

A few words may here be said on the ruins in the neighbourhood of Beitin; the first, a prominent object from the village, is the Burj or Castle of Beitin; this was once a fortified church, the church lying within a square enclosure, round the sides of which were chambers similar to those attached to the church erected by Justinian on Mount Gerizim. Many fragments of columns, capitals, lintels, &c., are built into the walls of the modern tower and of the vineyards round it. To the north-east of Beitin are some extensive ruins called Deir Shebba* or Shebat, covering a large amount of ground on both sides of one of the ravines falling to the Jordan: they consist of foundations of roughly-dressed stones, and in one place of some shafts of columns. The name may be connected with that of Sheikh Sheban, whose tomb is shown on the side of the wady on which Beitin stands. Some distance below the village, and lower down the same valley, westward from Michmah and not far from Et-Tel (Ai), are some ruins called Khurbet An, possibly the site of Beth-aven, which must have been somewhere in the vicinity. At Beitin itself there are no ruins of consequence exposed to view, but the village stands on heaps of rubbish which may conceal interesting relics of the time when the golden calf was worshipped at Bethel. In the valley close by are the rock-hewn tombs out of which Josiah took the bones which he burned on the altar, "according to the word of the Lord which the man of God proclaimed;" but we could find no trace of that title which once marked the resting-place of the disobedient prophet. From the hill above Beitin the traveller going north catches his last view of Jerusalem, and it is curious to think that if the Temple stood there, as it may well have done, the kings of Israel, when they went up to worship the golden calf at Bethel, must often have seen the walls and porches of Solomon's Temple glittering in the bright sunlight.

C. W. WILSON.

December 12, 1869.

RESULTS OF METEOROLOGICAL OBSERVATIONS TAKEN AT BEYROUT, SYRIA, FROM THE YEAR 1845 TO 1854.

BY JAMES GLAISHER, F.R.S., ETC., FROM OBSERVATIONS BY HENRY HEALD, ESQ., AS FURNISHED BY G. JACKSON ELDRIDGE, ESQ., H.B.M.'S CONSUL-GENERAL IN SYRIA.

FROM the year 1845 to the year 1854, meteorological observations were taken at Beyrout, by Henry Heald, Esq., and from the registers the observations have been made regularly and carefully kept. From them Mr. Jackson Eldridge, our consul-general in Syria, has extracted the monthly mean temperature at the times of observation, viz. :—8.30 A.M., Noon, and 6 P.M., together with the maximum and minimum reading as found at the times of reading, in every month, and all the observations

* Can this be a trace of the name Shebarim, mentioned in connexion with Ai in Josh. vii. 5? [G.]

recorded with respect to the direction of the wind and the state of the weather.

By taking the means of the three results in each month thus furnished, the first of the following tables was formed. These numbers may be considered to represent a moderately close approximation to the mean temperature of each month in each year; and in the last column the mean temperature of each month as found from all the years.

By comparing the numbers in each month with those in the last column, it will be seen how much any month may depart from its average value, either in excess or defect; thus January, 1849, the coldest January, was $1^{\circ} 7'$ below the average; and in 1853, the warmest January of the group was $2^{\circ} 0'$ above the average, and thus the temperature of one January has differed from that in another by $3^{\circ} 7'$.

In like manner the departure of temperature from the average, and range of temperature, may be found in each month. The month whose temperature seems to be the most uniform is August, and least so February. The coldest month in the season is February in the year 1849, and the warmest in July 1847: the difference of temperature between those two months was $35^{\circ} 3'$.

TABLE showing the Monthly Mean Temperature at Beyrout for ten years, 1845—1854, from daily observations taken at 8.30 a.m., noon, and 6 p.m.

