

increased enormously in parts of New Jersey, New York and Maine, stripping acres of trees, leaving them as bare as in midwinter, and congregating in heaps by the fences, showing that what is usually a scarce and harmless insect may, under favourable conditions, increase to such an extent as to be seriously injurious.

FAMILY 5.—BLATTIDÆ, (COCKROACHES). 7 SP.

Cockroaches are flattened, ovate insects, generally of a dull brown colour, and have an oily and disagreeable smell. They run swiftly, but do not jump like the crickets and locusts. The eggs are laid in a bean-shaped capsule, divided into two compartments, each containing a row of separate chambers, each of which encloses an egg. Some days are required for oviposition, and the female may be seen running about with the egg-case partially protruding from the body. The egg-case is dropped at random, the female not depositing or concealing it in any particular place or manner.

Cockroaches are omnivorous insects, feeding on almost everything eatable, whether animal or vegetable, some species being great pests in houses. The kinds found in our dwellings have been carried here in shipping, and are now common in almost every part of the world.

The large black species so familiar to housewives, under the name of "The Black Beetle," is the *Blatta (Stylophyga) orientalis*, Linn. As the name implies, it is an eastern species, brought to us by commerce. During summer it sometimes takes up temporary quarters in the open air, as I once found a flourishing colony under some stones in a lane in the rear of a bakehouse.

The other important species is the small reddish-brown cockroach, *Ectobia Germanica*, commonly known in the New England States as the "Croton Bug." It infests houses, and is even more troublesome than the large species, making itself at home in wooden partitions and cracks in furniture, soon becoming unpleasantly numerous. It is not so strictly nocturnal in its habits as the large species, and may often be seen on a voyage of discovery in broad daylight.

Our native species live under stones and beneath the loose bark of dead trees, and appear to be rare insects.

FAMILY 6.—FORFICULIDÆ, (EARWIGS).

Earwigs may be distinguished from all other Orthoptera, by their narrow, flattened body and short wing covers, and by the extremity of the abdomen being furnished with a forceps, which in some species equals the body in length.

This instrument appears to be used for several purposes. Westwood says "they are weapons of offence and defence." De Geer states "that they are used during sexual intercourse." The Rev. J. G. Wood says "the membranous wings of the earwig are truly beautiful. They are thin and delicate to a degree, very large and rounded, and during the day-time packed in the most admirable manner under the little square elytra. The process of packing is very beautiful, being greatly assisted by the forceps on the tail, which are directed by the creature with wonderful precision, and used as deftly as if they were fingers and directed by eyes."

Dr. John G. Morris's experience does not agree with the Rev. Mr. Wood's account. He says, "last summer I had a good opportunity of observing the habits of this insect, for every night numbers of them came into my study window in the country, and lighted very conveniently upon the table at which I was writing. Each one of them, before he took flight, for they were active, would bend his body back and lift up the short elytra with his forceps before the wings would expand, and this they did invariably. The forceps were not used to fold the semi-circular wings, but only to elevate the wing-covers before flying."

These accounts may perhaps be reconciled upon the assumption that the forceps is not used for the same purpose by every species. The smaller species of *Staphylinidæ*, for which a small earwig would be easily mistaken while on the wing, may very often be

observed tucked under the eaves, and remember even

The female and young, so eminent entomologist

During the summer months, they seek places of refuge from the sunshine. They are often discovered in the country they inhabit, *Labia minor*

So far as I know, they are brooded, with their young, in houses. Of course, they appear as early as *Tragocephala*, the end of July, but in the autumn they are not seen in the open air.

With regard to their habits, they are a constant pest, being a constant stocker of a kitchen.

*Gryllotalpa*  
Brodie.

*Gryllus* *in*  
*Gryllus*

treason, abundant

*Gryllus*  
Caulfield; Ottawa

*Nemobius*  
Caulfield; Ottawa

*Nemobius*  
field; Ottawa

*Nemobius*  
Rat Portage—

*Ecantia*  
Provancher;

London—Sau

*Ceuthophila*  
Montreal, common

of Lake Superior

*Udeopsylla*  
*Phaneropsylla*

September—F  
Toronto, common