow pollen on the underside of its abdomen, which contrasts with the reddish colour of the top of the abdomen. There seem to be two generations per year, with peaks in May and in August; it is particularly common on *Mentha* in late summer, but also visits *Achillea*.

Delta hottentottum

Potter wasp

Family: Eumenidae (potter wasps)

Arabic name: **da-'bour et-'Tiin al 'baa-ni**

Hamdy EL Akkad

Genus *Delta* is recognised by the long narrow 'stalk' between the thorax and the abdomen, somewhat expanded near the abdomen. *Delta hottentottum* is active from

June to September, and is abundant all over Egypt. While the adult can often be seen taking nectar from the flowers of *Mentha*, it is more commonly seen flying rapidly over long distances while hunting for caterpillars. The caterpillars are paralysed by venom, and placed in the mud-built nests and the egg is laid on it. The venom keeps the caterpillar fresh and preserved alive to provide food for the wasp larva after hatching.

Bembix oculata Family: Sphecidae (digger or sand wasps)
Digger wasp Arabic name: **da-'bour 'ram-le 'Ha-far**

Looking similar to a European social wasp, *Bembix* is actually a solitary wasp. While social wasps use their powerful stings freely, usually for the defence of their large nests, solitary wasps use their much weaker stings to capture prey, although they will sting you if you hold them captive in the hand. The species is active during July and August, mainly flying rapidly around and visiting the flowers of *Mentha*. The nest is dug in the sand, and is probably stocked with flies as food for the offspring.

Ptyodactylus hasselquisti

Fan-footed Gekko

Mostafa Saleh

Family: Gekkonidae (gekkos)

Arabic: **'bor-S 'Zoo ar-'gul mar-wa-'He-ya**

Geckos are characteristic inhabitants of buildings. They are often seen in the evening running about on the walls or ceilings, kept from falling off by the amazing grip of their feet. They feed mainly on insects, caught by sitting and waiting to catch passing insects, rather than by running after them like other lizards. The Bedouin call all geckos na-'taa-ga.

Snakes

Cerastes cerastes

Common Viper

Mostafa Saleh

Family: Viperidae (vipers)

Arabic name: **'Ha-ya mo-qa-'ra-na**

The ground colour of the body of this snake is yellowish, pale grey, pinkish or pale brown with rows of dark brown, blackish or bluish spots that may fuse into crossbars; the tip of tail is black. The head is broad and club-shaped, with small keeled scales of various sizes, and there is a horn-like scale usually present above each eye (but some individuals have no such horns).

It lives in places where there are rocky outcrops and fine sand, often in very arid places; however, oases are not avoided. It often uses a side-winding type of locomotion. It usually hides in rodent holes and under stones during the day, since it is chiefly active at night. Its prey is mainly lizards, small birds or rodents. It is a very poisonous snake, and should be avoided.

Echis coloratus

Mostafa Saleh

Burton's Carpet Viper

Family: Viperidae (vipers)

Arabic name: **gha-'ri-ba**

The head of this snake is broad, and very distinct from the narrow neck. When disturbed they characteristically inflate the body and produce a hissing sound by rubbing the saw-edged lateral scales against one another. They feed on rodents, scorpions, and some insects. This snake possesses a highly toxic venom and is responsible for many deaths. A decapitated corpse fried in olive oil and eaten is the remedy prescribed for fatigue or rheumatism, according to the Gebaliya.

Rafik Khalil & Dina Ali

The Birds

Ptyonoprogne fuligula

Pale Crag Martin

Family: Hirundinidae (swallows)

Arabic: **so-'no-no al 'Sa-khr al 'baa-het**

This is a very common species throughout the massif of southern Sinai. It is grey with white under parts, living mainly in the desert. It hawks for insects on the wing along the cliff walls. The nests are on cliff faces.

