

AGRICULTURE

Insects use many strategies to survive winter

The silvery light of early morning is morphing to gold. I walk in a woods quite silent at this time of year—I can even hear the claws of woodpeckers as they work along tree trunks. I pause, scanning limbs high in the canopy. The highest of the branches are gilded with the kiss of sunlight.

insects provide a hidden larder, which industrious critters like these birds wish to tap. Finding the hiding places, however, is not easy.

Most insects cannot remain active and survive freezing temperatures. Some migrate but most stay put, finding protected places to over-winter in a stage of their development that best adapts to cold. A good hiding place to avoid predators is important, but one that is also protected from cold is essential. Insects are like little capsules of water. If they freeze solid in winter they will die because ice crystals destroy cell walls. Wintering insects use different strategies to survive the cold. Most are either freeze avoiding or freeze tolerant.

Freeze Avoiding

Insects that avoid freezing reduce the amount of water in their body and produce antifreeze-like compounds to allow for "supercooling" of body liquids (mostly water). Supercooling allows this liquid to chill well below the freezing point without

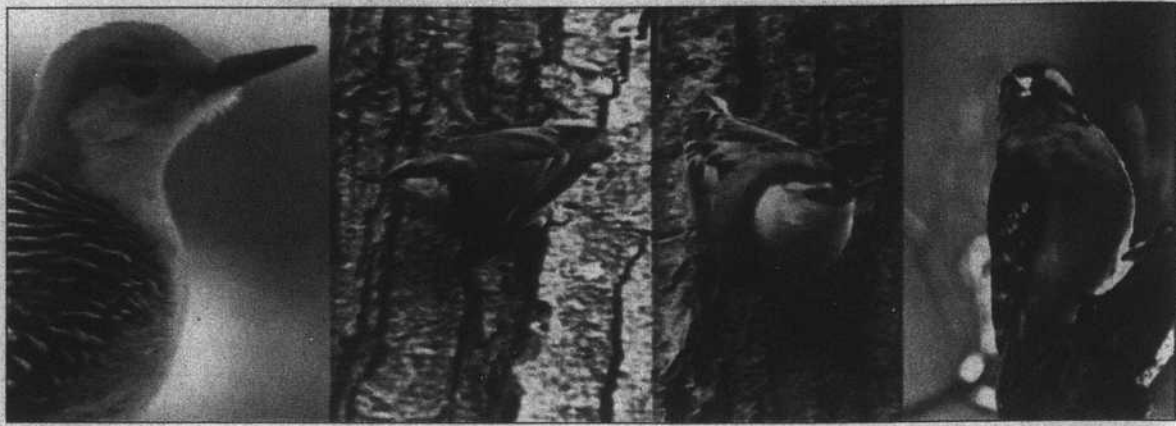


IMAGE COURTESY GOOGLE IMAGES

A variety of birds are still able to feed on insect during the winter, but it takes much more work.

turning to ice. Because ice crystals need particles to form, these insects also empty their gut, expelling all particles. If particles such as food are present, body fluid changes to ice at 32 degrees. Without any particles, however, water will not become ice until it is much colder.

Freeze Tolerant

Insects that tolerate freezing do allow ice to form in parts of the body. However, they allow

ice formation only in body liquid around the body cells, not inside the cells. The insects' antifreeze compounds also keep ice crystals small, and small crystals cause much less damage than large ones.

Toward springtime temperatures fluctuate between thawing and freezing—water turns liquid and then re-crystallizes. In the process, large crystals tend to form in place of smaller ones. Though freeze-tolerant insects do not produce enough antifreeze

to avoid freezing they attempt to produce enough to keep ice crystals small even when they reform after a thaw.

Insects use many more strategies to keep from freezing. One will have me looking up in the trees again. Insects that over-winter in the deep crevices of tree bark, scientists, have found, seek crevices on the south side of the tree to take advantage of the warming sun. I am curious, have my woodland birds figured that out?

BACKYARD BRIEFS

JUDY JESSOP



In this 10-minute pause I see a brown-headed and a white-breasted nuthatch, and a Downy and a red-bellied woodpecker all engaged in searching nooks and crannies. Insects are silent but not gone. Tucked in the crevices of tree bark, curled up in dead leaves, buried in mulch, tucked inside old logs and under rocks, dormant insects wait. Lying motionless in their secret places,

Fishing advice for all through the media

I get a lot of questions about fishing but one of the most often asked questions is how did I end up writing for The Daily Advance. It started one afternoon on Mill Creek with a couple of friends in our kayaks and we had a pretty good pattern going on spinner baits for large-mouth bass. I had caught about 10 fish or so and my other buddies had only got about one or two.

I began to explain that the first few fish had hit my white bait but the bite was

short, so I changed color to a chartreuse bait and the fish started to bite. I love to teach people to fish and one of my friends that was out fishing with me was new to the sport of bass fishing. He thought I was really good at instructing him how to catch fish with helpful hints and advice that made his day go from a two fish day to a ten fish day. When we got off the water he told me he used to write for magazines and newspapers and would be happy to give me some

advice on how I could get into the business and the rest is history.

