

Nasal Bots

by Larry Castle, Wildlife Biologist

Nasal bots are the larvae or "maggot stage" of a specific kind of fly. In the scientific world this fly belongs in the genus *Cephenemyia*. Biologists find them in a large number of deer, particularly when a thorough examination of the head is conducted. These bots are specific to cervids (members of the deer family, such as elk and mule deer) in North America.

Nasal bots begin life when the adult fly lays a group of eggs around the nose or mouth of deer. The small larvae within these eggs are released when the deer licks the eggs. The warm, wet saliva creates an environment that permits the "hatching" of the immature bots. These larvae then migrate to the nasal passages and occasionally into the sinuses where they molt into larger stages of the maturing larvae. The mature larvae then move to some very deep cavities in the mouth called the retropharyngeal pouches. Finally the fully matured bots exit and pupate in the ground until emerging as adult flies that begin the life cycle again.

These bots are an obvious minor nuisance to deer as they irritate the lining of the nasal passages and move about in the retropharyngeal pouches. Some sneezing and coughing of deer is assumed to be the result of nasal bots. I have heard it falsely reported that the snorting of deer is also a condition caused by the bots. However, deer snort to provide a warning alarm to other deer. Clinically, the bots do not cause the deer any harm. No sores, infection, nor other problems have been reported even when the parasites are present in large numbers.

Hunters normally encounter nasal bots after the deer they harvested has begun to cool. After the deer dies, the body temperature falls and the bots begin to leave the nasal passages and the retropharyngeal pouches in search of more hospitable living arrangements. These bots exit through the nose or mouth. Occasionally they will be found while field dressing deer, in what the hunter thinks is the body cavity. Actually these bots have traveled down the trachea and appear to be in the body cavity of the deer. Bots are also readily seen under a deer that is "hanging" in some stage of the field dressing or skinning process. Bots can also be found in truck beds after transporting a deer that has significantly cooled.

Nasal bots are of no public health concern. They pose no disease threat to humans and do not harm the venison in any way. Deer found to harbor these harmless parasites are obviously quite safe for human consumption and should not be discarded.



About the Author: Larry Castle is a Wildlife Biologist and White-tailed Deer Coordinator for the Mississippi Department of Wildlife Fisheries and Parks.