Corvus ruficollis

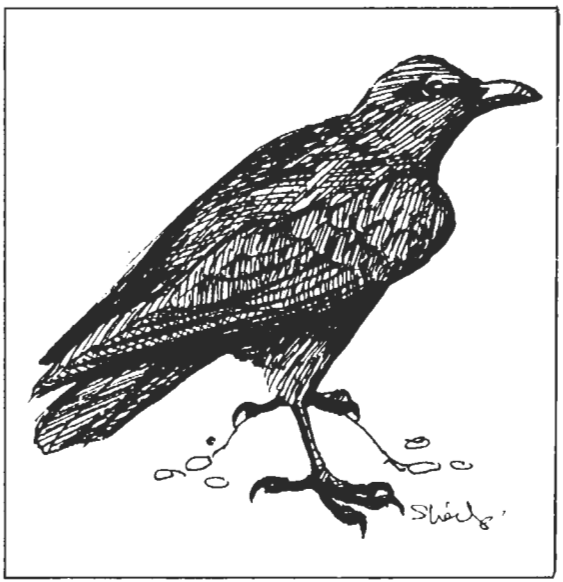
Sherif Baha El Din

Brown-Necked Raven

Family: Corvidae (crows)

Arabic name: **ghu-'raab al 'bein**

This is one of the commonest and most obvious birds of the whole region. It has probably only become very common in the last few years, since the availability of refuse from the town of St Katherine boosted its food supply.



Onychognathus tristramii

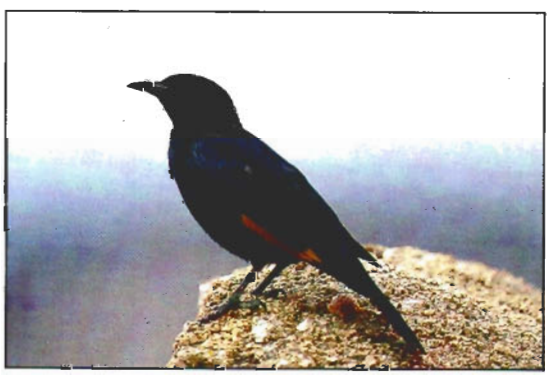
Rafik Khalil & Dina Ali

Tristram's Grackle

Family: Sturnidae (starlings)

Arabic name: **su-wa-'de-yah**

This bird is a member of the starling family, rather than the New World grackles. A characteristic bird of the high mountains, it inhabits narrow steep wadis of a restricted area of western Arabia.



It is unmistakable because of its black plumage, and red primary feathers on the wings very conspicuous in flight. They are very noisy birds, with a characteristic call of a meandering whistle, resembling the tuning of a short-wave radio. The Bedouin call it sha-H-'rur.

***Oenanthe* spp.**

Wheatears

Rafik Khalil & Dina Ali

Family: Turdidae (thrushes)

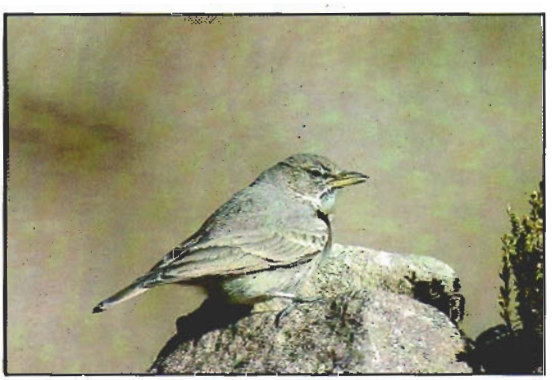
Arabic name: **ab-'la-q**

There are several species common in the region. The White-Crowned Black Wheatear (*Oenanthe leucopyga*) occurs right up to the highest areas, whereas the two other common species, the Mourning Wheatear (*Oenanthe lugens*) and Hooded Wheatear (*Oenanthe monacha*) are mainly birds of the lower elevations below 1500 m. The Gebaliya name for the White-Crowned Black Wheatear, 'Umm su-'wa-yed, means 'mother of blackness', which is particularly apt. The Gebaliya say that these birds call loudly to warn people of the presence of vipers.

Ammomanes deserti

Desert Lark

Rafik Khalil & Dina Ali



Family: Alaudidae (larks)

Arabic:**qon-'bo-rat al 'Sa-Ha-ra'**

One of the commonest birds of the region, the Desert Lark is adapted to extremely arid rocky desert conditions. It sings from a perch or in flight, in phrases of two or three syllables.

The nest is built close to a plant or a rock, and on its outer edge the birds build a low sloping bank of tiny stones that may act as a 'soak-away' in the event of a flash flood. The form found in southern Sinai may be a distinct subspecies called *katharinae*.

Alectoris chukar

Chukar Partridge

Family: Phasianidae (quails & pheasants)

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Arabic name: **shi-'nar**

Chukars are reasonably common in the St Katherine area, most often heard making their distinctive whistling call in the early morning and late evening. They occur in small family groups, coming into the gardens to feed on seeds, insects and fruits.

