Chapter Four
Astonishing Antlers

Delving into the history of antlers proved to be one of the most interesting adventures I have ever taken. It took me from *The Noble Arte of Venerie or Hunting*, published in 1576 by the celebrated English poet George Turbervile,[1] through many research papers from New Zealand, Europe, the USA, and Canada, to Dr. John Fletcher's important 2014 book, with its straightforward title, *Deer*.

Of the some 5,500 species of mammal on Earth, only 41 (0.7%) — deer — carry antlers.[2]In all but one, the reindeer (caribou), they are only seen in males. Like some trees that lose their leaves every year, antlers are deciduous. In species from temperate or subpolar regions, they grow annually, remain hard for some months, are cast, and regenerate.

The remarkable redevelopment — the new growth — is summed up by Fletcher: "It is the only organ among mammals that completely regenerates in all its complexity of skin, hairs, sweat glands, nerves, blood vessels, cartilage, bone and so on."

It is no surprise to realize that this unique attribute has humans thinking hard about the process. John goes on to write: "If we could understand in depth how the growing antler differentiates all these cells, we might be some way toward enabling humans and other species to regenerate damaged spinal cord or grow new limbs."

Unlike the horns of cattle that last for the life of the animal, antlers grow from pedicles — permanent structures between the ears. To describe the annual cycle that occurs in colder regions, it seems logical to start with the most recognizable period, when the hard antlers are on the animal's head.

The shape varies according to species and age. Those that grow up with many branches (tines) are elk, red deer, and caribou. Elk youngsters, in their first year, are called spikers. In their second year, they often don't have six-aside tines and are called raghorns. From the third year onward, the normal antler has at least six times on each side. The moose has huge palms, each adorned with several short spikes. Fallow deer, with magnificent, elongated palms atop stems, carry the largest antlers, relative to body size, of all deer. Whitetail antlers curve up and forward, with tines pointing straight up. Other species have distinct shapes of their own. The unbranched antlers of the 30-centimetre-tall pudu of South America, the smallest deer of all, are no more than 8 cm long. Here is the year-round sequence in elk from start to restart.

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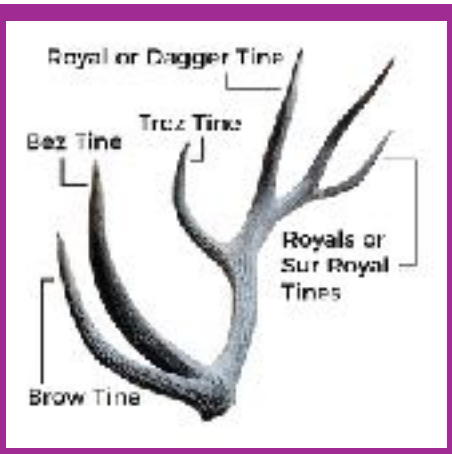
[1] His authorship has been disputed. The book may have been written by George Gascoigne.

[2] The single exception is the Chinese Water Deer which has long, sharp canine teeth, used for fighting.

Antlers have hardened before the rut. © Trudy Janssens



Typical 6-point elk antler. Many bulls have more than two tines in the Royal position.

Newly cast antler in early spring, with a seepage of blood. The dark start of new velvet antler is around the scar, which soon heals.

Antler casting process, with new velvet surrounding a dried scar on the left side. Velvet is just visible below the old antler stub on the right.

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9 days growth of antler in velvet. The brow tine starts to appear

75 days growth of antler in velvet. Brow and bez tines fully grown.

Antler fully grown, 115-125 days, about mid-August. Numerous Royal tines. Velvet will shortly be cleaned

Various shaped antlers of elk spikers