Months.	Years.										Mean temp. of each Month.
	1845.	1846.	1847.	1848.	1849.	1850.	1851.	1852.	1853.	1854.	
January...	Deg. 58.3	Deg. 57.2	Deg. 56.7	Deg. 58.2	Deg. 55.6	Deg. 56.0	Deg. 56.1	Deg. 56.3	Deg. 59.3	Deg. 59.1	Deg. 57.3
February..	60.7	58.8	59.7	59.0	53.6	54.8	56.4	60.0	65.4	57.6	58.6
March	66.1	62.7	64.7	61.8	61.7	61.1	62.4	60.3	64.6	57.8	63.3
April	68.0	68.3	68.5	66.1	71.6	65.9	69.4	66.5	66.4	62.7	67.3
May	73.4	73.0	74.2	71.4	72.4	72.2	78.0	72.3	74.1	72.2	73.3
June	77.2	77.9	79.5	...	78.6	77.4	77.2	77.2	79.7	78.5	78.1
July .....	...	82.1	88.9	...	82.3	81.6	81.1	82.0	82.7	83.0	83.0
August ...	...	82.7	83.1	...	83.4	84.0	82.5	83.5	84.1	83.7	83.4
September	...	81.0	82.0	81.8	80.9	81.5	81.3	81.4	83.9	80.2	81.6
October...	...	77.7	76.4	...	77.8	77.0	77.2	79.4	79.6	77.0	77.8
November	...	63.7	66.6	65.9	69.5	65.7	70.6	68.3	67.9	69.6	67.6
December	...	64.1	60.4	...	61.8	57.8	58.5	62.7	63.0	64.0	61.5
Sums ...	...	70.8	71.7	...	70.6	69.6	70.9	70.8	72.6	70.4	71.1

The coldest month on the average is January; February is $1^{\circ} 3'$ warmer; then till June the temperature increases about 4° or 5° , from month to month. The month of highest temperature is August, differing but $4'$ from July; September is $1\frac{1}{2}'$ of lower temperature than August; a decline of $3^{\circ} 8'$ takes place from September to October; the greatest change from month to month takes place from October to November, the latter month being no less than 10° colder than the former.

The rapid decline is then checked, but is from 4° to 6° to the coldest month, viz., January.

The numbers in the bottom line show the mean temperature of each year, and the mean of all the years. The coldest year was 1850, being 1° 5 below the average; and the warmest was 1853, being as much above; the range of mean yearly temperature in these ten years was 3°. By taking the difference between the numbers in the last column and the mean of all, the excess or defect of temperature of each month above the mean of the year is seen; thus, August, the warmest month, appears to be 12° 3 above, and January, the coldest, to be 13° 8 below the mean of the year; the sum of these numbers shows the difference of monthly mean temperature to be as large as 26° 1, being the difference of mean temperature of January and August.

From the maximum and minimum readings in each month the next table was formed:—

TABLE showing the extreme Monthly Range of Day Temperature at Beyrout for the ten years 1846—1854, between the hours of 8½ a.m. and 6 p.m.

Months.	Years.										Mean monthly range of extreme day temperature.
	1846.	1846.	1847.	1848.	1849.	1850.	1851.	1852.	1853.	1854.	
January	Deg. 8·5	Deg. 12·0	Deg. 11·0	Deg. 15·0	Deg. 14·5	Deg. 21·0	Deg. 14·0	Deg. 7·0	Deg. 11·0	Deg. 15·0	Deg. 12·9
February	12·0	11·0	19·0	15·0	15·0	19·0	12·0	13·0	23·0	15·0	15·4
March	19·0	20·0	24·0	29·0	21·0	21·0	17·0	21·0	20·0	26·0	21·8
April	23·0	16·0	11·0	34·0	19·0	17·0	13·0	15·0	12·0	24·0	18·4
May	24·0	13·0	12·0	14·0	15·0	14·0	13·0	26·0	14·0	10·0	15·5
June	10·0	10·0	11·0	...	14·0	8·0	10·0	8·0	5·0	9·0	9·4
July	...	7·0	8·0	...	7·0	5·5	8·0	7·5	5·0	5·0	6·6
August	...	6·0	6·0	...	6·0	5·5	5·0	6·0	5·0	5·0	5·6
September	...	6·0	9·0	9·0	9·0	8·5	5·0	9·0	8·0	10·0	8·2
October	...	12·0	12·0	...	11·0	12·5	15·0	8·0	13·0	13·0	12·1
November	...	17·0	16·0	5·0	17·0	25·5	11·0	11·0	10·0	15·0	14·2
December	...	15·0	18·0	...	11·0	17·0	17·0	11·0	10·0	9·0	13·5
Sums.	...	12·1	13·1	...	12·5	14·5	11·7	11·9	11·3	13·0	12·8

The numbers in this table show a considerable range of temperature, when it is considered that no night or really minimum temperatures are included. The largest is in April 1848; the next in order is 29°, in March of the same year; and from the numbers in the last column, these two months seem to be subject to the largest daily changes of temperature. The months of smallest change are July and August. The average for each year, and the mean from all the years are shown in the bottom line of the table.

From the same register Mr. Eldridge carefully extracted the dates of the first and last rain of the season; and when no rain is mentioned, it is to be understood that no rain fell during the month.

TABLE showing the number of days on which rain fell during each month in the ten years 1845—1854.

