

A Strange Farmer in Our Midst, The "Bug Ranch" at Oak Ridges

By C. Fred Bodsworth in the
Maclean's Magazine

Would you like to buy an assortment of small eggs at 85 cents a dozen, a few turtle hearts at two dollars each, or maybe the skin of a garter snake for \$2.15? Not interested? Well then, how about a dozen preserved earthworms, bargain price 98 cents, or a live bull-frog guaranteed to be in good health for one dollar—rates reduced if larger quantities desired?

You will find these and hundreds of other related items for sale at Canada's strangest farm, 11 miles west of Stouffville at Oak Ridges. They are not merely for sale; stranger still, they are being sold, and in quantities so large that the youthful originator and owner of "Troyer Natural Science Service" is frequently four to six months behind in filling orders.

Sprague Troyer, 30-year-old self-trained biologist, has turned a queer hobby into an even queerer means of making a living. And despite the fact that his work has a few admittedly unpleasant tasks like hunting down rattlesnakes to bring them in alive and wading cold waist-deep streams in the middle of the night, he insists he wouldn't trade it for anything else at double the salary.

The reason is that his business is more than the means of a livelihood; to this modest soft-speaking chap, who looks like a schoolboy and talks like a college professor, his work is a crusade. Troyer's main customers are the teachers of biology in Canadian high schools and universities.

He "Cans" Salamanders
It is this situation that Troyer is striving to correct. I got a quick sample of the results when I sat in his office a few weeks ago as he hurried through his morning's mail, before setting out on a frog hunting expedition. He handed me what he explained was a typical order from one of the Toronto collegiates.

This is what I read: 25 preserved earthworms for student dissection; one dozen preserved dragon-flies for class study of external features; squash bug eggs in a vial of preserving fluid to round out the collegiate's collection of insect eggs; a monarch butterfly caterpillar (the collegiate's present specimen was damaged last year); a mounted female crayfish carrying eggs; a collection of six mounted insects showing protective coloration; three dozen live earthworms; a half-dozen live crayfish; one dozen dragonfly nymphs; two live millipedes and a bottle of mosquito larvae and pupae, all to be reared in the school laboratory for the observation of life habits; a culture of small white earthworms to be raised at the school as aquarium food; a unit of microscopic water

animals sufficient for 50 students; 10 aquarium minnows to include two sticklebacks and two catfish; four live newts and two water snails; three bunches of water plants; 25 pounds of aquarium sand and one aquarium net.

High-school orders of this type range from one dollar to \$50.

Last year Sprague Troyer collected and sold about 10,000 frogs at an average price of 10 cents each. Approximately half were sold alive to universities and medical laboratories for experimental research and half as preserved specimens to high schools. Another big seller is perch. Armed with a special government permit, Troyer catches and sells about 2,000 of them a year for the fish studies of collegiate and university classes.

All these creatures he collects himself and then either preserves or holds alive at his Oak Ridges "bug farm." Most of his collecting trips are carried out in streams and woods within 15 miles of his home, but frequently it is necessary for him to make an expedition to Lake Erie in search of specimens not common in the Toronto region and to Bruce Peninsula for rattlesnakes.

His premises can best be described as a zoo, a fish hatchery, a museum, an embalming parlor, the morgue and Noah's Ark all tossed together into one two-acre unit.

Two rooms in his basement are lined with hundreds of jars on typical fruit-cellar shelves. But the preserved "fruits" at a closer glance turn out to be frogs, snakes, crayfish, insects, earthworms, salamanders and fish, all in carefully labelled jars of preserving fluid. I lifted the top from a barrel; it was three-quarters full of clams in a solution of formaldehyde. There were several other barrels and wooden buckets. I left the tops of these alone.

On the second floor I was ushered into the insect room, stored to capacity with glass-topped trays containing dried specimens of brightly tinted butterflies and moths, and hundreds of beetles and flies ranging from mites of pin-point size to waterbugs three inches long.

"I'm not sure how many insects I have in stock now," Troyer said. "Probably around 20,000. I'll have to add many this summer but when I fill the fall orders I'll use a lot of them, maybe almost half."

Next we went out to a double garage. One room contained several dozen glass aquariums about one foot square filled with live newts, salamanders, turtles and numerous varieties of tadpoles. The other room had four large metal tanks. Two of them swarmed with minnows, a third was a squirming mass of frogs, the fourth was empty.

