

# Top cock: Roosters crow in pecking order

July 23 2015

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Crowing is thought to be a means for cockerels to advertise their territory

Roosters crow in order of seniority—the top cock announcing daybreak while juniors patiently wait their turn, said a study Thursday which revealed a long-guarded secret of chickendom.

We are all familiar with that first pre-dawn "cock-a-doodle-doo", quickly followed by others within hearing distance.

But how do cockerels decide who goes first?

They pull rank, according to a set of experiments with captive birds reported in the journal *Scientific Reports*.

"The top-ranking rooster always started to crow first, followed by its subordinates, in descending order of social rank," wrote the Japanese authors of the study.

"When the top-ranking rooster was physically removed from a group, the second-ranking rooster initiated crowing."

Crowing is thought to be a means for cockerels to advertise their territory—limiting the risk of surprise, potentially aggressive encounters.

Chickens are very social and hierarchical animals, and cockerels, when meeting each other for the first time, quickly settle their pecking order the old-fashioned way—with a fight.

The strongest, dominant birds subsequently enjoy priority access to food, hens and roosting places.

"Here, we show that the top-ranking rooster also has priority to determine the timing of predawn crowing, and that subordinates are obedient to the top-ranking rooster in a group situation," said the study paper.

The research team placed roosters in groups to establish their hierarchy from the number of sparring victories and losses, then separated them into individual cages to observe crowing behaviour.

Crowing order, they found, was strictly conserved even when the timing of the dominant rooster was earlier or later than the previous day.

Previous research had shown that the timing of crowing is controlled by an internal biological or "circadian" clock, which lower-ranking chickens also have.

The data suggests that subordinate roosters suppress their own natural rhythm, and "are patient enough to wait for the highest-ranking rooster's first crowing every morning," study co-author Tsuyoshi Shimmura told AFP by email.

"The subordinate roosters compromise their circadian clock for social reasons."

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Citation: Top cock: Roosters crow in pecking order (2015, July 23) retrieved 20 September 2024 from <https://phys.org/news/2015-07-cock-roosters-crow.html>

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