

by the streams, and being likewise invaded by marshy vegetation, have subsequently become morass and finally meadow-land. The extent to which, in these regions, the alluvial formations of valleys have been modified and extended by the operations of the beaver is almost incredible. The embankments of the Mississippi are sometimes weakened to such an extent by the burrowings of the cray-fish as to give way, and allow the river to inundate the surrounding country. Similar results have happened in Europe from the subterranean operations of rats.

3. Some mollusks (*Pholas*, *Saxicava*, *Teredo*, etc., Fig. 178) bore into stone or wood, and by the number of con-



Fig. 178.—Shell-borings in limestone.

tiguous perforations greatly weaken the materials. Pieces of driftwood are soon riddled with long holes by the teredo; while wooden piers, and the bottoms of wooden ships, are often rapidly perforated. Saxicavous shells, by piercing stone and

leaving open cavities for rain and sea-water to fill, promote its decay. A potent cause of the destruction of coral-reefs is to be found in the borings of mollusks, annelids, and echinoderms, whereby masses of coral are weakened so as to be more easily removed by breakers.

4. Many animals exercise a ruinously destructive influence upon vegetation. Of the various insect-plagues of this kind it will be enough to enumerate the locust, phylloxera, and Colorado beetle. The pasture in some parts of the south of Scotland has in recent years been much damaged by mice, which have increased in numbers owing to the indiscriminate shooting and trapping of owls, hawks, and other predaceous creatures. Grasshoppers cause the