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Some Travel Sites in the Eastern Part of the E Tih Heights in the Sinai Desert

Ittai Warburg

Independent Researcher, Haifa, Israel
Email: Ittai.Warburg@gmail.com

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Abstract

In the autumn of 1981, the Society for the Protection of Nature in Israel (SPNI) organized two tours to the eastern part of the E Tih heights, which is located in eastern Sinai in Egypt. The geological section in that region includes limestone cliffs on the tops of some of the mountains in that region, as well as several types of sandstones, and also igneous rocks at its base. The topographical heights in that region range from around 1000 m ASL in the eastern part of the E Tih heights to sea level at the shore of the Gulf of Eilat. The aerial distances between those two regions range from 8 km to 10 km. Because of those height differences, some of the eastern parts of the E Tih heights are drained by deep canyons, which also go through that geological section. Consequently, some of the canyons in that region also include attractive features as well as some challenging routes.

Keywords

Desert, E Tih Heights, Igneous Rocks, Limestone, Sandstones, Sinai

1. Introduction

In the autumn of 1981, the Society for the Protection of Nature in Israel (SPNI) organized two tours to the eastern part of the E Tih heights. That region is located west or also southwest of the Eilat mountains and is also adjacent to those mountains. In November 1981, we went to that region as a group of guides from some youth clubs of the SPNI at that time, in order to learn about that region and also to become familiar with the routes of some tours in the area where we were supposed to lead those youth clubs. In December 1981, we led those youth clubs in that region on a five days hiking tour.

The Sinai Peninsula also geographically includes the following parts: northern Sinai, central Sinai, and southern Sinai. Northern Sinai, from a geological-geo-

morphological point of view, consists of large areas of sand dunes in its northern part, followed in its southern part by 3 main parallel folds in the direction of WSW-ENE. These folds consist of rows of anticlines and synclines alternately. These anticlines are the following, from north to south: 1) The Jebel Ma'ara anticline. 2) The Jebel Libni anticline. 3) The Jebel Yaalek-Jebel Helal anticline. The areas between these anticlines are, from a geomorphological point of view, synclines. The anticlines and synclines of northern Sinai are geologically composed of several types of limestone rocks.

The region south of northern Sinai is central Sinai, which is, from the geological-geomorphological point of view, composed mainly of two large plates of limestone rocks, which line horizontally one upon the other. These two plates are the E Tih heights, which is the lower geological plate of central Sinai, upon which lines the El Ijma heights, which is the upper geological plate of central Sinai (**Figure 1**). The name "Tih" in Arabic means "to wander". According to tradition, the ancient Israelites, when they went out of Egypt in ancient times, in what is called the Exodus, wandered for 40 years in the desert. According to Bedouin tradition, the term E Tih commemorates the travels of the ancient Israelites in the Sinai Desert.

Most of the central Sinai region is drained mainly by Wadi El Arish, which is the largest wadi (dry river bed) in the Sinai Peninsula ([1], p. 12). The tributaries of Wadi El Arish start from the southern edge of the E Tih heights, which is the E Tih cliff, from which they continue in their general direction towards the north, join together gradually, and afterwards unite to the main river bed of Wadi El Arish (**Figure 2**). Wadi El Arish reaches the Mediterranean Sea near the town of El Arish.

Figure 1. A view of a typical landscape in the E Tih heights. In the background appears the El Ijma cliff. Photographed in November 1978.

Figure 2. On the way between Nahel and Bir Malha. Photographed in November 1978.

