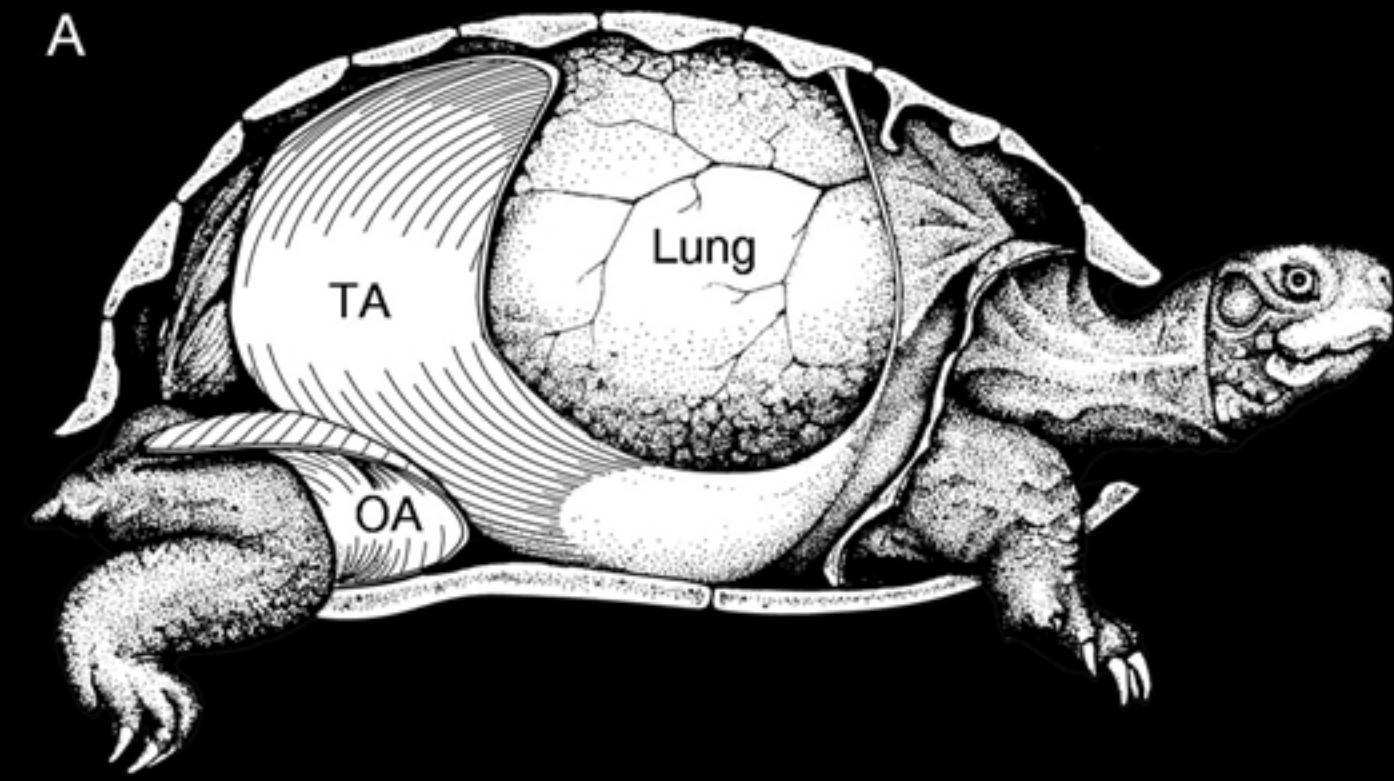


A



## Taking a Closer Look at Box Turtle Anatomy

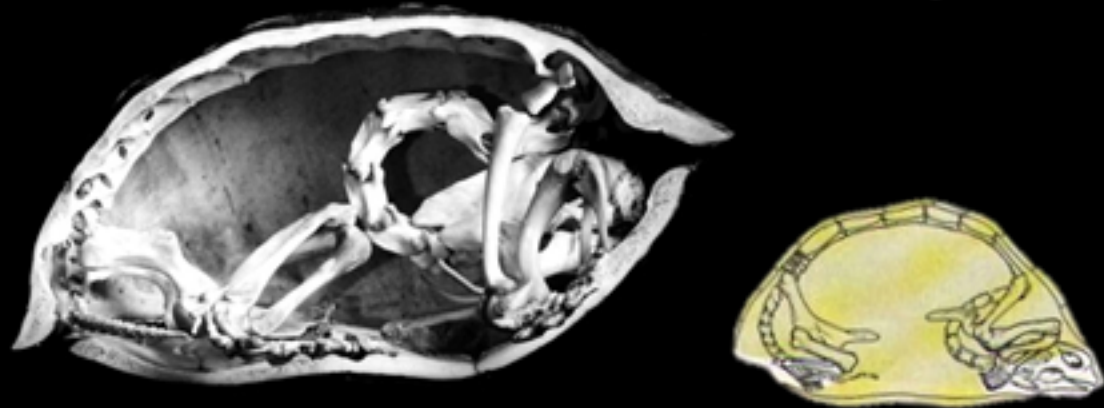
In box turtles, the lungs are positioned directly under the spine and towards the front end of the turtle. This is why impacts to the front portion of the carapace can be especially life threatening; if too deep, a lung could be punctured. There are two muscles that are involved in the expansion and compression of the lungs; the oblique abdominis (OA) and transverse abdominis (TA) muscles, respectively.

B



When the limbs and head of the turtle are extended the lungs are able to expand and compress normally, allowing for rhythmic inhaling and exhaling.

C



When a box turtle closes up in its shell the head and limbs are pulled inward, compressing the lungs and causing air to be forced out. This is why, if listening closely, you can hear a hissing sound when a box turtle retreats into its shell. Studies show that some air remains in the lungs, even when fully retracted, and that reduced breathing is still possible with the use of the abdominal muscles.