

first described them, the 'insect limestones.' The fossilised contents of these bands throw some light on the physical geography of the lands that bordered the waters of the time, for in them have been found numerous elytra and other remains of Beetles, Grasshoppers, Cicadas, Dragon-flies, and other neuropterous insects, associated with a fresh-water shell of the genus *Cyclas*, the shells of *Cypris*, and with ferns, Cycads, and leaves of Monocotyledonous plants. These beds, therefore, indicate either fresh-water strata, or else the immediate proximity of land, from whence streams washed into the sea insects, fresh-water Crustacea, shells, and land plants.

Sir Charles Lyell remarks that 'the size of the species (of insects) is usually small, and such as taken alone would imply a temperate climate; but many of the associated remains of other classes must lead to a different conclusion.'<sup>1</sup> This, however, seems to be explained by a remark long ago made to me by Edward Forbes, who, while working with Captain Graves, during the hydrographical survey of the Ægean Sea, observed that, during heavy rains, vast numbers of insects were washed into the sea, not such as inhabited the low hot shores of the Ægean, but those that lived in the high cool regions of the neighbouring mountains, which, caught in the floods of rain, were washed into rivers and borne onwards to yield food for fishes in the ocean.

In conclusion, if, as I believe, the New Red Marl was deposited in a salt lake, if it be the equivalent in time of the marine *Infra-Lias* beds of Stoppani in Italy, and of the Lower St. Cassian and Hallstatt beds of Hauer and Suess, then the *Avicula contorta* beds,

<sup>1</sup> 'Student's Elements of Geology,' p. 351, 1874.