The region in Sinai, south of the E Tih cliff, is southern Sinai. Southern Sinai is considered, from the geomorphological point of view, as part of the Arabo-Nubian massif. Geologically, most of the area of southern Sinai is composed of igneous rocks. The rocks in the northern part of southern Sinai, between the E Tih cliff and the high mountain region of southern Sinai, are mainly several types of sandstones. A relatively large area, which is located between the E Tih cliff and the high mountain region of southern Sinai, is called: The Ramlas ([2], pp. 121-122). Ramlas in Arabic means: sandy areas. The Ramlas area is composed geologically of internal sand dunes, which are the result of erosion of Nubian sandstones. That area also includes an area called: Ilu El Ajramiya, which means: the plain of the *Anabasis articulata* bushes. Ilu El Ajramiya plain is so called because the dominant plant in that area is *Anabasis articulata*, which is also called in Arabic: Ajram (Figure 3).

Figure 3. A bush of *Anabasis articulata*, near Bir El Birat, about 20 km WSW of Eilat. Photographed in December 1981.

The E Tih heights were famous throughout history, also as including two main ancient convoy routes that connected the Nile Valley in Egypt and Saudi Arabia. These routes are called in Arabic: Darb El Hajj and Darb E Shaawi. These two routes crossed, or also cross, the E Tih heights in central Sinai, from west to east or from east to west. The Darb El Hajj is the northern of these two routes. Darb El Hajj was called by that name after the start of Islam, because that route was also used by many Muslims for pilgrimage to Mecca in Saudi Arabia. This route goes from the northern edge of the Gulf of Suez to Nahel in the center of Sinai, then continues east to E Tamed, and afterwards continues to Ras El Naqeb on the border between Sinai and the Eilat mountains. Ras El Naqeb is called by that name because it is the peak of the ascent which goes from the Gulf of Eilat towards Sinai. "Ras El Naqeb" means the peak of the ascent. From Ras El Naqeb, Darb El Hajj descends to the Gulf of Eilat, then goes to Aqaba in Jordan, and afterward continues to the Midian Mountains in Saudi Arabia. While Darb El Hajj, in ancient times, served as the main convoy route to cross the Sinai desert, Darb E Shaawi served at the same times as a convoy route for the animals that carried the luggage—camels or donkeys. Darb E Shaawi is generally parallel to Darb El Hajj; however, it is located about 20 - 30 km south of Darb El Hajj. These locations are also closer to some water sources in the E Tih heights, such as Bir Malha, Ein Yarqa, and Ein Abu Natigna, which are located south of the village of Nahel ([1], p. 53, p. 54 lines 1-19, pp. 24-25; [2], pp. 108-117).

2. Methods

In the preparation tour conducted in November 1981, as well as in the tour to that region with the youth clubs in December 1981, I also took some photos. Most of the geographical data that I present here pertain to sites located along several routes, where we traveled during those two tours. Recently, in the year 2025, some of the photos taken during those tours were scanned. The coordinates of the geographical sites used during those tours were in different map coordinate systems. In 2025, I used some maps to match those coordinates, to some global coordinates of Google Maps ([3] [4], p.10). The coordinates in the following descriptions of travel sites presented here are given in Google Maps global coordinates, which, in some cases, are also mentioned in brackets.

3. Results & Discussion

3.1. Sites in the Area of the Ka E Naqeb Valley Plain

Right west of the Netafim passage on the Israeli-Egyptian border is located a large plain which is called: Ka E Naqeb. The term Ka E Naqeb means: The E Naqeb valley plain, because on its eastern edge is also located Ras El Naqeb. That plain is also called: "The Moon valley"—בקעת הירח ([5], p. 218; [6], pp. 13-16). Geologically, most of that plain is composed of Quartz-Porphyry rocks ([5], p. 218). On its southern edges, that plain is covered by alluvium of limestone or of sandstones that possibly came from the mountains located south of that plain ([6], p. 14).

Some parts of the wadies in the southern part of that plain are also dug in sandstone rocks.

