

largest species, and closely resembles the *Calosoma*, in Fig. 2.

The European species, shown in Fig. 2, has recently been imported into America to prey upon the gipsy, and the brown-tail moths.

Another species, the "Fiery Hunter" (*C. calidum*), is often found at this season of the year in rotten stumps and logs, and is readily distinguished by rows of small reddish or copper colored pits arranged lengthwise on the wing-covers.

Many interesting beetles are found in our ponds and streams. The small whirligig-beetle is too well known to need description. They are somewhat social in their habits, and are always found either darting around and around each other, or resting motionless on the surface of the water. When closely pursued, they dive and scatter in all directions.

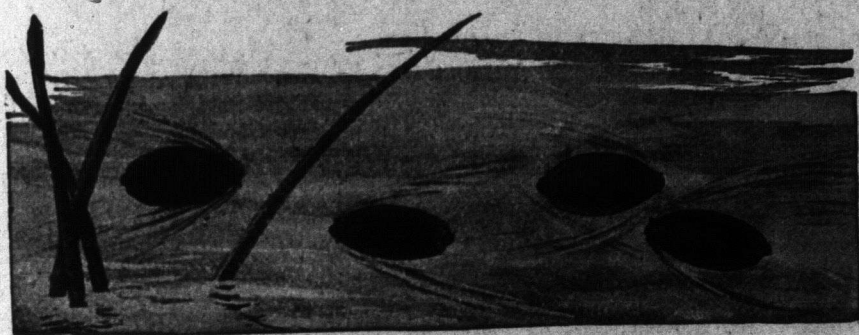


Fig. 3. Whirligig-beetles, Gyrinidae. (About natural size);

They are easily taken in a dip-net, but hard to catch with the hands. Capture some and note the peculiar odor they give off, when handled. If kept in an aquarium, it must be covered with cheese cloth, otherwise they will fly away. In their natural habitat they feed on the small insects that fall into the water. Supply your aquarium with similar food and note the result.

Another and larger form, the predaceous diving-beetle, *Dytiscus*, is more often found in pools of standing water, than in streams. When at rest they suspend themselves at the top of the water with the tip of the abdomen at the surface; this enables them to draw air under the wing-covers, where the breathing pores are situated. Note the position of the breathing pores, in the different families of insects you have studied.

From an aquarium specimen, determine whether these insects breathe air or water.

The *Dytiscus* is a representative of the great

family of water-beetles, Dytiscidae (*Dy-tis'ci-dae*); nearly 300 North American species are known.

The Dytiscidae are usually brownish black and shining. The commoner species range from one half to three-quarters of an inch in length, while the largest are about an inch long. They all have thread-like antennae; the hind legs are the longest, and are fitted for swimming, being flattened and fringed with hair.

These insects are very voracious, preying on other insects, and at times even on small fish. In the aquarium, they can be fed on any kind of meat, raw or cooked. The larvae are ferocious, elongated, spindle-shaped grubs, which, on account of their bloodthirstiness, have been called "water-tigers."

The water-scavenger beetles (*Hyd-ro-phil'i-dae*) form another family of beetles, found mostly in quiet pools. They closely resemble the predaceous diving-beetles, but are easily distinguished in the water by a film of air under the abdomen, which gives their under surface a silvery appearance. The wing-covers are more highly polished, and the body more flattened below and more convex above than in the diving-beetles. They are also distinguished by their club-shaped antennae, and long palpi. These palpi are often mistaken for the antennae, which are usually concealed beneath the head.

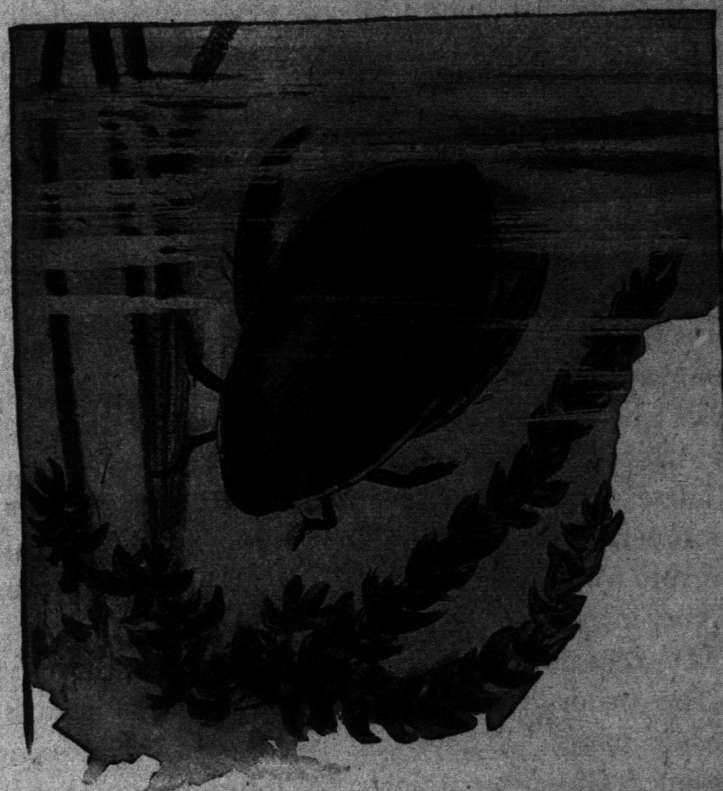


Fig. 4. The diving beetle, *Dytiscus*. (Slightly enlarged).