

## PROCEEDINGS.

Mr. A. S. Ritchie then read a paper "On the structure of Insects." He commenced with a sketch of the history of Entomology from the time of Linnæus and still earlier authors, down to the present day. He then briefly reviewed the methods of classifying insects which have been suggested by different authors; some of whom founded their systems on the more or less perfect changes which insects undergo, others on the peculiarities of the structure of the wings, or of the other organs of locomotion, some on the mouth and the organs surrounding it, and so on. An account was given of a few of the insects which are regarded with superstitious dread by the ignorant, as the death-watch and the death's-head moth. Attention was then called to the enormous numbers of insects which are known to science, the number of species being estimated at somewhere near 300,000. The microscopical anatomy of these creatures was dwelt upon in minute detail. The tracheæ or air-tubes were first described: these run the whole length of the body, and branch off to every part, the tubes being kept expanded by an elastic spiral filament somewhat like the spiral vessels in plants. These tubes have outlets along the sides of the thorax and abdomen, called spiracles, which are usually fringed with hairs to prevent impurities passing into the delicate breathing-apparatus. The structure of the antennæ of various kinds of insects was then explained. They seem to be organs of sensation, touch, and perhaps of hearing. The compound-faceted character of the eye in insects was next dwelt upon. These facets are often very numerous: in the ant they are said to amount to fifty, in the house-fly they number 4,000, in the dragon-fly 12,000, and, according to Geoffroy, the eye of a butterfly contains upwards of 34,000 lenses. The various parts of the mouth were then detailed, and after these the peculiar arrangement of the legs and feet in various insects. Having described the various organs of insects in the abstract, the lecturer proceeded to illustrate how they varied in different kinds of insects. From the beetles three species were selected—the *Cicindela campestris*, a carnivorous ground-beetle; the *Dyticus marginalis*, a large aquatic species; and the *Melolontha vulgaris*, more commonly known as the cockchafer. The sharp scythe-like jaws of the tiger-beetle were described, also its large prominent eyes; its predatory habits were dwelt on at some length, also the habits of the larva. The boat-like shape of the *Dyticus*, and its oar-like feet, and various other organs, were next considered. Like