Carpodacus synoicus Family: Fringillidae (finches)

Sinai Rosefinch Arabic name: **'ᶜaS-fur 'war-di si-'naa-'i**

A characteristic bird of the St Katherine area, the population occurring in Sinai, NW Arabia and southern Jordan represent an isolated pocket of a species whose range is Afghanistan and western China. The Gebaliya call this bird 'ga-zam.

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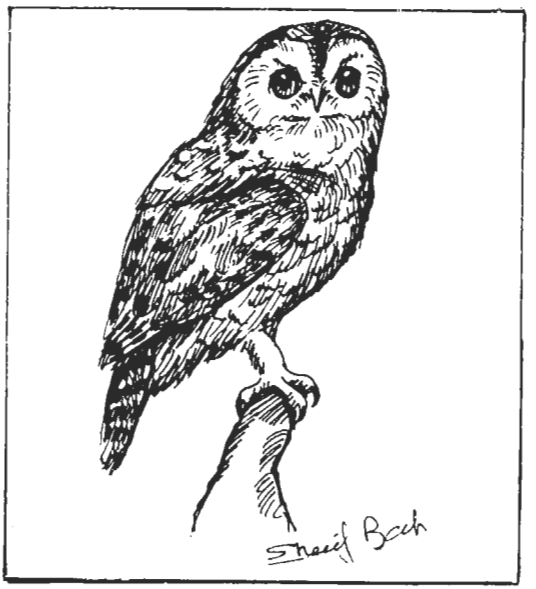
Strix butleri

Sherif Baha El Din

Hume's Tawny Owl

Family: Strigidae (owls)

Arabic name: **'bou-met 'but-ler**



A desert species, it is an uncommon inhabitant of oases and rocky hillsides at higher elevations, mostly heard but not seen.

It has a distinctive 5-syllable territorial call with a drawn-out first syllable, heard at night. In appearance it is like a Tawny Owl, but is smaller and paler, with a characteristic reddish-yellow iris to the eye. It nests in cavities in rock faces near a source of water and acacias or palms. Little is known about its habits, and it needs to be studied in more detail.

The mammals

Capra ibex nubiana

Mostafa Saleh

Nubian Ibex

Family: Bovidae (cattle and antelope)

Arabic name: **'tay-tal**

Ibex are characteristic of rocky high mountain areas; the males can have magnificent horns. They are very alert and shy, with an astonishing ability to climb the steep wadi sides very

quickly. They occur throughout the region, but are becoming very much rarer and are now officially endangered in Sinai. One of the main priorities of the St Katherine National Park is the conservation of this species. Some of the Bedouin call this animal 'ba-ḏan.

Procavia capensis
Hyrax

Mostafa Saleh

Family: Procaviidae (hyraxes)
Arabic name: **'wa-bar**

Islam forbids the eating of animals with canine teeth, birds with hooked beaks, and non-ruminating herbivores, but allows eating ruminants (i.e. animals that chew the cud). It is difficult to classify the hyrax as a ruminant or non-ruminant, and it therefore has a special status. In addition the hyrax has human-like feet and no tail, leading the Maᶜza Bedouin of the Eastern Desert of Egypt to regard it as the brother of humankind, and therefore taboo.

Zoologically hyrax are also peculiar, being the closest living relatives of the elephant. Although still reasonably common, hyrax are not often seen in the wild. A captive family can be seen at the Monastery of the 40 Martyrs at the end of Wadi El Arbaᶜin, kept in a custom-built pen.

Paraechinus dorsalis
Desert Hedgehog

Family: Erinaceidae (hedgehogs)
Arabic name:**qon-'fe-Z al 'Sa-Ha-ra'**

Generally distributed in the Middle East, the Desert Hedgehog is common around St Katherine, but is nocturnal, and hence rarely seen. It lives in gardens as well as rocky areas in the wadis, but as with the European

hedgehog it is attracted by rubbish dumps, where it is easily caught by foxes and its other predators.

Mostafa Saleh

***Vulpes* spp.**

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Fox

Family: Canidae (dogs)

Arabic name: **'ta^{c}-lab**

There are two species of fox: although mainly nocturnal, the Common Fox (*Vulpes vulpes*) is commonly seen during daylight hours; Rueppell's Sand Fox (*Vulpes rueppelli*) is generally nocturnal, and usually heard shrieking at night rather than seen. The Bedouin call this animal 'abu 'Ho-Sein: means 'impenetrable against invaders', and the name probably refers to the fact that, despite the Bedouins' best efforts at defence, the fox is able to get into almost any sort of housing to get its prey.