The eastern junction between the ancient convoy routes of Darb El Hajj and Darb E Shaawi is located at the eastern edge of that plain, in the area of Ras El Naqeb (at coordinates: 29.605˚N; 34.859˚E). The northern border of the Ka E Naqeb plain is a ridge of two prominent hills, which are composed of volcanic rocks ([6], p. 14, 190-191). The western of those hills is Jebel El Hamra, which means the red mountain (E.P. 931, according to [6] p. 14). The eastern of those hills is Jebel Kurein Atud, which means the mountain of the two horns of a billy-goat. The two peaks of Jebel Kurein Atud, which resemble two horns of a billy-goat, are Elevation Point (E.P.) 911 and E.P. 850, which is located about 1.5 km ENE of E.P. 911 ([5], p. 218; [6], pp. 190-191).

The southern part of the Ka E Naqeb plain is drained by the two following wadies, which run parallel to each other from NW towards SE: Wadi Um Sidra and Wadi Hawara. Wadi Um Sidra is also called: The Inscriptions Canyon—קניון הכתובות. Sidra is the Arabic name of the *Ziziphus spina-christi* tree, whose biogeographical distribution center is in Sudan. In that wadi, many ancient inscriptions were also discovered, which include ancient Greek, Nabatean, and Roman inscriptions ([1], p. 69-70; [5], p. 259-261; [6], p. 63-72, 147). It is assumed that Wadi Um Sidra also served as a station for rest for convoys that crossed the Sinai desert through Darb El Hajj ([5], p. 259-261). Another canyon, which is also called the Inscriptions Canyon, is Wadi Mukatteb, which is located in a different region in western Sinai, near the ancient site of Sarabit El Hadem. That is also to distinguish between these two different canyons, both of which are also called: The Inscriptions canyons.

Wadi Hawara flows at a distance of about 3 km west of Wadi Um Sidra ([5], p. 257). Wadi Hawara is also called The Surprises Canyon—קניון ההפתעות, because that wadi also includes a beautiful gorge dug in white sandstones ([6], p. 66-72, 137-138, 147-151). About 300 m south of the riverbed of Wadi Hawara (29.553˚N; 34.814˚E), huge boulders of sandstone are also located, upon which ancient drawings of animals can also be seen, together with several inscriptions from the Byzantine era ([6], p. 146).

Between Wadi Um Sidra and Wadi Hawara, there is also a flat hill, which is called the "Table Mountain"—הַר שׁוּלְחָן (E.P. 769, at coordinates: 29.579˚N; 34.809˚E) (see also: [6], p. 136). About 5 km SSW of that "Table Mountain", there are 2 more prominent hills: the dome mountain—הַר כִּפָּה (E.P. 881, 29.537˚N; 34.790˚E); and the hump mountain—הַר דַּבֶּשֶׁת (E.P. 859, 29.548˚N; 34.785˚E) (**Figures 4-6**) (see also: [6], pp. 144-146). These 3 hills are considered as "inselbergs", because their tops appear isolated from their surroundings.

At the SE edge of the plate, which includes those 3 hills, the peak of Jebel Amutad is also located (E.P. 797; around coordinates of 29.518˚N; 34.827˚E). The peak of Jebel Amutad is mentioned in some maps as Jebel Um Watad ([7], p. 25). The height of the peak of Jebel Amutad is about 300 meters above its surroundings

Figure 4. Observation from the dome mountain towards the north, to the Ka E Naqeb valley plain. Photographed in November 1981.

Figure 5. In the descent from the dome mountain. Photographed in December 1981.

Figure 6. Observations from above Wadi El Bayuti towards NE. The dome mountain on the right side; the hump mountain on the left side. Photographed in November 1981.

([6], p. 152). According to [6], p. 152, Jebel Amutad is a horst, which is bounded on all sides by fault lines. According to [5], p. 234, lines 1-2, Jebel Amutad is a graben, so that mountain is an example of an inverted relief. Such an inverted relief could be formed by erosion of the areas that surround that mountain. The slopes of Jebel Amutad are composed of variegated (multicolored) Nubian sandstones, while its top is composed of a layer of hard limestone ([6], p. 152). From the peak of Jebel Amutad, a spectacular panoramic view can also be seen ([5], p. 233; [6], p. 152).

