

Harpalus caliginosus, Fabr. (fig. 24) is another member of the family under consideration, and is true to its family instincts. It is narrower in outline, than the two preceding insects, and is not so handsomely marked; it is of a dull black colour. This beetle is an enemy to the Colorado Potato Beetle and the army-worm.



Fig. 24.

An allied species, *Harpalus Pennsylvanicus*, DeGeer, is more common than the last. In Fig. 25 we give an illustration of the perfect insect, and in Fig. 26, of the larva.

The larva is about an inch and a quarter in length, is of a shining brown-black colour above, and a dull-whitish beneath. According to Mr. Riley it is an efficient destroyer of the larva of the Plum Curculio, which it seeks in their underground hiding-place and mercilessly devours.

In the Western States this larva has been found feeding on the eggs of the Rocky Mountain Locust, *Caloptenus Spretus*, Thomas, and another *Harpalus* larva was found engaged in the same creditable labour.

Another member of this family, the Elongate Ground Beetle, *Pasimachus elongatus*, Lec, is also one of the insect enemies of the Colorado Potato Beetle, also of the Rocky Mountain Locust, and of the Army Worm. This beetle is of rather elegant form, and is bright-black in colour, with a deep blue margin.

The last insect of the Carnivorous Ground Beetles which we will mention specially, is a little Bombardier beetle: *Brachinus fumans*, Linn., of which we give an illustration in Fig. 27.

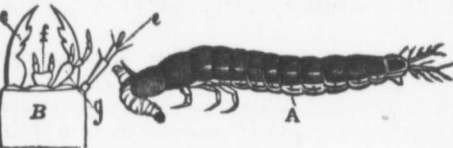


Fig. 25.

Fig. 26.



Fig. 27.

This insect with other members of the *Brachinus* family, have an extraordinary power of ejecting, from glands near the tail, an irritating fluid, which is doubtless a means of defence against its more powerful neighbours. A writer in the *American Entomologist*, vol. 2, p. 30, thus relates his experience with one of these Bombardier beetles:—"Upon one occasion when we were collecting insects and—as often happens—saw at the same moment two rapidly running beetles, both of which we were desirous to capture, we thoughtlessly put one of the two, which happened to be a Bombardier, between our lips so as to hold him securely while we caught and disposed of the other one. Forthwith he fired away the customary discharge of blue smoke from his tail; and the next instant our lips felt as if a bottle of the strongest aquafortis had been emptied upon them. But we were not to be fooled thus. The more he blazed away the tighter we held him; and after a copious discharge of saliva from our mouth, the disagreeable sensation passed off in some five minutes, without any further unpleasant results."

This ejection of fluid is accompanied by a crackling explosion and blue smoke or vapour in which the little artilleryman makes good his escape from ordinary insect enemies.

In Kansas, the *Brachinus Kansanus*, Lec, has been found attacking the larvæ of the ubiquitous Colorado Potato Beetle.

A great deal more might be added of the services rendered to the agriculturist and gardeners by various members of the *Carabidæ* family, but we think sufficient has been given to show that they are among the most valuable of our insect friends and worthy of protection.

The *Carabidæ* are the carnivorous land insects *par excellence*, while their great voracity, their powerful physique, and their great numbers, make them one of the most efficient means of keeping insect pests within bounds. The family is very large, fortunately, and is compared by Michelet to "an immense tribe of warriors, armed to the teeth, which, under their heavy cuirasses, have a wonderful activity, are a perfect rural constabulary,

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