Acknowledgments

We would like to express our thanks especially to Hussein Saleh, our Bedouin guide, for his detailed explanations of the Bedouin names for the places, plants and animals, and for his excellent hospitality. Special thanks to Professor Ahmed Shoukry, President of Suez Canal University for his kind help and support. We thank Professor Chris Barnard for his help with birds; Hilary Gilbert with plants and birds. Chris Barnard, Hilary Gilbert, Sue Hartley, Giles Roche, Alex Rowe, Graham Stone, Kirsten Wolff kindly read through the manuscript and made valuable comments. The following kindly provided us with photographs: Professor Moustafa Saleh, Mr. Rafik Khalil, Mrs Dina Ali, Dr Mohamed Alaa Abd El Aziz, Dr Ibrahim Hassan Kamal, Mr. Hamdy El Akkad, Mr. Sherif Baha El Din, many thanks for them. We deeply grateful to the British Council especially Dr Julian Edwards and Ms Anna Baker for their kind support.

Glossary of common words

Ain	-	a spring, or other water source
Dir	-	monastery
Farsh	-	open flat area with space for camping
Gebel	-	mountain
Geninat	-	garden
Mabiit	-	sleeping place
Naqb	-	pass

Arabic pronunciation

There are some difficulties in transliterating Arabic words into English. Some of these come from the letters that Arabic has which do not occur in English, and others from the fact that some Bedouin pronounce words differently from the Egyptians. We describe how we have standardized these below.

" غ " ghayn -- this letter is transliterated 'gh'. It is rather like the French 'r', an 'r' sound pronounced in the throat rather than the mouth.

" ع " ayn -- this letter is transliterated by the sign ᶜ. It is unique to arabic, occurring in no other language in the world. It is voiced with the throat.

" خ " kha -- transliterated by 'kh', this sound is similar to the Scottish sound of 'ch' in 'loch', and to the German consonant 'ch'.

" ء " hamza – transliterated by an apostrophe ('). It usually is associated with 'a', and is a glottal stop just like the way Londoners say 'it' without pronouncing the 't' but making a stop in the throat before the next word.

" أ " long vowels -- transliterated by double letters, such as 'aa'.

" ق ، ك " 'k' & 'q' sounds There are two 'k' sounds in arabic. A strong 'k' is the letter qaaf, pronounced like 'calf' but coming from the throat: we transliterate it as 'q'. The normal 'k' is kaaf, pronounced 'kairf', with the 'k' just as the english 'k': we transliterate it as 'k'.
When 'k' sounds are the ends of words, there can easily be confusion between 'k' and 'q', especially with variation in the way the Bedouin pronounce their words.

" ج " giim – The 'g' sound in arabic is pronounced as an English 'j' sound by all arabic people including the Gebaliya and other Bedouin. However, Egyptians pronounce it as a hard 'g' (as in 'get'). This creates difficulties ! We transliterate the sound as a hard 'g'.

" ث " tha` this letter is `th`, and is always pronounced as in `thin`, not as in `the`.

" ية ، يا " `ia` endings The ending `يـــة` in arabic we transliterate by `ia`, `iya` or `eya` depending on the way in which it is pronounced, so that a non-arabic speaker can approximate the correct arabic sound.

" ض ، د " `d` & `D` Arabic has two letters for the `d` sound in english. The equivalent for the english letter is `d`; they have a more emphatic `strong d`, which we transliterate as `D`, pronounced further back in the mouth. Unfortunately place names in english without capital letters at the beginning look decidedly odd, and hence reluctantly we have used capitals in these cases, regardless of the correct arabic letter.

" ص ، س " `s` & `S` Arabic has two letters for the `s` sound in english. The equivalent for the english letter is `s`; they have a more emphatic, more sibilant `strong s`, which we transliterate as `S`, pronounced further back in the mouth.

" ط ، ت " `t` & `T` Arabic has two letters for the `t` sound in english. The equivalent for the english letter is `t`; they have a more emphatic `strong t`, which we transliterate as `T`, pronounced further back in the mouth.

