

to offer which will compare with the use of the hammer and chisel in collecting fossils from nature's own museum. It is the object of this paper to encourage the reader to collect fossils in such a way that their scientific value will not be impaired or destroyed, as often happens through the use of improper methods.

#### COLLECTING METHODS.\*

In collecting fossils a rather heavy hammer is indispensable. Many palaeontologists prefer the ordinary bricklayer's hammer, with its long broad blade, which is very effective in splitting open blocks of rock and in digging in shales. A small chisel is frequently useful, and a note book should be carried. A tube of glue and a small vial of hydrochloric acid are valuable adjuncts to the collector's outfit. A bag or basket with a supply of old newspapers or tissue paper for wrapping specimens, together with a substantial lunch, complete the essential elements of the collector's outfit for a day in the field.

There is no royal road to finding fossils. But success usually comes to the collector who prostrates himself on the ledges and searches the beds foot by foot as he crawls over the surface. Beds which are nearly or quite barren of fossils are often separated by comparatively thin bands in which fossils abound. Much patience and close scrutiny are often required to detect these rich beds. In this work haste has no place, and keen eyesight plays the same role in finding fossil animals that it does in hunting living ones. Sometimes the fossils are composed of harder material than the enclosing rock, and stand out in strong relief on the surface of the ledge. In such cases they are easily found. But more frequently the only clue to the presence of fossils is the indistinct outline on the surface of the rock of the cross section of fossil shells, which have little resemblance to the specimens as they appear after removal from the matrix. Where the fossils occur in shales they are often found lying loose on the surface, having been set free by weathering.

If the collector wishes the fossils which he finds to have scientific value he must keep a systematic record of the exact geographic locality from which each lot comes. This is easily done by keeping a numbered record in a note book of the collecting stations, and attaching a corresponding number to each lot of fossils collected. It should be the practice of the collector or field geologist to prepare for each specimen or group of specimens a field label before leaving the collecting station, giving:

\*No attempt is made here to discuss methods of collecting vertebrate fossils.