



CENTER LINE

A Publication of Waukesha County's Retzer Nature Center

Summer 2008

In this issue...

- ◆ A Buzz in the Hive
- ◆ In a Nutshell...
- ◆ Uniquities

Upcoming Events:

- ◆ Morning Bird Hikes
- ◆ Twilight Delight
- ◆ Native Plant Sale
- ◆ Birdscaping with Mariette Nowak

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A BUZZ IN THE HIVE

Apis mellifera belongs to the family Apidae in the order of Hymenoptera, but working members of this family and order are commonly called Honeybees. And honeybees are all hard working members. Honeybees have become valuable in local hives, if willing beetenders will supply their lodging. Bees can also take up housing in hollows of dead trees. Wherever the colonies form their unions, however, all work toward production of a yellow viscid fluid which has sweetness no one can resist.

The order Hymenoptera includes wasps, ants, and bees. Insects in this order have abdomens usually narrowly attached to the thorax. More often than not, the critters have stingers that are in good working order. Their wings, however, are without seta bristles found on the external surface of a wing. The honeybee's body is dark brown. Its abdomen is a reddish-brown with black apical stripes. The body of the honeybee is covered with short fuzzy pile.

In the home industry of the hive, the queen rules. The queen, and only the queen, produces a pheromone which causes a specific reaction from the other members in her community hive. In the hive, the queen produces the only sex attracting pheromone, so she becomes the queen mother so-to-speak. Next in the beeline are the sterile females or workers in the hive. Most numerous of the hive members, their lives are spent completing the many chores around the place. They construct waxy combs made from secretions and feed her highness, then carry away the eggs produced by the queen mother. After spending their early life tending to the many jobs in the hive, the last days of their lives are spent as foragers, obtaining nectar and pollinating pretty flowers. No wonder the workers do special dances, to map the routes where there are neat flowers for gathering honey and pollen. Days spent out in the fields must be like having wonderful vacations before retiring. Workers cannot only dance, they can sting. But only once, for their stingers are left in their victim's body and the worker bees die shortly thereafter. Male members of the hive are called drones. Drones linger on one side of the hive. On warm sunny afternoons they will sometimes kill time taking a fly-about. The drones' only function is to mate with the queen, and this too is only a one-time event. A real downer for the male. If the drone gets his opportunity to mate, the shock of romance will kill him almost immediately after contact with his queen. If his (once-in-a-lifetime) opportunity to mate is not in his fortune cards, he will be stung, murdered, and dumped from the hive by the workers, as cold weather approaches.



(Continued on page 2)

Both queen and workers are capable of stinging. Their weapon is a modified ovipositor, the egg-laying apparatus of the females.

An interesting note on the nature of the bee's method of defense. The bee's sting is not really an aggressive act. It is an act that results from several triggering stimuli. This innate behavior or instinctive response will be put into action if the bee thinks a threat is near. Actually the bee sting will disable the defender more than the victim. Its weapon is left in the victim's body and the bee will die in its defense.



Another interesting fact concerning the bee: bees show some degree of social life. This mode of existence is found in the insect colonies. The colonies have a caste system with reproductive and nonreproductive participants – a division of workers, and an overlapping of generations. In the beehive community there are three castes – one queen who provides all the eggs, many females who are the sterile workers, and the male drones. All are sustaining participants in the colony. During winter months, the queen (with a limited number of staff workers) will live in the hive, and a fresh colony will be regenerated in the spring. Hopefully.

Be aware of this word “hopefully,” for something frightening is happening to our bee colonies. Over the past few years, a majority of bees have died. Many adult bees have mysteriously disappeared – leaving the queen bee alone with her brood. “Researchers have not found the reason for this devastating malady. They have labeled it CCD which translates into Colony Collapse Disorder. CCD has caused a loss of 50-90 percent of beehives in the United States. A catastrophe of major proportion. Honeybees are leading insects in our agricultural traffic. Honey production is only a minor route through the agricultural traffic. Honey production is only a minor route through the scenery. The insects map out their own beelines, pollinating hundreds of crops, from apples and strawberries to soybeans and almonds. Adding bees to a profit-and-loss

statement works into 15 billion dollars worth of crops that are pollinated each year. A rather large agricultural contribution from such tiny and willing workers! Hopefully ecologists working in their fields can solve the mystery of CCD, and save the bees before the 2009 swarm.

See you on the trail,

Shirley Blanchard

REFERENCES:

Michalets, Katherine. (January 22, 2008). “Feeling the Sting: Beekeepers Share Angst in Industry.” Waukesha Freeman Newspaper.

Arnett, Dr. Russ H. and Dr. Richard L. Jacques, Jr. (1981). Guide to Insects. New York, New York. Simon and Schuster.



A New Book in the Gift Shop...
“See You on the Trail”
by Shirley Blanchard

Shirley Blanchard is a published author, poet, and long time Retzer volunteer and Friends member. Her newly released book, “See You on the Trail” is a collection of Center Line articles from past years. Alberta (Bert) Musbach provided the set up and typing for this book. Shirley is donating the proceeds from her book sales to the Friends of Retzer Nature Center. The cost of the book is \$10.00. Stop by the nature center gift shop to purchase your copy.