" ظ ، ز " `z` & `Z` Arabic has two letters where we have used the letter `z` in the english transliteration. A small `z` is used for the equivalent sound `z` in english. A capital `Z` is used for the emphatic `th` sound in arabic, pronounced as in `the` (not as in `thin`).

" ح ، هـــ " `h` & `H` Arabic has two letters for the `h` sound in english. The equivalent for the english letter is `h`; they have a more emphatic `strong h`, which we transliterate as `H`, which is more pronounced, with greater aspiration.

Glossary of place names

Name	Pronunciation	Meaning	Arabic عربي
Abu Geefa	ʿa-bu ʿgee-fa (ʿjee-fa)	bad-smelling carrion	أبو جيفة
Abu Gidda	ʿa-bu ʿgee-da	place with a dyke	أبو جيدة
Abu Hebbeiq	ʿa-bu He-ʾbeiq	place with mint	أبو حبيق
Abu Murayegha	ʿa-bu mu-ra-ʾye-gha	place where animals roll in the dust	أبو مريغة
Abu Qasaba	ʿa-bu ʿqa-Sa-ba	place with bamboo	أبو قصبة
Abu Seylah	ʿa-bu ʿsey-lah	place where water descends to the plains	أبو سيلة
Abu Toufan	ʿa-bu Tou-ʾfaan	place with heavy floods	أبو طوفان
Ain El Klabeya	ʿᶜin el kla-ʾbe-ya	spring of the pear trees	عين إلكلابية
Ain El Shinar	ʿᶜin el shi-ʾnar	spring of chukar partridges	عين الشينار
Ain Maᶜin El Raᶜiyen	ʿᶜin ma-ʾᶜin er-ʾra-ᶜi-yen	spring where girls fill their water containers	عين معين الرعيان
Ain Negila	ʿᶜin ne-ʿgi-la	grassy spring	عين نجيلة
Ain Shkaiyeh	ʿᶜin sh-ʾkai-yeh	permanent spring	عين شكية
Ain Zaᶜtar	ʿᶜin zaᶜ-tar	spring of thyme	عين زعتر
Al Galt Al Azraq	al galt ʿlaz-raq	the blue pool	الجلت الأزرق
Azeiga	ᶜ-zey-ga	a comfortable place	عزيجة
Bab El Donya	ʿbab el ʿdo-nya	the gate of the world/life	باب الدنيا
Dahab	ʿda-hab	town of gold	دهب
El Howaweit	el Ho-waa-ʾweiT	surrounded by stones	الحواويط
El Rabba	er-ʾra-ba	elevated place	الربا
El Raha	er-ʾra-Ha	resting place	الراحة
El Qaᶜa	el ʿQa-ᶜa	bottom place	القاع

Farsh Deghemiat	‘far-sh de-’ghe-mi-yat	place with broken rocks	فرش دغيمات
Farsh Romana	‘far-sh e-ro-’ma-na	place of pomegranates	فرش الرومانة
Farsh Umm Sillah	‘far-sh um ‘sey-lah	place of *Zilla* plants	فرش أم سيلة
Gebel Abu Gidda	‘ge-bel ‘a-bu ‘gi-da	mountain with a dyke	جبل أبو جيدا
Gebel Abbas Pasha	‘ge-bel ‘ᶜ-bess ‘ba-sha	named after a person ‘king Abbas’	جبل عباس باشا
Gebel Ahmar	‘ge-bel al aH-mar	red mountain	جبل الأحمر
Gebel Al Asmar	‘ge-bel al as-mar	black mountain	جبل الأسمر
Gebel El Bab	‘ge-bel el ‘bab	the gate mountain	جبل الباب
Gebel Enshiel	‘ge-bel en-’shiel	named after a person	جبل إنشيل
Gebel Madsous	‘ge’bel ‘mad-sous	hidden behind other mountains	جبل مدسوس
Gebel Somra	‘ge-bel ‘som-ra	black mountain	جبل سمرة
Gebel Umm Loz	‘ge-bel um loaz	giver of almonds	جبل أم لوز
Gebel Umm Shomar	‘ge-bel um ‘sho-mar	named after a person	جبل أم شومر
Gebeliya	ge-ba-’le-ya	a Bedouin who live in the mountains	جبالية
Geninat El Dir	ge-’ni-nat ed-dir	the monastery garden	جنينة الدير
Hajar Nasrani	‘Ha-jar naS-’ra-ni	the rock of the Christian	حجر نصراني
Khedeid El Deeb	kho-’deid ed-’deeb	cheek of the wolf	إخديد الديب
Khozaim Bareyah	kho-’zaim ba-’re-yah	wild area	خزيم برية
Klabeya	kla-’be-ya	pear trees	كلابية
Lamasridi	la-mas-’ri-di	isolated area	لامسريدى
Mabiit Klabeya	ma-’biit kla-’be-ya	camping site of pear trees	مبيت كلابية
Mabiit Sakakreya	ma-’biit sa-ka-’kre-ya	camping site of sweet pear	مبيت سكاكرية
Mabiit Segr	ma-’biit ‘se-gr	camping site of the valley of falcon	مبيت سجر

