Coyote more likely to make a meal out of moose than we thought

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It has long been believed that coyotes were incapable of taking down an adult moose, but researchers have recently discovered that eastern coyotes and coyote × wolf hybrids (canids) have preyed on adult moose in central Ontario. Their findings were published today in the *Canadian Journal of Zoology*.

Researchers Dr. John Benson, a PhD student in the Environmental and Life Sciences Graduate Program at Trent University when he conducted the research, and Dr. Brent Patterson, a research scientist with the Ontario Ministry of Natural Resources in Peterborough, documented instances where packs of eastern coyotes and coyote × wolf hybrids (canids) were found to have killed moose. Their study involved live capture of eastern coyotes and eastern coyote × eastern wolf hybrids to deploy Global Positioning System (GPS) radio-collars and take blood samples for DNA analysis. The GPS collars delivered highly accurate locations of the study animals (via satellites or cell towers) so the researchers were able to visit these locations during winter to investigate their activities and document predation patterns. The DNA analysis allowed them to determine whether the animals were coyotes, wolves, or coyote × wolf hybrids.

In the study, four canid packs ranging in size from two to five animals were found to have killed moose. The researchers obtained two accurate ages from moose that were killed by coyotes and/or hybrids: One was very old (20 years) and one was young (20 months). It is believed that younger and older adult moose are probably more vulnerable due to

inexperience and deteriorating body condition, respectively.

"Coyotes and coyote × wolf hybrids probably prey on moose opportunistically and only when circumstances are favorable. For instance, when snow is deep and a hard crust forms on top this impedes the ability of moose to travel and gives the lighter coyotes and hybrids an advantage because they can travel on top of the snow," explained Dr. Benson. "Additionally, we noticed that some of the moose killed by coyotes and hybrids were on steep slopes that may have slowed the moose and created unstable footing. We also found that some of the moose were killed in areas where medium-sized trees were moderately dense, which may have prevented moose from swinging around quickly to fend off predators attacking from the rear or side."

"Killing of adult moose by eastern coyotes and coyote × wolf hybrids appears to be relatively rare and probably does not pose a threat to moose populations in central Ontario. However, from the perspective of a pack of coyotes or hybrids, killing even a single moose during a winter is very beneficial and goes a long way towards helping them meet their energetic demands. For instance, a pack of two eastern coyotes spent some or all of 18 days feeding on a moose that they killed."

The authors do not believe the viability of moose populations in central Ontario is negatively affected by this predation, as recent studies have shown that populations in WMU49 and nearby Algonquin Provincial Park are increasing and that both adult and calf moose survival is relatively high.

More information: The article "Moose predation by eastern coyotes and coyote × wolf hybrids" by John F. Benson and Brent R. Patterson is published today in the *Canadian Journal of Zoology*: www.nrcresearchpress.com/doi/a … 0.1139/cjz-2013-0160

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