HEARTWOOD



...In A Nutshell

In Wisconsin, the first weekend of March is celebrated as “Aldo Leopold Weekend”. On that weekend (or near it), various “Leopold Events” take place at locations around the state (this year, about thirty different locations statewide—including Retzer Nature Center, for the third year in a row!). Coordinated by the Aldo Leopold Foundation, these events include programs of readings from Leopold’s masterwork *A Sand County Almanac*, land-based outdoor programs on the application of Leopold’s teachings to management of the land, and a variety of other program creations. As I write this, I am between two of these events—the very successful celebration here at Retzer (just completed), and the much-anticipated celebration at the Muskego Library (for which I am a guest presenter)—so Leopold is very much on my mind.



In the teaching we do at Retzer, Leopold’s Land Ethic is pretty much always an underlying idea. The concept is built into *Sand County*, and his other works. However, we have found it useful to come up with a crisp and plain summary of the Land Ethic—one which teaches easily, and makes people want to read and learn more.

And so, I offer for your summer reading,

The Land Ethic of Aldo Leopold,
in a nutshell.

1—The land is a community.

Think of the human community. What looks like a whole lot of people milling around is actually very organized, with everybody playing their part. Farmers, dentists, fire-fighters, librarians, engineers, teachers, plumbers, computer technicians, miners, bus drivers, salesmen, and lots and lots of other people work together, depend on each other, and make society work.

The land is like that. It’s not just a random bunch of whatever plants and animals happen to be there. It’s got a plan, it’s got an organization, and every member of the land community (each plant and animal) plays its part.

2—Science can learn about the workings of the land community.

Science is observation, question, educated guesses, and testing those guesses. The CSI (Crime Scene Investigation) shows on TV are all about this—figuring out what happened. Scientific study of the land works the same way. And if enough scientists study the land for a long enough time, they can figure out lots about how the land community works. They can figure out what each of the community members (plants and animals, soil, water) do, and how the whole thing fits together.

**3—The land community has value on its own,
apart from how people use it.**

This is tough for some people to accept, because we tend to think that we humans are the boss of everything—that things are only valuable if we can use them. But the world is lots bigger than us, and older. A little humility would serve us well. The land, the wild world of nature, has an importance and value of its own, apart from our use of it. It has its own right to survive.

**4—Since the land community has value on its own,
we must use it in an ethical manner.**

This just makes sense. If the land has value and importance on its own, then it has integrity too—which we have to respect, as a matter of ethics (of right and wrong). When we make use of the land community and its members (plants and animals, soil, water), we must be sure we're doing what's right for the land community. This is called stewardship.

**—This means that we must act as members of the land community,
not masters of it.**

Members of a community have to work cooperatively with each other, in order for the community to work out. The land works with us, and we have to work with the land. We're not conquerors and rulers of the land community (and when we try to be, it turns out to be a disaster!). We're just members of the land community, citizens of it, and we need to act like it.

**—Acting as members of the land community,
we can reap a harvest from it while taking care of its well-being.**

If a community is healthy and works well, the individual members can reap a harvest from the success of the community. The land community is no different. If we act as good members of its community, the land provides us with its own harvest—good food, clean air and water, a high quality of life, and security for the future.

**—Acting as members of the land community,
we can apply scientific knowledge to restore it to a natural state.**

Scientific knowledge gives us power—the power to help heal the land community, to help restore its natural workings.

**5—In order to act as members of the land community,
we must come to know and understand it.**

You can't fit in as a member of any community, unless you take time to learn and know its members (and the roles they play), to understand how the community members work together. Same thing with the land community.

**—If we do so,
we will come to enjoy, love, and value it.**

Taking time to learn, to know, to understand the land will bring along with it a great time—beauty, fun, and enjoyment, and a sense of connection with the land and its creatures. No surprise here—we come to love what we feel part of.

Don't get left inside!

Larry



The Last Prairie



Uniquities

Apparently there is some debate on whether unicity is a word or not. Antiquities, by one definition, are antiques but it is definitely folly to say 'uniques' to refer to a unique item or event. Anyway, the particular unique items this article refers to are local species found nowhere else in the world. Every species is sole unto itself, but when a plant or animal is found 'only here', I suggest it increases its unicity. Just how distinctive depends on the 'here' part. It could mean anything from a continent to a small, isolated island. The size of the area tells us many things about the situation. The more acres you have, the more chance for species dispersal, recovery and overall survival. As you get smaller, preservation becomes ever more important if we wish these exclusive species to persist.