As much as I love to give advice the thing that I love most is showing people how to fish. I recently had a guide trip with a guy who never went on a boat in his life and not only did he not know how to fish he was very unsure of how the boat worked and was a little nervous to say the least. I had to teach him how to hold the rod tip up while fighting the fish and what the basics of boating was all while reeling in stripers one after the other.

By the end of the day we had around 15 rockfish in the boat and he was a pro at fighting the fish. At the end of the day he assured me that he would be back and that I had another angler among us. The sad part is that I can't get every reader out on the boat but I decided to try another method.

Starting this week I am

FISHING



MIKE SWEENEY

going to put instructional videos on my Facebook page so I can help people try to understand the hows and whys of the fishing techniques that I have discovered over the years, and I would like to get your help.

Send me some ideas that you would like to see me demonstrate like how

to tie knots or how to fish a frog bait in a pond. Any idea that you have seen me write about or would like to see me write about and I would be happy to demonstrate it on the videos. The Facebook page is called Fishing with Mike, and I just got it running a couple of weeks ago, so hit me up and let me know. If you don't use Facebook like my wife then just email the idea to fishing-withmike921@yahoo.com and I would be happy to give it a shot.

What's biting, where...

The fishing report from the beach is looking a little slow mainly because

people have not been fishing much. They started to dredge the channel at the Bonner Bridge at Oregon Inlet, and the boats have been able to get out now. When they did get out it was a decent tuna bite with yellow fin and black fin tuna brought back to the docks. The big blue fin tuna have not made it down yet but the word is they are heading our way.

I know it's been nice having this weather in January but if we don't get colder weather the blue fin will stay north and so will the striper. In case you did not hear the big rockfish shoot out in Virginia Beach, Va. was a bust this year with all those boats on the water only one fish was brought back to the docks for weigh in and that was with three days of fishing.

In Virginia you can't keep the fish in the bay after the first of the year and with the warm weather and water temps the fish never left the bay. The stripers follow the bait-fish and they are staying in the bay and not heading down the coast for us to fish. There are some

reports of stripers off the coast but they are farther than the three miles limit so they are off limit also.

The surf report has some puppy drum but they are hit and miss so it looks like dog fish and skates. We have some stripers in the area with the Intercoastal Waterway paying off in Coinjock early in the morning and late in the day. They have been hitting eels, swim baits and stretch 15s but the last time I went we had good luck on crank baits like Mann's DB20s and K.V.D. deep cranks that run about 10 to 15 feet. While you troll the baits take another crank bait and cast to the shore to try to pick up the shallow fish. The sound bridge is still hot on Yo-Zuri stretch baits along the bridge and the power lines have been paying off also. Yellow and blues have been the color and try to hit deeper fish if it slows. I would love to get some reports in on the beach or the ponds so don't forget to send them my way. Until then it's tight lines and good luck.

Mike Sweeney is a fisherman who lives in Elizabeth City.

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Program allows farmland transfer

From Staff Reports

The Land Contract Guarantee Program is available to landowners wanting to

transfer farm real estate to the next generation of farmers and producers, according to Michelle Hurdle-Winslow, USDA Farm Service Agency (FSA) farm loan manager.

The Land Contract Guarantee Program provides a new approach for landowners willing to sell their land to beginning or socially disadvantaged farmers or producers. The Program reduces the seller's financial risk if the buyer defaults on the contract payments. The buyer must provide a minimum down payment of five percent of the purchase price, plan to operate the farm, and demonstrate the ability to make the land

contract payments.

This national program options are one that guarantees up to three annual installment payments on the contract and one that guarantees 90 percent of the unpaid principal of the contract. Guarantees can be used for financing the purchase of a farm with a purchase price up to \$500,000 on a new land contract.

"Landowners can use any escrow agent that meets the program qualifications to service the land contract," said Winslow. Those interested in the Land Contract Guarantee Program can contact their local farm loan office to

obtain a list of available nationwide escrow agents that can be used with this program," she said.

FSA credit programs are designed to provide credit to eligible producers when conventional or commercial credit is not available or does not meet their credit needs. "FSA programs create opportunities for farmers and producers, who are the backbone of North Carolina's rural economy," said Winslow.

Land Contract Guarantee Program information can be obtained at the Perquimans County FSA Office at 252-426-5802 or 512 S. Church Street, Box 1 Hertford, NC 27944.

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Uncle charged in boy's death

The Associated Press

RALEIGH — Authorities say the uncle of a 12-year-old Tarboro boy faces charges of involuntary manslaughter in his nephew's hunting death.

Officers with the North Carolina Wildlife Resources Commission say

30-year-old Jason Matthews Parker of Franklin is charged in the Dec. 28 death of James Lee Parker.

Jason Parker also is charged with obtaining a license under false pretenses. Officials say he legally obtained a hunting license, but didn't take the

required free hunting education course.

The child was killed while hunting near Wake Forest.

Jason Parker surrendered at the Wake County Detention Center on Thursday evening. It wasn't known if he has an attorney.