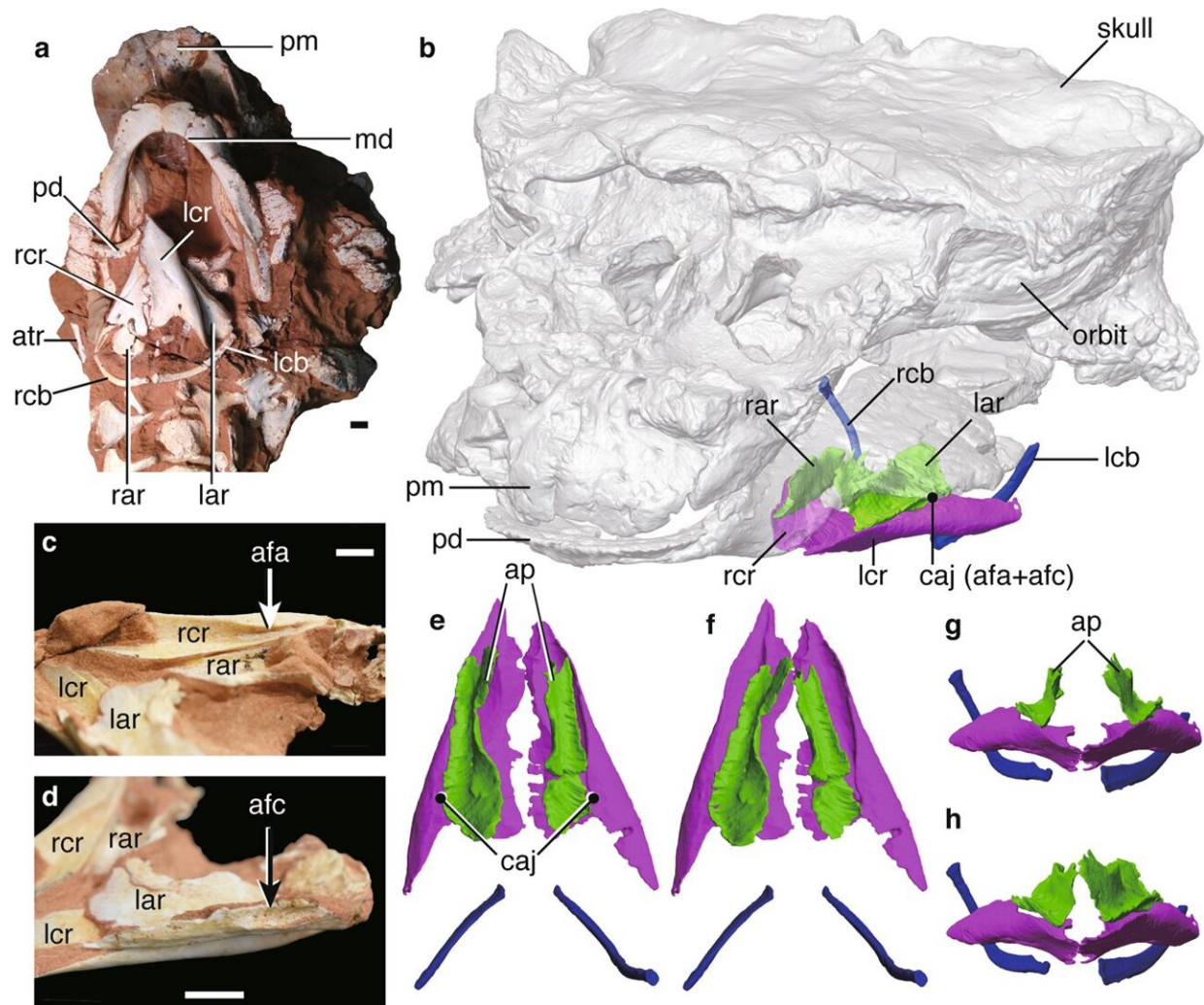


Larynx fossil suggests dinosaur may have been capable of making bird-like calls

February 28 2023, by Bob Yirka



In situ hyolaryngeal apparatus and skull of *Pinacosaurus*. a Ventral view and b 3D reconstruction of skull, mandible, and hyolaryngeal apparatus in left oblique view. c Crico-arytenoid joint of right cricoid in medial view. d The joint of left arytenoid in dorsolateral view. e Arytenoid position in glottal opening and f

glottal closing in anterior views. g Arytenoid position in glottal opening and h glottal closing in dorsal views. Abbreviations: afa, articular facet for arytenoid; afc, articular facet for cricoid; ap, arytenoid process; atr, atlas rib; caj, crico-arytenoid joint; lcb, left ceratobranchial; lcr, left cricoid; md, mandible; pm, premaxilla; pd, predentary; rar, right arytenoid; rcb, right ceratobranchial; rcr, right cricoid. Scale bars, 1 cm. Photograph by Michael D'Emic and edited by JY in a. Credit: *Communications Biology* (2023). DOI: 10.1038/s42003-023-04513-x

Paleontologists with Hokkaido University Museum working with a colleague from the American Museum of Natural History has found evidence that suggests one type of dinosaur may have been able to make bird-like calls. In their paper published in the journal *Communications Biology*, Junki Yoshida, Yoshitsugu Kobayashi and Mark Norell describe their study of a larynx fossil from a *Pinacosaurus grangeri* dinosaur and features that suggest it may have allowed the ancient creature to make bird-like sounds.

Prior research has offered little evidence of what dinosaurs may have sounded like when attempting to make noises with throat-based organs. This is because most voice boxes are made of cartilage that does not fossilize well. In this new effort, the researchers studied the fossilized remains of a squat, spikey dinosaur called *Pinacosaurus grangeri* that was unearthed in 2005 by another team of researchers working in Mongolia.

During initial study of the remains, researchers assumed that the [fossilized bones](#) in its throat were used for breathing, not making noise. But a closer look at two of the bones revealed they were parts of a larynx. The team also looked at surrounding areas that would have supported muscles. Such muscles, they noted, could have been used to manipulate the larynx bones to modify the air passing through the throat, allowing the dinosaur to make a variety of sounds.

To learn more about the kinds of sounds such a dinosaur might have been capable of making, the researchers compared the bones in their voice boxes to those of several kinds of modern birds and reptiles. They found that one part of the larynx was larger proportionally than that of modern counterparts, suggesting the ancient creature was likely capable of making very loud sounds. They also found another part of the larynx elongated, which would have allowed muscles in the wind pipe to modify sounds made by the [larynx](#), similar to the way sound from the syrinx in birds is modified by an organ in the mouth.

The researchers suggest that if the dinosaur was capable of making similar types of calls, it very likely used them for the same reasons—attracting mates, tracking offspring and defending territory.

More information: Junki Yoshida et al, An ankylosaur larynx provides insights for bird-like vocalization in non-avian dinosaurs, *Communications Biology* (2023). [DOI: 10.1038/s42003-023-04513-x](https://doi.org/10.1038/s42003-023-04513-x)

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