

## CHAPTER IV.

### THE KUM-KÖL LAKES.

July 28th. The Upper Kum-köl was the first Tibetan lake that I investigated. How the investigation was carried out — it does not pretend to be anything more than a hasty reconnaissance — I will now describe, reserving for a subsequent section of this work a connected grouping and discussion of the different types of Tibetan lakes. I say deliberately, this examination was nothing more than a preliminary reconnaissance, because the series of soundings I took were all too few, and the number of soundings too few in proportion to the area of the lake, to give an accurate idea of the shape of its basin. In most cases the material I have gathered is sufficient to afford an indication of the appearance and general features of each individual lake, and as no such investigations have ever before been carried out in these lakes, my material, incomplete though it is, is not without value. I must also at the same time point out the tremendous difference between the circumstances under which a lake is sounded and mapped in, for instance, Switzerland or Scotland and those under which I had to work in Tibet. Generally the grazing in the vicinity of the Tibetan lakes is so wretched that out of regard for your caravan a prolonged stay beside them is impossible. Add to this the perpetually recurring and violent storms, which either interrupted, or rendered very difficult, almost all my lake excursions in Tibet. As I had at my disposal only a small canvas skiff, to hold two men, our first thought, on the outburst of a storm, was of safety rather than of scientific work. Since, then, the material which I shall give lower down was obtained at such great risk and under such unfavourable circumstances, it will probably be acknowledged that its value is rather enhanced on that account.

The first series of soundings in the Upper Kum-köl was made from the southern shore towards the N.  $13^{\circ}$  E., our course being steered by one of the snow-capped peaks of the Kalta-alaghan. Along this line the breadth of the lake was only 3.2 km., and at approximately equal intervals we obtained successively the following soundings — 0.89, 1.04, 1.42, 1.50, 1.63, 1.62, 1.58, 1.50, 1.40, 3.42, 3.73, 2.94, and 1.45 m. In this the eastern end of the lake, where it appears to be broadest, the depth nowhere reaches 4 m., and it is consequently very shallow, shallower even than the marsh of Karakoschun, though its mean depth would appear to be rather greater. To judge from