We define flora and fauna that are restricted to a region, province or locality as endemic. Why a species is endemic to an area likely depends on many factors, but the pervasive contributor is isolation over an extremely large amount of time. This concept of separation from other appropriate locales (if there are any other on this green Earth) is island biogeography, where a zone of suitable habitat is surrounded by unsuitable habitat. An actual island, of course, fits the bill but it is not limited to isles. Perhaps a photo negative of an island is an inland seepage lake (no inlet or outlet), the depths of the lake equivalent to peaks of a land mass. A mountain range surrounded by deserts or deserts surrounded by mountains are larger examples. The concept also applies to some mountain ranges within themselves. When you achieve a certain altitude, the alpine cloud forests of South America display amazing environmental conditions. Adjacent mountains in the same range may each harbor endemic residents not found on the other. In other words, a mountain can be unique even from others in the same range. Finally, do not forget about superheated, oceanic vents for utterly weird creatures.

There are many places with endemics, but some just put frosting on the cake. Madagascar likely has the highest terrestrial endemism rate (ER) of any unit-area on the planet. It is also in great danger of slash and burn farming. Native biologists are working hard to preserve what is left of their ecological heritage. The Hawaiian Islands are no slouch either. Introduced species here make conservation difficult, but there are odd things there worth conserving. They have the only known carnivorous caterpillars in the world; no leaves, thank you very much. You can also find a flightless fly (irony abounds in paradise) if you know where to look. The Galapagos Islands off the coast of Ecuador are famous for their amazing species. About half of the birds, 32% of the plants, 47% of the insects, 88% of the mammals and maybe every last one of the reptiles occur only here (Charles Darwin Foundation and World Wildlife Fund 2002). The most amazing aquatic example (in one author's opinion) is the stunning and cold Lake Baikal in central Asia. Frozen most of the year, it is geographically old, exceedingly deep (about 1,200 meters) and astonishingly diverse. If those aren't enough impressive adjectives for you, grab a mask and take a swim (I recommend summer, and the south shore of the lake). Whatever life you see, there is a very good chance you will never see it in another lake, period. Now get out of the water and dry off before you get hypothermia!

OK, now let's get local. Wisconsin as a state harbors only two and a half endemic species I know of (slightly more if you include all the northernmost midwestern states), but that is no surprise since there are many states with floristic provinces similar to ours. One is the federally threatened Fassett's Locoweed (*Oxytropis campestris*), which is found only on the shores of a few seepage (no inlet or outlet) lakes. Two reasons it is found nowhere else are: 1) Biologists believe its range to be a remnant of two large, glacial lakes that no longer exist. 2) It requires extreme water fluctuations over flats (sometimes underwater and sometimes 'dry') to thrive and reproduce. This necessitates very gentle gravel slopes around the waterline. It's a



(Uniquities...continued)

picky plant, but most endemics are super-specialists. The second special life form is a snail that had the bad luck to be considered extinct. That is until happy scientists found it on the cool, vented algal talus slopes (these vents cool air out of the bottom of the slope through spaces in the rocks) of eastern Wisconsin. This species, *Succinea bakeri*, currently goes by the elegant common name of 'Land Snail' and since it was found, it is no longer considered extinct. The Winged Maple Leaf Mussel (*Quadrula fragosa*) is only found in the St. Croix River so technically Minnesota lays claim also. We should get half credit.



Well, that is it for our uniquenesses. It is not bad at all, we should be proud to have even two (or three). This in no way diminishes the importance of all our other residents, but hopefully you have an appreciation for some of the oddballs. There are all sorts of 'chicken or egg' arguments for why something is limited in location, but maybe all you need to know is that endemics are almost always extreme specialists with a very specific list of environmental needs. Wherever they dwell, all of the factors come together just so, to meet their needs exactly. The entire community in which they exist contributes to their existence. There may be certain contributions that are more critical than others (such as a certain parasite, pollinator, soil nutrient supplied by a particular type of bedrock, spring water enriched with calcium, soil pH, etc.) but everything in the area contributes to provide a unique environment. So everything is the reason, then? What could be simpler than that?

Mike

References on the back

(Uniquities...continued)

References for Uniquities: We have very few resources on the subject so we also included the websites where you can keep reading. Most do a very good job of inspiring.

Charles Darwin Foundation and World Wildlife Fund. 2002. A Biodiversity Vision for the Galapagos Islands. Ed. R. Bensted-Smith. CDF. Puerto Ayora

<http://www.baikalscience.org/?cat=6>

<http://www.bww.irk.ru/index.html>

<http://www.darwinfoundation.org/>

<http://www.dnr.state.wi.us/org/land/er/publications/niagara/Results.asp#comm>

<http://www.fws.gov/midwest/Endangered/plants/fassetts.html>

<http://www.hawaii-forest.com/evolution.html>

<http://www.pbs.org/edens/madagascar/eden.htm>



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<http://www.dnr.state.wi.us/org/land/er/publications/niagara/Results.asp#comm>

<http://www.fws.gov/midwest/Endangered/plants/fassetts.html>

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RETZER NATURE CENTER

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A Sincere Thanks to All...

The following individuals or groups have donated to Retzer Nature Center since the last issue of CENTER LINE. Their support is greatly appreciated.

- Cash donation received from Gholamali and Karen Amini
- Cash donation received from Dennis & Randee Mathisen
- Jim Prellwitz for his generous donation of a deer hide for our exhibit area
- 18 nature and ecology books donated by Gerald Kutchera