Autotomy

How does a lizard lose its tail?

- Certain animals **voluntarily shed a body part** in response to **attempted predation**.
- Lizards losing their tails when they are pulled by a predator is well known. This **self-amputation is called autotomy**.
- The severed tail continues to **wiggle for about 30 minutes**.
- Studies have shown that the severed tail follows an elaborate **repetitive and diverse motion**, which includes flips up to 3 cm in height. The wiggly motion very often **distracts the attention of** the predator, thus enabling the lizard to escape.

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- The tail autotomy occurs at preformed horizontal fracture planes.
- In the case of **tail autotomy within the vertebra**, the tail gets fractured or split at a distinct **preformed area of weakness**.
- Studies have shown that lizards aid the process of autotomy by “**contracting muscles around the fracture planes**”.
- The muscle contractions are supposed to “facilitate splitting of the skin and muscles to complete the release of the tail”.
- According to their findings published in December 2012 in the **journal PLOS ONE**, the mechanism of tail autotomy in **Tokay gecko** is determined by **pre-formed ‘dotted lines’** in the fracture planes, which are maintained by adhesion and microstructures seen at the terminal end of the muscle fibres also likely play a role in releasing the tail.