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Dung Beetles Make Use of Animal Droppings

One person's trash is another person's treasure, or so the old saying goes. This is the rationalization used to justify frequent visits to the flea market or garage sales early Saturday morning.

There are some acquisitions which defy logic and place stress on domestic bliss when the newly discovered "gem" is returned home. Beauty is in the eye of the beholder certainly depends on the beholder's perspective and patience.

There are some cast-off commodities which even the most compulsive hoarder will reject as too offensive. Fortunately, Wakulla County's beetle population is not quite that sensitive.

Dung beetles (Scarabaeinae), as the name suggest, utilize and feed on droppings left by animals. There is an apparent preference for the bi-products of herbivores, but even deposits left by omnivores will be processed and utilized.

Worldwide, the dung beetle family has about 5,000 members and they reside on every continent except Antarctica. Wakulla County's member is the *Canthon imitator*, commonly known as the tumblebug.

These beetles are a partial solution of the important decomposition step for waste left by larger animals. While other insects and worms speed the breakdown of manures, only dung beetles distribute and bury the material in substantial quantity.

These beetles collect dung by rolling it into a ball and moving it to a suitable nesting location. They are easily identified when working as they blindly push the ball with their hind legs while facing the opposite direction.



The female lays eggs in the ball and the decaying dung warms the eggs during the incubation. When the larvae hatch they feed on the dung ball until they leave the nest and repeat the cycle.

As one might guess, the dung beetles locate their nesting material by smell. Their refined olfactory perception permits them to locate deposits over relatively great distance for a half-inch long insect.

During periods when there are too many dung beetles or too few dropping, these beetles will rob dung balls from each other. Depending on the availability of material for the ball and the enthusiasm of the beetle, the dung ball can weigh up to 10 times the weight of the beetle.



Fossil records indicate dung beetles have existed for at least 30 million years. While no preserved dung beetles have been found, paleontologists have recovered fossilized dung balls the size of tennis balls from that prehistoric epoch.

Early recorded history in Egypt indicated dung beetles were well regarded and classified as a sacred creature. Some in that ancient culture believed there was a connection between the way the beetles rolled their dung balls and the way the sun rose.

Over 4,000 years ago Khepri was included in the pantheon of Egyptian deities and was associated with the morning sun. He was pictured as a human with a beetle head or as the scarab beetle, a brightly colored dung beetle native to North Africa.

Somewhat later dried dung beetles were used in East Asian folk medicine. The cure to several diseases was attributed to the presence of these dehydrated insects in the remedy.

To learn more about dung beetles and other insects in Wakulla County, contact the UF/IFAS Wakulla County Extension Office at 850-926-3931 or <http://wakulla.ifas.ufl.edu/>.