

horizons. Certain fossiliferous marls with *Myophoria Whateleyi* and *Kefersteini* were described by Curioni, and identified with St. Cassian strata. The Esino limestone of the Lombardy Alps, which had been placed in Escher's succession *below* the "Megalodon" (Dachstein) dolomite, was ascribed by Curioni to a position *above* this dolomite.

The geological section of the Alps from Passau to Duino, which was prepared by Hauer, represents the high-water mark of the geology of the eastern Alps in the year 1857. The interposition of the "Raibl" strata, characterised by *Myophoria Whateleyæ* at the base of the Dachstein limestone, was the chief advance upon the previous systematic attempts. The position, extension, and fauna of the Raibl strata had been described by Ami Boué as far back as 1835, and twenty years later in more detail by Fötterle. In 1857, Hauer published a special monograph of the Raibl fauna, which was supplemented in 1858 by Bronn's description of the fishes, crustacea, and plants of the black Raibl shales. These works undoubtedly helped to elucidate the faunas of the southern zone of the Alps.

Three highly fossiliferous series of earthy deposits had now been determined in the midst of the masses of Alpine limestone:—*Kössen* beds, in which Leopold von Buch had first found Gervillias and other bivalves near Tegern See in Bavaria (1828); the *Raibl* series and the *Wengen-Cassian* series; moreover, the pelagic faunas of the calcareo-dolomitic rocks had been fairly well investigated. It might, therefore, have been reasonably expected that the stratigraphical difficulties would no longer prove so insurmountable. As a matter of fact, these seemed in no way diminished, and this was in itself an indication that the palæontological method, which had been so successfully applied in the case of the English Jurassic formation in the Paris basin, or the German Trias, was not enough to unlock the mysteries of Alpine structure. The Triassic succession given by Hauer for the southern Alps in 1858 may be quoted, since it held the place of authority with the Austrian Survey for several decades. He differentiated in the geological map of the Lombardy and Venetian Alps the following seven horizons as a palæontological sequence:—