## What's The Buzzing About?

By **H D Overholt** C-T Reporter

While insects can be annoying to our leisure time outdoors, they are vital within the environment in many different ways. One of the insects usually everyone identifies with in some form is the honeybee. It is known for the collection of sweet nectar of flowers, processing it into honey to savor on those freshly baked biscuits. Their effects on pollination of fruits, nuts, and vegetables have become very important within the mono agriculture crops within our society.

Honeybees are listed as a social insect, an environmentally protected species, as they form and survive within their colony as a group working for the good of the whole family all year. Wasps, yellow jackets, and hornets are known as solitary insects since only the queen survives during the winter and begins her nest and family from a single start in the spring. Of course, they are all remembered with great respect as the defense of any intruder succumbs to attacks with painful stings as they protect their home.

Honeybees are able to produce heat by consuming carbohydrates (honey) and vibrating wing muscles while clustering close together. During the cold winter months they do not hibernate like some mammals, but remain active within the colony with limited reproduction of brood for the next generation until the temperatures become stable in the spring. As the days begin to lengthen in the new year, the queen will increase egg laying within the cluster, bringing younger bees to life for the busy springtime nectar flow of flowers. The queen's eggs take three days to hatch and the cell has to maintain 90 degrees for that time period. During the summer, water is collected and the colony literally air condition the hive to maintain the appropriate temperature.

As the colony members build up numbers in springtime, the colony constructs comb with hexagon wax cells to raise brood and store food supplies for dearth periods. Healthy colonies can fill space within their home in just a few weeks and the need to expand becomes the time of swarming as the colony divides. With only one queen in a colony, the existing queen will reduce her weight and cease egg production, enabling her to fly and lead out at the right time for a new home. This preparation begins with forethought as the colony needs to raise a new queen and survive on the food stores of the hive for a few weeks when the hive will again become stabilized.

Being a social family within the insect world means there are multiple generations within the work force and each bee functions with specific duties as they age. Beginning as they emerge from the cell, house cleaning duties are fulfilled as well as feeding larva royal jelly developing from eggs. As they age, they can build cells for a few days by secreting wax from glands much like our sweat glands. Their duties develop into



guarding entrances from predators and evaporating nectar moisture below 18 percent and processing pollen of flowers for the protein in building the exoskeletons of the brood. Their last stage of life will be collecting the nectar, pollen, and water as their honey stomachs have developed. Contrary to belief regurgitation of nectar is false, as the bees have a digestive stomach different from the honey stomach in collection of food supplies.

In the springtime when a lot of food is available and more space is needed within the colony, expansion becomes the priority within the family. As the queen is restricted in room to lay eggs because of cells already filled,