"There are about 400 frogs there

now," he said, "and we'll catch 400 or 500 for the other tank before tonight." (His advance estimate was not far out. I went along on the frog hunt and kept score. The count at the end of the day was 378.)

Final housing project on the Troyer bug ranch is a small barn at the rear of the lot in which rabbits and white rats are reared.

Field Work
Troyer's conscientious effort to provide schools with specimens that best illustrate their courses of study cuts profits still lower. Sometimes he spends days seeking out a certain insect or animal to complete a demonstration series when something suitable, but not the best, could be secured in a few hours.

"The university trade pays better," he says, "for they need larger quantities, but it is just in the last year or two that I've been developing this phase of the work." "There isn't a lot of money in the business, there is just a living," he says. "But I'm not in it to get rich. If I wanted to do that I'd hire a dozen men to do my collecting while I stayed home behind my desk, wearing a white collar and a tie, and built up a coast-to-coast business."

"I think I could do it. But I'm in it to improve the teaching of biology in schools and here he shrugs boyishly, "well, I'm in it because it's fun. I don't know any other job that would let me spend most of my time running around through the woods and marshes."

Go with Troyer on a collecting safari and every blade of grass and every tiny pond becomes a fascinating world swarming with a life that is as foreign as Mars to the average man. With you is Frank Fog, Troyer's man Friday, and the expedition begins with a tooth-shaking ride across back-country roads.

The truck stops suddenly at a roadside culvert as it terminates one of its jack-in-the-box leaps.

"What are those fish?" Troyer asks. "Suckers," says Frank Fog. "No," replies Troyer. "They're swimming too high off the bottom. Most of them are chub, but there are three or four black-nosed dace amongst them and one rainbow darter."

You look, but, strain your eyes as you may, you see only a few darting movements along the stream bed—movements which to your unpracticed eye might be anything from tadpoles to sea-serpents. Troyer and Fog whip out a seine net and a minute later the truck will be bouncing on again. The score for the first stop: 12 chub, four black-nosed dace and one rainbow darter.

War Among Insects
Two months later these fish will be bumping their noses against the glass sides of school aquarium tanks, and when the biology teacher talks about black-nosed dace and rainbow darters his class will know from personal observation what teacher is talking about.

Your next stop is beside a tree which has several branches denuded of leaves by caterpillars. "White-marked tussock moth," Troyer announces as he shows you some of the vividly colored red, black and white caterpillars, "but ichneumon flies are killing them off pretty fast."

Then, through Troyer's eyes, you are treated to a newsreel picture of ruthless war in the midge world of insects.

"There are many species of ichneumon flies which live as parasites on the larvae of other insects," he says. "They are nature's shock troops; without them caterpillars would become so numerous in a year or two there wouldn't be a green leaf left anywhere. The flies lay their tiny white eggs on the backs of the tussock moth caterpillars. Nature works fast and the eggs hatch within a few hours. Then the ichneumon larvae, sometimes 15 of them on a single caterpillar start burrowing into the moth larvae. In three or four days the parasite larvae are full grown and the moth caterpillar with much of his innards eaten out, is dead. They spin their cocoons and six days later emerge as adult ichneumon flies. Thus, in two weeks, there is another generation all ready to wage war on the tussock moth caterpillars that escaped the first generation of parasites."

"But it isn't always easy pickings for the ichneumon flies, because they have parasites too," Troyer continues. "You know the verse—'Big fleas have little fleas upon their backs to bite 'em; little fleas have lesser fleas, and so infinitum.' It applies here. When ichneumon flies have just about wiped out the tussock moth, secondary parasites in the form of a smaller species of fly appear and start wiping out the ichneumon flies. Then there is a tertiary parasite which preys on the secondary ones. There might even be a fourth parasite in the chain, but if there is I don't believe anyone has ever discovered it."

Before moving on, Troyer collects a few dozen of the caterpillars which have minute ichneumon fly eggs on their backs. He will use them in a demonstration series of mounted insects which will illustrate for high school and university students how the parasite war is waged on the battle fronts of the insect kingdom.

Rabbit Deal
Along about now you will be looking more closely at this slim, five-foot-seven supercharge of energy with the boyish brush cut and the encyclopedic mind. And you will begin to understand, too, why despite his youth he is sought

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as a nature camp leader and natural science speaker. Troyer tries to save some time each summer to spend instructing teachers at summer nature schools and he is a frequent leader of springtime nature hikes around Toronto. During the fall and winter he is a popular speaker, rarely turning down an engagement when it is a group of teachers that desire his services.

