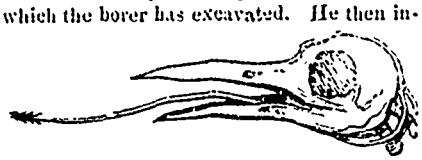
namely, the Pileated Woodpecker (*Dryopus pileatus*), the Arctic Three-toed Woodpecker (*Picoides Arcticus*), the Yellow-bellied Woodpecker (*Picus varius*), the Hairy Woodpecker (*P. villosus*), the Downy Woodpecker (*P. pubescens*), the Red-bellied Woodpecker (*Centurus Carolinensis*), the Red-headed Woodpecker (*Melanerpes erythrocephalus*), and the Gold-winged Woodpecker (*Colaptes auratus*). Of these the first is the largest. The Red-headed Woodpecker, the Hairy and the Downy Woodpeckers, and the Gold-winged species are the most common. The Red headed Woodpecker, with his striking hues of red, black, and white, and his fearless and familiar disposition, which brings him into the neighbourhood of farm-houses and even town gardens, is perhaps the best known of the family. All the species make their nests in nearly the same manner. They select a tree which is partly decayed, so that the wood is soft and easily chipped, and then assiduously set to work with their bills and excavate a nest in the trunk. The entrance is by a small round hole, just sufficient to admit the bird. This leads to a narrow passage, extending in a direction only slightly deviating from the horizontal, for a few inches, when the cavity suddenly turns downward, for a depth of twelve inches or more, is considerably widened, and by the indefatigable labour of the tiny architects is smoothed almost as if turned in a lathe. The bottom of this cavity is lined with soft chips for the reception of the eggs. These are pure white and generally five or six in number. The young make their appearance about the 20th of June, and are most assiduously tended by the parents, who are constantly employed, all day, in carrying insects to their young, and carefully removing in their beaks, as they emerge, the ordure from the nest, after the performance of which needful but unsavoury office, they delicately clean their bills on the mossy bough of an adjoining tree, and are off again on another foraging excursion.

Our illustration, copied from Wood's Natural History, represents one of this species. The Downy Woodpecker is a smaller bird. Black and white are the prevailing markings of its plumage. The back is dark, divided by lateral strips of white, loose, downy, unwebbed feathers, a peculiarity which gives the name to the species. The Hairy Woodpecker very much resembles this in general appearance. Both species are known under the inappropriate name of Sap-suckers. That their object in perforating the bark of trees, apple trees especially, is to search for insects and not for the sake of the sap, is obvious from a variety of considerations. The structure of the bill and tongue is alone sufficient evidence of this. Then, they do not attack those trees in which the sap is most abundant, such as the maple; and they make their perforations chiefly in the fall of the year, when the supply of sap is at the minimum, and larvæ abound. As to their attacking smooth barked apple trees, these are just the trees which the borer perforates. The Woodpecker's mode of operation seems to be something as follows. It first gives a succession of rapid strokes with the bill, producing a peculiar rattling sound. This probably alarms any insects within, and causes them to retreat to the extremity of the burrows; the movement is detected by the bird's delicate sense of hearing, and he proceeds to explore the bark by a series of slight perforations, conducted in a very regular, and engineer-like manner, till he lights upon the passage or burrow which the borer has excavated. He then in-



troduces his barbed tongue and extracts his victim. As evidence that the perforations made by the Woodpecker in his search after insects, are not injurious to the tree, Wilson says, "in more than fifty orchards which I have myself carefully examined, those trees which were marked by the Woodpecker (for some trees they never touch, perhaps because not penetrated by insects) were uniformly the most thriving, and seemingly the most productive. Many of them were upwards of sixty years old, their trunks completely covered with holes, while the branches were broad, luxuriant, and loaded with fruit. Of decayed trees more than three fourths were untouched by the Woodpeckers."

In our own experience, we can testify that we have had apple trees completely riddled with these holes, that were the most luxuriant and fruitful in the orchard. A friend of ours not long since, in pruning an apple tree, noticed these marks in a branch cut off very high up, a most unusual situation for either woodpecker holes or the borer. On cutting the branch open he found the burrow of one of these insects right in the centre, the passage leading to which had been opened by one of the woodpecker's perforations, and the occupant extracted. The branch was perfectly healthy; had the insect remained, this would not have been the case.

It cannot be denied that these birds are fond of fruit, and will help themselves to the ripest cherries, and peck away at the most luscious pears and apples: but the amount of service they render in destroying insects more than compensates for their depredations, and should induce all, the owners of orchards and gardens especially, to respect and protect the whole tribe of woodpeckers as amongst their most assiduous and efficient friends and allies.

A correspondent of the Montreal *Minerve*, writing from Bout de l'Isle, says that at a place called the Chenaux, a large sturgeon has been caught, weighing 88 pounds. It took three men to haul it out of the water, owing to its struggles to get loose. The day before that, one weighing 82 pounds had been caught, the average size of sturgeons being 35 to 45 pounds. Such large fish were never before seen in these waters.

Poultry Yard.

Clear and Addled Eggs.

Most poultry keepers are aware of the fact that of the eggs that do not hatch some remain perfectly "clear," while others are "addled," and a third set become putrid, and are filled with so large an amount of compressed gas, chiefly sulphuretted hydrogen, that on the slightest shake they are apt to burst with a loud explosion, scattering their fœtid contents in every direction. The conditions that lead to these three states are not always appreciated. A correspondent has written to me as follows:—

"Why do some eggs, when sat upon, become addled and putrid? Why do others undergo no change? I have just been staying with some country cousins, who look to me to explain all scientific and natural history questions that they choose to propound; and great was the chaff to which I was subjected when unable to explain these egg questions. They have a theory that if an egg is fertilized and then imperfectly incubated it becomes addled; whereas if the egg had not been impregnated it would, at the end of the incubation, be found unchanged. In fact, they say that impregnation is necessary to produce addleness. Is that so? Do the changes in decomposition of a fertilized and a barren egg differ?"

With regard to the eggs that remain clear, I believe it to be ascertained beyond all question that they are those which have not been fertilized. Eggs laid by pullets that are secluded are always clear: these do not seem to undergo much change from the heat of the hen. My own practice is always to remove such eggs at the end of a week, and employ them in feeding the young chickens: but they are so little altered that they may be used for human food. A late servant of mine was in the habit of boiling them for her own breakfast whenever she had an opportunity. On breaking them before cooking the only differences to be observed between them and perfectly fresh eggs are that the air vesicle is somewhat larger, and the albumen more fluid. There is never the slightest trace of the enlargement of the germinal vesicle. When this has taken place and the chick begins to develop, but afterwards dies, the egg is not a clear one, but becomes addled.

The reason why some are explosive and others inexplosive is not quite evident to me, although I am inclined to suspect that the explosive condition occurs when the germ perishes at an early state of incubation, and the non-explosive when the chick dies at a later period; for when I have had the misfortune to experiment, quite involuntarily, on explosive eggs, I have never been able to trace any portion of the young bird, nor is the inside of the shell lined with blood-vessels, as takes place in an advanced stage of incubation.—W. B. Tegetmeier, in the London *Field*.