Months.	Years.										Mean monthly number.
	1845.	1846.	1847.	1848.	1849.	1850.	1851.	1852.	1853.	1854.	
January.....	7	15	14	15	12	13	7	8	10	9	11
February.....	7	10	8	9	20	9	11	7	4	21	11
March.....	7	4	8	13	9	5	3	15	14	13	9
April.....	3	3	6	1	4	6	0	7	7	8	5
May.....	1	1	0	6	3	3	0	3	1	1	2
June.....	1	2	0	...	2	1	4	1	0	1	1
July.....	...	1	0	...	0	0	1	0	0	0	0
August.....	...	4	0	...	0	3	0	0	0	1	1
September.....	...	0	1	...	4	2	0	3	0	0	1
October.....	...	3	3	...	6	3	2	2	4	4	3
November.....	...	11	7	3	7	11	1	12	6	6	7
December.....	...	3	15	...	7	13	26	11	14	6	12
Sums.....	...	57	62	...	74	69	55	69	60	70	63

From this table we learn that at times rain falls more frequently than was expected. In the month of December, 1851, it fell more or less on twenty-six days. In the months of December to March, it falls, on an average, about one day in three; in November, about one day in four; in April, one day in six; in May and October, one day in fifteen or ten respectively. In the months June to September is the almost rainless period, but there is really no month quite free from rain; in July the driest month, rain fell on one day in the year 1846, and on one day in the year 1851.

The average number of days of rainfall in the year is sixty-three; in the year 1851, the number was fifty-five; and in 1849, was seventy-four days.

From the information furnished with respect to the deviation of the wind the following table has been formed:—

Thunderstorms occurred in 1845, once in January, then none for two years; there were, three in 1848, and one in January; six in 1849, of which two were in the month of January, November, and December; there were seven in 1850, four in February, two in November, and one in December; there were six in 1851, one in October, one in November, and four in December; there were four in 1852, two in January, and two in November; there were seven in 1853, two in each month of January, October, and November, and one in February; and there were none in the year 1854. Then there were thirty-four storms in ten years, of which ten were in

January, five in February, three in October, nine in November, and seven in December, and none in the mouths of March to September, both inclusive.

A severe shock of earthquake was felt on February 21st, 1845.

TABLE showing the General Direction of the Wind in each month, as found from all the years.

Months.	Summary of the Wind.								
	N	N.E.	E.	S.E.	S	S.W.	W.	N.W.	Calm.
January (1845—1854)	49	13	...	...	37	104	73	26	...
February " "	44	2	2	11	42	77	67	38	1
March (1846—1853)	73	8	4	1	26	58	38	15	2
April (1846—1854)	62	6	1	3	20	77	86	15	2
May " "	75	29	...	5	14	57	63	30	...
June " "	39	1	...	...	3	78	81	36	1
July " "	11	3	...	...	5	71	116	39	3
August (1846-47—1849-54)	20	...	...	...	8	83	70	60	...
September " "	61	...	...	...	26	28	79	39	1
October " "	76	27	...	...	11	20	54	56	...
November " "	57	11	8	...	5	30	72	51	...
December " "	58	5	2	4	19	60	78	22	...

From the large numbers in this table ranging themselves under S. and W., or compounds of these winds, it is evident they are the predominating winds in every month of the year. The N. wind, though not unusual except in July and August, as shown by the numbers in the first column, had few compounds with the east, as shown in the next three columns. The winds of least prevalence are from the east and south-east.

The cholera was at Beyrout in 1848, from August 22nd to August 31st.

Locusts appeared in 1845, on April 13.

The sirocco, or dry wind, was experienced in 1845, on February 5, and on May 12 and 13; in 1846, on January 17; in 1848, on March 6; in 1850, March 14 to 26, and May 19, 20, and 21; in 1851, on April 6; in 1852, on April 11, 12, May 8 to 11; in 1853, February 20, 26, and one day in April; and in 1854, on April 25, 26, June 10, 11, November 10, December 30 and 31.

Mr. Eldridge remarks that Mr. Heald kept the registers more as an amusement than for scientific purposes, and that many of the interesting phenomena of nature no doubt have escaped notice; yet these results are the most connected, and yield most valuable information respecting the climato. It is to be regretted that the falls of rain have not been registered; but we know from the recent observations there made that very heavy falls of rain take place in the month distinguished by the most frequent falls. (See No. 3, *Quarterly Statement*, p. 104, "Table of Meteorological Observations taken at Beyrout.")

The following tables contain the result of observations furnished from the places named:—

The following are the Means deduced from Observations taken at JAFFA, GAZA, and NAZARETH, in SYRIA, and forwarded by T. Chaplin, Esq., M.D.