About 1.5 km west of the ridge of the dome mountain—hump mountain, Wadi El Bayuti goes from the NW direction to the SE direction ([6], pp. 66-69, 138-143). In the wadi bed of Wadi El Bayuti, also appear sandstone rocks, which in some locations are formed in shapes of "mushrooms" (**Figure 7**) (see also: [6], pp. 139-140).

Figure 7. Sandstone "mushrooms" in Wadi El Bayuti. Photographed in December 1981.

3.2. The Ridge of Jebel Abu Ruté

The ridge of Jebel Abu Ruté runs in a direction of SSW-NNE. That ridge is composed of hard limestone rocks, which are part of the table of the E Tih heights. The Jebel Abu Ruté ridge also includes some peaks that reach heights between 900 m ASL and 1040 m ASL, such as Jebel Abu Ruté itself (E.P. 1002) ([6], pp. 7-13). Those peaks are located about 8 km to 10 km from the coastline of the Gulf of Eilat, which is to their east. Consequently, that ridge includes very nice observation points eastward, toward the Gulf of Eilat. Because of these height differences, the canyons that drain that ridge eastward are very steep, and also include attractive sites, as well as challenging routes.

The peak of Jebel Abu Ruté (E.P. 1002) is located at the central coordinates: 29.470˚N; 34.774˚E. About 2 km NW of the peak of Jebel Abu Ruté is the peak of Jebel El Birat (E.P. 1028; 29.293˚N; 34.743˚E). An unpaved road, which is called Tariq El Masri, leads from the western side of the Ka E Naqeb valley plain to the slopes of Jebel El Birat. From the peak of Jebel Abu Ruté, a spectacular panoramic view can also be seen towards the high mountain region of southern Sinai, as well

as towards the Gulf of Eilat ([6], p. 129-130). The internal valleys of Jebel Abu Ruté also include unique habitats for animals as well as for plants, partly because they receive rainwater from the peaks that surround them (**Figure 8**).

Figure 8. Observations on animals, and also on some plants, in an internal valley in Jebel Abu Ruté. Photographed in November 1981.

Jebel Merah (E.P. 854) is located at coordinates: 29.454˚N; 34.776˚E. Geologically, Jebel Merah is built of a lower layer of white sandstones, upon which the rocks are of the upper variegated (multicolored) sandstones, upon which is also lined an upper layer of hard limestone ([6], p. 132-133). From the peak of Jebel Merah, a spectacular view of its surroundings can also be seen ([6], p. 133).

E.P. 910 should also be located about 5 - 10 km SSW of Jebel Abu Ruté, in the continuation of its ridge towards the south. However, instead of E.P. 910, an E.P. 918 is marked in that area in some maps. So, it is possible that there was, in November 1981, a confusion between those two definitions of the same elevation point. Possibly, the definition of E.P. 918 at that point in some maps is wrong, so the true elevation at that point is 910 meters ASL. Another possibility for that confusion is that the digits of E.P. 918 were read at that time as E.P. 910, and also that information was conveyed in the preparation tour to that region that was done in November 1981. From the angles of the photographs of **Figure 9** and **Figure 10**, it can also be concluded that the coordinates of that E.P. 910 are around 29.445˚N; 34.740˚E. From E.P. 910, good views can also be seen towards its surroundings (**Figure 9**, **Figure 10**).

3.3. Some Canyons in the Area of Taba

Wadi Ghneish is located about 2 km west of Taba. Wadi Ghneish is also called: The ladders gorge—נקיק הסולמות. That gorge of Wadi Ghneish is dug in red sandstones ([6], p. 156). The opening of Wadi Ghneish to the Gulf of Eilat is at central coordinates of: 29.484˚N; 34.871˚E. The same point is also the opening of Wadi Tweiba, which is adjacent to Wadi Ghneish.