Troyer's familiarity with goings on in the insect kingdom has SOS calls from odd places. Last year a Toronto textile firm developed a material which they hoped would be repellent to clothes moths and carpet beetle larvae. But they weren't sure. Troyer provided them with a few hundred ravenous cloth-eating insect larvae, superintended tests for several weeks and finally assured them that the new textile was as good as advance hopes had envisioned it to be.

Chasing Rattlers
Another firm was testing a new insect repellent containing DDT. The tests bogged down when they ran out of mosquitoes and flies. Troyer collected eggs and larvae from ponds and reared them several thousand mosquitoes in a few days. "If those skeeters had ever gotten loose when I was driving through Toronto to deliver them, the citizens would have thought that a new kind of bacterial war had hit them," he says.

"A lot of little critters live under logs," he will explain. "You find newts, salamanders, snakes and all manner of insects that way. Once I rolled over a log and saw what appeared to be two large garter snakes underneath. I grabbed the tail of one and the head of the other, but when I picked them up I discovered it was all the same snake. He was 50 inches long, the biggest garter snake ever officially recorded for Canada or the United States. A garter snake 36 inches long is regarded as a big one. The 50-inch is still alive at the Royal Ontario Museum of Zoology in Toronto."

"I've made three or four rattlesnake collecting trips to Bruce Peninsula and I've caught a couple of dozen rattlers by hand," he says, telling it casually. "The rattler, you know, is overrated; after you become experienced and know their habits they are not much more vicious to tangle with than a honey bee."

Troyer's only equipment when he goes rattlesnake hunting is a heavy stick and a pair of padded leather gloves to protect his hands. When Troyer and Mr. Rattlesnake meet he drops the stick across the snake and then slowly moves the stick up along the rattler's body until its head is pinned against the ground. Then the serpent can safely be grasped just behind its head and transferred alive and uninjured to a carrying cage.

Caught With the Goods
"I've never been bitten by a rattlesnake, and I don't believe I'd worry very much if I were," Troyer says. "No one has officially been proven to have died from the bite of our Ontario species of rattlesnake. A rattler bite should be regarded as serious, but it is far from critical, for our Massasauga rattlesnake is so small that it possesses only a small amount of venom and its fangs are too short to penetrate very deeply."

Most collecting of aquatic animals

has to be done at night, for it is then that they are most active feeding and in darkness they are easier to catch. But Troyer's biggest headache on these midnight jaunts is not finding his way in the dark—it is explaining his queer mission to police officers who usually turn up just in time to frighten away the night's rarest specimen.

"I disillusioned a dozen different rookie cops around Toronto at various times during the war when I convinced them that I wasn't out blowing up munition plants," Troyer says. "Two o'clock one morning after I had been catching newts and mud puppies in Grenadier Pond I came back to where I had left my truck in High Park to find two police cruisers and half a dozen constables gathered around. They had pulled out the seat, taken off the engine cover and were starting to tear down the motor looking for a supercharger because they suspected me of running drugs or liquor. I told them my business, but they weren't in any hurry to believe me. Then I showed them the night's catch. Mud puppies look like lizards but they have exterior gills similar to fish. One of the constables glanced into my collecting pail and shouted: 'Look, the guy's been catching fish with legs!' They decided I was as queer and harmless as the mud puppy. But it took me and one of the officers 15 minutes to get the truck motor back in shape again."

It required a great deal more explaining to clear himself when two cruiser officers spotted Troyer late one night with a ladder up to the second-floor window of a North Toronto store. "There are a couple of lights up there that attract large number of moths," he relates. "I went out collecting with a butterfly

net and a stepladder. The police arrived and had a firm grip on me, the net and the ladder before I had been there three minutes. Half a dozen different credentials and half an hour of arguing failed to convince them that I was collecting only the storekeeper's moths. Finally I had to telephone the principal of one of the collegiates before they turned me loose."

Remember when Canada's hand was forced by United States officials because of a claim that too many box cars were in this country? Well, now the shoe is on the other foot and Canada has been forced to demand that U.S. return 5,000 box cars to Canadian lines to haul grain from western Canada to the head of the lakes before the freeze-up

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