



Wakerobin

Newsletter of the Miskoka Field Naturalists

NOVEMBER-DECEMBER 1998

NV 5 MFN MEETING

NV 22 LESLIE ST SPIT

DC 3 MFN MEETING

DC 20 CHRISTMAS COUNT

JA 7 MFN MEETING

VIPER VIGNETTES

In September, Chris Parent described to MFN his work with Massasauga rattlesnakes. He is assisted by staff members, one of whom, Sarah Carroll, accompanied him.

Range maps, as recently as 1984 implied that this reptile lived in most of southern Ontario. In 1998, the reality is that distribution is much more limited.

Small pockets exist at Wainfleet Bog, near Port Colborne, and at Ojibway Nature Reserve in Windsor, but the Bruce Peninsula and the eastern shore of Georgian Bay are really the last refuge of this, Ontario's only remaining venomous snake.

The Massasauga was the subject of Chris's Master's thesis at Carleton University, and his field work at Killbear Provincial Park, near Parry Sound, is supported by grants from the World Wildlife Fund and Ontario Parks. It focusses on the effects of human presence, as have many other studies, such as those concerned with gulls and bears. However, these species are easier to find than snakes, which tend to be well camouflaged and reclusive.

Once found and captured, specimens are weighed, measured, described and released. Females are often checked with ultrasound for pregnancy and numbers of developing embryos. Before release, the rattles are painted in bright colors, so that if the same snake is relocated, it need not be needlessly recaptured.

Data on snake growth and longevity depend on such measurements, because baby snakes are now marked at birth, their age and growth can be followed accurately if and when they are recaptured. It is already apparent that length can vary widely for two individuals of similar age. Each time the skin is shed, a rattle segment is added, but shedding may occur more than once a year and segments wear off; rarely are more than five or six in place, yet the oldest captive Massasauga died at age 14, so rattles are little help in establishing age.

Technology came to the aid of herpetologists about 25 years ago, when it became possible to implant radio transmitters. The early models weighed about half as much as their bearers. Researchers noted these snakes tended not to move around much--probably because they always felt as if they had just swallowed a heavy meal. Current transmitters at Killbear are just 5% or less of the snake's weight.

Veterinarian Hilary Turnbull of Parry Sound anaesthetizes a scaly client, makes an incision of about 3 cm and implants the transmitter--smaller than a AA battery. With the help of a tube which is inserted

beneath the skin, a wire antenna is put in place. The tube is removed, the antenna connected, and the snake is online. Each transmitter has a unique frequency, so its host can be identified by radio contact.

Although rattlesnakes range across distances of a kilometre or more, they maintain a "home range" to which they will return to spend the winter in a shelter they have previously occupied. If they are moved far enough to prevent this return, their winter survival is unlikely. Chris has been surprised to learn how close to trails, campgrounds and cottages his snakes live, without nearby humans being aware. They are not territorial, since they cannot realistically patrol much territory. Neither do they cluster in large numbers for hibernation; most rest alone, and the largest number observed emerging from one location has been three.

Ambient temperature influences snake movement and behavior. Extremes of hot or cold encourage less movement. However, where people density is high, snakes also move less than in uninhabited areas, possibly because a stationary stance is less likely to attract attention and the risk which comes with it.

In response to questions, Chris revealed that reproductive patterns among Park snakes are still being studied. Females are thought to be fertilized by only one male, but males will mate with several females. He suspects that young males are rejected by females and that most fertilization is accomplished by a small number of large, older males.

Snakes risk bites and other injuries from live prey. Venom, which can rapidly immobilize a victim, helps meet this threat. Massasauga rattlesnakes tend to non-aggression as far as humans are concerned. A "legitimate" bite can occur when a human is unaware of a snake's presence and place a hand or foot on or near it. "Illegitimate" bites are those which occur when someone chases or handles a snake. In Ontario, from two to six persons, on average, are bitten each summer; of these, half are "illegitimate". No non-staff person has been bitten at Killbear. Nonetheless, a Massasauga bite should be treated as a serious medical emergency, and victims should refrain from unnecessary activity or panic, while seeking to reach the closest medical assistance. Treatment involves anti-venin, which must be tested on the victim before injection, because it is based on horse serum, to which some people are allergic.

Chris Parent has worked for 9 years with these animals. The largest remaining Eastern Massasauga Rattlesnake population can be found on the eastern shore of Georgian Bay. Over the next century, there is a 90% probability estimate that most other Massasauga populations will become extinct. The Killbear Park educational program is a way of reducing this probability, and it has had a sympathetic response from thousands of campers there.