Figure 9. Observations from E.P. 910 towards NE, towards the tributaries of Wadi Mukeiblé. Photographed in December 1981.

Figure 10. Observations from E.P. 910 towards NNE, to Jebel Abu Ruté, Jebel Merah, and also to the tributaries of Wadi Mukeiblé. Photographed in December 1981.

Wadi Halifiya El Rayan is probably the biggest tributary of Wadi Merah, which drains to the Gulf of Eilat, about 6 km SW of Taba. The upper part of Wadi Halifiya El Rayan is also called Wadi Abyad, which means the white wadi, possibly because that section of that wadi is also dug in white sandstones. Wadi Abyad drains the eastern slopes of the ridge of Jebel Abu Ruté ([6], p. 134). Wadi Halifiya El Rayan includes many dry waterfalls, most of which are dug in granite rocks, which are the basis of the geological section in eastern Sinai ([6], pp. 134-136) (see also: Figure 11). The descent in some of those dry waterfalls requires rappelling. Therefore, the route of Wadi Halifiya El Rayan is considered as a challenging hiking tour. A detailed description of that hiking route is also written in [6], p. 134-

136. The hiking in Wadi Halifiya El Rayan was one of the highlights in the tour that we did to that region in December 1981 (see also: Figure 12).

Figure 11. Near one of the dry waterfalls in Wadi Halifiya El Rayan. Photographed in December 1981.

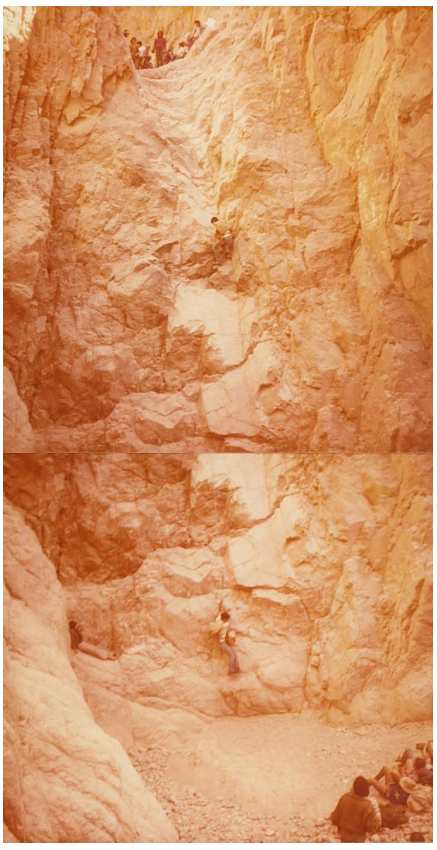

Figure 12. Rappelling in the relatively high waterfall of Wadi Halifiya El Rayan. Photographed in December 1981.

Bir El Merah, is a well which is located at the opening of Wadi Merah (estimated coordinates: 29.443˚N; 34.836˚E). Near Bir El Merah, also grows a group of palm trees ([5], p. 217).

The main canyon of Wadi Mukeiblé is located about 7 - 8 km SW of Wadi Merah. While the tributaries of Wadi Mukeiblé are dug in most of their parts in sandstones, the lower part of Wadi Mukeiblé is a deep canyon dug in granite rocks (**Figure 9**, **Figure 10**). Wadi Mukeiblé opens to the shore of the Gulf of Eilat about 10 km SW of the opening of Wadi Merah. The opening of Wadi Mukeiblé is at central coordinates of: 29.383˚N; 34.796˚E.

4. Conclusion

The eastern part of the E Tih heights also includes several interesting geographical-geological sites. The southern margins of the Ka E Naqeb valley plain are characterized by attractive canyons which are carved in certain types of sandstones. The ridge of Jebel Abu Ruté includes some prominent observation points from which spectacular views can be seen. The wadies that drain that ridge towards the east are usually deep canyons, which are carved in sandstones and also in igneous rocks, and afterwards open to the Gulf of Eilat.

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Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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