Name of Station and Observer.	Year and Month.	Barometer A.M. & Noon.		Temp. of Air in Month. 9 A.M.							Mean Temp. at 9 A.M.			Vapour.			Mean Degree of Humidity (Lat. = 100).	Mean Weight of a Cubic Foot of Air.	Rain.		
		Mean reduced to 32 deg.	Range.	Highest.	Lowest.	Range.	Mean.			Dry Bulb.	Wet Bulb.	Dew Point.	Elastic Force.	In a Cubic Foot of Air.		Number of Days it fell.			Amount collected.		
							Of all Highest.	Of all Lowest.	Daily Range.					Mean.	Short of Saturation.						
JAFFA, SYRIA. H. A. Kayat, Esq., H.B.M.'s Vice-Consul.	1868.	In.	In.	deg.	deg.	deg.	deg.	deg.	deg.	deg.	deg.	deg.	deg.	In.	grs.	grs.	70	879	..	In.	
	Sept.	28.64	0.15	85.5	67.5	18.0	81.0	70.7	10.9	70.1	79.3	73.9	70.2	740	7.9	2.8	75	489	..	1.25	
	Oct.	28.67	0.25	84.7	61.7	33.0	80.9	66.1	14.8	73.5	76.7	71.7	68.2	690	7.5	2.5	75	492	..	1.45	
	1869.	Jan'y.	28.78	0.40	68.7	40.0	28.7	60.8	50.4	10.4	55.0	50.5	55.1	53.8	414	4.6	0.5	90	515	..	8.14
	Feb.	28.84	0.35	69.5	40.0	29.5	61.0	50.1	10.9	55.5	57.9	56.1	54.5	425	4.6	0.8	89	515	..	3.86	
	Mar.	28.68	0.30	71.7	48.5	23.2	64.9	53.5	11.4	59.2	63.0	61.7	60.6	530	5.9	0.5	92	505	..	..
	April.	28.77	0.35	80.7	51.0	39.7	67.1	56.9	11.1	61.5	65.1	63.0	61.3	542	6.0	0.8	87	505	..	5.50	
	May.	28.70	0.29	89.0	54.0	35.0	72.0	61.3	11.3	66.9	70.9	70.0	69.3	710	7.8	0.5	95	498	..	..
	June.	28.65	0.34	90.0	61.8	28.2	83.6	66.3	17.3	75.0	80.0	78.6	77.6	946	10.2	0.8	93	488	..	..
* July.	28.60	0.16	87.0	63.0	24.0	85.4	68.5	16.9	77.0	81.4	78.2	76.1	900	9.5	2.0	84	486	..	..
Aug.	28.59	0.26	91.0	63.5	27.5	87.8	70.2	17.6	79.0	83.9	80.4	78.1	961	10.3	2.2	83	484	..	..
GAZA, SYRIA. Messrs. Nimmo, Pickard, Cheetham.	1869.	April.	29.061	0.600	100.5	48.5	52.0	72.8	52.3	30.5	62.5	66.6	64.4	62.6	589	6.3	0.9	86	525	3	1.84
	May.	29.875	0.410	101.5	51.0	50.5	79.0	59.0	20.6	69.3	75.2	72.4	70.4	744	8.1	1.4	85	514	..	..
	June.	29.873	0.450	109.0	62.0	37.0	87.8	66.4	21.4	77.1	82.7	78.1	75.1	867	9.3	2.0	78	506	..	..
	July.	29.794	0.230	94.0	64.0	30.0	86.3	67.7	18.6	77.0	82.1	78.9	76.7	919	9.9	1.9	84	505	..	..
NAZARETH, SYRIA. Dr. P. K. Vartou.	May.	..	..	100.0	47.3	52.7	85.0	50.0	28.4	70.8	70.4	63.0	58.4	489	5.3	2.8	65	..	2	0.48
	June.	..	..	108.0	60.7	47.3	90.1	60.1	24.0	78.1	77.7	72.1	68.2	690	7.5	2.8	72	..	..	..

* Observations only taken on fifteen days, viz., 1st to 3rd, and 20th to 31st.

N.B.—The BAROMETER OBSERVATIONS only relate to 9 A.M. and Noon.

JAFFA, Latitude 32° 0' N.; Longitude 34° 35' E.

NAZARETH, ,, 32° 43' N.; ,, 36° 19' E.

JAMES GLAISHER.

METEOROLOGICAL OBSERVATIONS TAKEN IN SYRIA.

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