T. Rex's killer smile revealed

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T. rex, credit: Natural History Museum.

One of the most prominent features of life-size, museum models of Tyrannosaurus rex, is its fearsome array of flesh-ripping, bone-crushing teeth.

Until recently most researchers only noted the varying size of *T. rex*'s teeth when they studied the carnivore's smile.

But now a University of Alberta paleontologist has discovered that beyond the obvious difference in size of each tooth family, there is considerable variation in the serrated edges of the teeth.

These varying edges or keels not only enabled T.rex's very strong teeth to cut through flesh and bone, the placement and angle of the teeth also

directed food into its mouth.

U of A paleontologist Miriam Reichel analyzed the teeth of the entire tyrannosaurid family of meat eating dinosaurs and found *T. rex* had the greatest variation in tooth morphology or structure.

That dental specialization was a great benefit for a dinosaur whose preoccupation was ripping other dinosaurs apart.

Reichel concluded: *T. rex*'s front teeth were designed for gripping and pulling, while the teeth along the side of the jaw punctured and tore flesh, and teeth at the back of *T. rex*'s mouth not only did some slicing and dicing, they also forced food to the back of the throat.

Reichel says these findings and statistical support add strength to the classification of tyrannosaurids as heterodont animals, animals with teeth adapted for different functions depending on their position in the mouth. Reichel's research was published in *The Canadian Journal of Earth Science.*

Provided by University of Alberta