

DEAD SEA OBSERVATIONS.

By DR. E. W. G. MASTERMAN.

Autumn Visit to 'Ain Feshkhah, 1907.

As I was anxious to spend the night on the shores of the Dead Sea, I left Jerusalem at 10.45 a.m., November 15th, accompanied by Mr. Hornstein. We rode by the usual carriage route and reached the shore of the sea after sunset. The sky was cloudy, the air still and sultry: wind, such as there was, from E. At the spot which we selected to stay the night, there are several wooden buildings, and a Greek is now building a three-roomed house of wood and mud; he intends to open one room as a shop. The sea was very calm; temperature of the water at 9 p.m. 77° F., falling at midnight to 73.4° F., that of the air (at 9 p.m.) 69.8° F., falling at midnight to 60.8°. At the latter time there was a cool north wind blowing. We left at 9 a.m. the next morning. Before leaving, I was astonished to observe several dozen little fish,¹ about an inch long on the average, actively swimming in the sea about half a foot from the edge of the water. They were swimming in about four to six inches of water but when disturbed darted into a somewhat greater depth. My companion, Mr. Hornstein, and a native boatman on the shore also saw this phenomenon and we were all equally surprised.² In the *Quarterly Statement*, 1904, p. 92, I refer to finding similar little fish in the Dead Sea close to 'Ain Feshkhah, but there the water is kept diluted by the constant streams from the springs along the shore; here, however, there are no fresh springs, it is far from the Jordan and the water is intensely salt. The fish we saw were active and appeared thoroughly at home in the dense water. They probably found their way into the sea from some of the salt pools along the shore which abound in similar fish; there are, however, no such pools in the immediate neighbourhood, and it is certainly probable that these fish had been at least several hours in the sea. It is probable they may find some nourishment in the water here because of the inhabitants—human and animal (dogs and fowls)—on the shore. The observation that under favourable conditions fishes can find their way along the northern

¹ They were almost certainly *Cyprinodon dispar*, the little fish so common in the brackish pools.

² For the result of an analysis of the water in which they were found, see above, p. 85. I have since learned that others have made the same observation. In one of the Jericho hotels there is a declaration jointly signed by over a dozen tourists who saw fish swimming actively at this spot.

edge of the sea will account for the fact that while fish abound in the springs and many of the pools between the Jordan and *Rás Feshkkeh*, they are absent from the waters of the springs further south, e.g. *Wady Sudeir*, *Ain Jidy*, and *Wady Mubaghik*.

We rode to *Ain Feshkkeh* parallel with the shore, partly on the shingle and partly on the "raised beach" inland. There was evidence on all sides of recent heavy rain and all the valley bottoms were damp. In the soft soil were recent footprints of wild boar, hyaenas, and jackals (or foxes). The many tamarisk bushes which here cover the ground have their roots surrounded by the burrows of jerboa. I saw one of these pretty little beasts retreating to his lair. It took us two hours to reach the spring. The reeds in the oasis were unusually flourishing, the dark green leaves contrasting markedly with the grey-brown "blossoms." I never observed the reeds so fine nor so extensive. We saw not a soul in the oasis, and the Sultan's cattle have apparently been long absent. The path to the "Observation place" was almost blocked with reeds in places, and I found further evidence of the deserted condition of the district when I suddenly came upon over a dozen coney on the rocks. I have never seen these timid little animals except in the very early morning, or evening, but on this occasion they did not even, as usual, run away at once but four of them stood looking at me with marked curiosity for some minutes. Had I had a gun I could easily have shot a couple which quaintly sat side by side on a rock staring at me, not 20 yards away.

The State of the Level of the Sea.—At the "Observation rock" (11.30 a.m.) I found there was a fall in level of 20 inches since last spring. There was a fairly strong S.E. breeze and moderate waves breaking on the shore which made exactitude of observation difficult. At the pool, where measurement is easier, I found a fall of 18 inches. The temperature of the air at 1.30 p.m. was 81.4° F.; that of the water of the spring 80.6° F. My barometer was unfortunately out of order.

At the pool we found some wild duck, and numbers of partridges were seen and heard in the neighbouring hills and valleys.

As we left the district at 1.45 p.m. we could see heavy thunder-clouds to the N.E. over *es-Salt* and heavy rain was falling there and to the E. of Jericho. We skirted the foothills of the western mountains, joining the Jericho road just where it commences to ascend, at 5 p.m., and reached Jerusalem at 10.40 p.m. We encountered very little rain but there had been heavy rain in Jerusalem, and much more fell during the succeeding week.