Maʿariid	ma-ʿa-ʾriid	broad barrier	معاريد
Mileyqah	mi-ʾley-qah (or ʾmil-qah)	meeting place	مليقة
Mt. St. Katherine	gebel ka-ʾtriin	mountain of katrina "a Saint"	جبل كاترين
Mt. Sinai	gebel ʾmou-ssa	mountain of prophet Moussa "Moses"	جبل موسى
Naqb Misaikha	ʾnaq-b mi-ʾsai-kha	unpleasant path	نقب مسيخة
Naqb Umm Sillah	ʾnaq-b um ʾsey-lah	pass with *Zilla*	نقب أم سيلة
Nosret Al Nimr	ʾnoS-ret al nimr	leopard trap	نصرة النمر
Qasr El Zaʿtar	ʾqa-Sr el ʾzaʿ-tar	palace of oregano or thyme	قصر الزعتر
Rehebet Nada	re-ʾHe-bet ʾna-da	wide plain where the Nada family used to live	رحيبة ندى
Sed Dawoud	sed da-ʾwoud	dam of the prophet Dawoud "David"	سد داود
Wadi Abu Tueeta	ʾwa-di ʿa-bu tu-ʾey-ta	valley of the mulberry trees	وادى أبو تويتا
Wadi Abu Waleyah	ʾwa-di ʿa-bu wa-ʾle-yah	narrow steep valley	وادى أبو ولية
Wadi Arbaʿin	ʾwa-di ar-ba-ʿʾin	valley of forty prophets	وادى الأربعين
Wadi Baghaibigh	ʾwa-di ba-ʾghai-begh	isolated & far away valley	وادى بعايغ
Wadi Bahariya	ʾwa-di ba-Ha-ʾre-yah	named after a person 'Bahariya'	وادى بحرية
Wadi El Bouqiya	ʾwa-di el bou-ʾqe-yah	valley of horn	وادى البوقية
Wadi El Tellah	ʾwa-di et-ʾte-laʿh	long valley	وادى التلعة
Wadi Tellah Kabirah	ʾwa-di et-ʾte-laʿh el ka-ʾbi-rah	the large narrow valley	وادى التلعة الكبيرة
Wadi Enshiel	ʾwa-di en-ʾshiel	named after a person	وادى إنشيل
Wadi Feiran	ʾwa-di fey-ʾran	valley of mice	وادى فيران
Wadi Gebal	ʾwa-di gi-ʾbal	valley of mountains	وادى جبال
Wadi Itlah	ʾwa-di-ʾTlaH	valley of fruit trees	وادى طلاح

Wadi Kabrin	ʿwa-di kab-ʾrin	valley of ore -bearing	وادى كابرين
Wadi Segr	ʿwa-di ʿse-gr	valley of falcon	وادى سجر
Wadi Shaq	ʿwa-di ʿshaq (ʿshak or ʿshag)	division of rock	وادى الشق
Wadi Tinya	ʿwa-di ʿTin-ya	valley of muddy & fertile soil	وادى طينية
Wadi Tobouq	ʿwa-di To-ʾbouq	valley surrounded closely by many mountains	وادى طبوق
Wadi Al Tofaha	ʿwa-di to-ʾfa-Ha	valley of apple	وادى التفاحة
Wadi Al Zaʿtar	ʿwa-di ʿzaʿ-tar	valley of oregano or thyme	وادى الزعتر
Wadi Al Zawateen	ʿwa-di za-wa-ʾteen	valley of olives	وادى الزواتين

Notes on the authors

Samy Zalat is academic biologist, and a member of the Department of Zoology in the Faculty of Science at Suez Canal University in Egypt. He specializes on the fauna of southern Sinai, and in particular wasps & bees, and the biology of venom.

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